



GNH 2022



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and Tshoki Zangmo



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His Majesty the King Jigme Khesar Namgyel Wangchuck and Her Majesty the Queen Gyaltsuen Jetsun Pema Wangchuck



His Majesty the Fourth King Jigme Singye Wangchuck
Author of Gross National Happiness

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Foreword by His Excellency Achim Steiner

Administrator of the United Nations Development Programme, Under-Secretary-General of the United Nations, Vice-Chair of the UN Sustainable Development Group, which unites 40 entities of the UN system that work to support sustainable development

It is an immense honour to join you the launch of the 2022 Gross National Happiness Index Results by the Kingdom of Bhutan.

The GNH Index is a unique approach that includes both traditional areas of socio-economic concern such as living standards, health, and education and less traditional aspects including culture and psychological wellbeing.

The latest results provide a range of new insights into Bhutan's development progress between 2015 and 2022.

That includes an increase in the GNH Index value from 0.75 to 0.78.

Remarkably, 93.6% of the population enjoy sufficiency in at least 50% of the GNH enabling conditions.

This new data is vital to inform efforts to drive progress across the Sustainable Development Goals in Bhutan.

The Gross National Happiness Index has always had a worldwide resonance.

Yet never more so.

More and more countries are coming to the recognition that GDP growth alone does not capture real progress and prosperity.

As our natural world is pushed to the brink and climate change accelerates, it is perhaps no wonder that 6 in 7 people feel insecure worldwide.

We need to design the 'metrics of the future'.

That means shaping a world defined by decarbonisation, climate action, environmental restoration and new opportunities for all - the central tenet of the human development approach.

Indeed, the UN Secretary-General has elevated 'Beyond GDP' as one of the central reform agenda items for the Summit of the Future in 2024.

Bhutan's GNH approach serves as a key example of alternative approaches as the UN works to advance the global conversation in this vital area.

Bhutan is also inspiring countries across the world to show much greater ambition when it comes to the rights of *future generations*.

While many countries aim to be carbon-neutral, Bhutan is in fact a carbon sink - remarkably absorbing close to three times more carbon dioxide than it emits.¹

This policy choice clearly demonstrates how it is possible to slow the steady march of climate through brave decisions that will benefit our global community.

The GNH findings very much correlate with the United Nations Development Programme's latest Human Development Report.

It focuses on improving the lives people lead rather than assuming that economic growth will lead, automatically, to greater wellbeing for all.

While the Human Development Index, which measures a nation's health, education, and standards of living, has declined globally for the first time ever in the wake of multiple crises like COVID-19 - Bhutan has bucked that trend.

¹ Kingdom of Bhutan Second Nationally Determined Contributions

It has improved its rank by two places, now sitting at 127 out of 191 countries and territories.

Notably, Bhutan is the highest ranked 'Least Developed Country'.

This is a category that the country aims to graduate from this year, another unambiguous indicator of its rapid development progress.

As part of the UN family, UNDP has been privileged to have been part of Bhutan's development story over the past five decades and will continue to help bring tangible benefits to the daily lives of communities.

Inspired by the Gross National Happiness, we also have a duty to push new boundaries as we reimagine the *future of development* together.

For instance, there has been a widely circulated fact that 50% of global economic output is moderately or highly dependent on nature.²

Perhaps we need to recognise the fact that 100% of true prosperity is dependent on our natural world - an approach that Bhutan is pioneering in spirit.

In short, as humanity pushes past the limits that can sustain life on this planet, all countries must now radically re-design their economies and paths to progress.

² World Economic Forum

Foreword by His Excellency Mathias Cormann

OECD Secretary-General

Thank you for the opportunity to share a few thoughts with you on this launch of the 2022 update of the Gross National Happiness Index. This is a topic of growing interest across the OECD membership. About 70% of our members now have national wellbeing frameworks and just last week, G7 Finance Ministers agreed on the need to use multi-dimensional indicators to measure welfare and integrate those indicators into the policy making process, helping to deliver better policies for better lives.

Bhutan has been a global pioneer in the holistic assessment of citizen wellbeing ever since His Majesty Jigme Singye Wangchuck introduced the idea of Gross National Happiness in 1972, some 51 years ago. This idea was later enshrined in Bhutan's 2008 Democratic Constitution and endorsed by the UN General Assembly in 2011. That same year, OECD relaunched the OECD wellbeing framework to better capture the determinants of societal wellbeing. It is built around three key components: first, current wellbeing in dimensions ranging from work and job quality to housing, health, social connections, and civic engagement; the second, inequalities in wellbeing outcomes between different groups and between top and bottom performers; and third, resources for future wellbeing, specifically, natural, economic, human, and social capital. To continue supporting these efforts, the OECD will be launching a knowledge exchange platform on wellbeing matrix and policy best practices. We hope to be able to include Bhutan's perspective and insight in this initiative. We very much look forward to hearing about this year's Gross National Happiness Index.

Foreword by James E. Foster

Oliver T. Carr Professor of International Affairs and Professor of Economics at the George Washington University

There are times in history when concepts and tools swirling around in public discourse come into sharp focus and bring global change.

The 2022 Gross National Happiness Index of Bhutan is being launched in such a time. Ever since Robert Kennedy's famed complaints about Gross National Product, criticisms of national or domestic product have been floated by leaders and academics in many lands. The wave of dissatisfaction with GDP per capita churned more visibly after the 2008 financial crisis and crested with the formal decision by the United Nations to produce well-being metrics going "Beyond GDP". And now new measures that will bring change are coming into focus. One such metric, in my view, is Bhutan's GNH Index.

As an academic who has worked on measurement all my academic life, and who writes on measurement as leadership, I find five reasons that Bhutan's GNH index is relevant not just for Bhutan but also the international stage.

The first is multidimensionality. Whatever replaces GDP cannot measure economic outcomes in isolation from social, political, or environmental considerations. Yet most measurement proposals coming forward are collections of essentially separate, unidimensional indicators. Bhutan's GNH Index, in contrast, is built from profiles of multiple indicators in which each person has or has not achieved sufficiency. It can be studied indicator by indicator, yes – yet it gives a headline GNH figure, so we know if GNH has grown in the past period.

The second is plurality. Well-being metrics must recognize and affirm the diversity of ways of flourishing as human beings in community with one another and the planet. One size does not fit all. Bhutan's GNH Index recognizes success if any person enjoys sufficient attainments in two-thirds of the dimensions or weighted indicators. You don't need 100% to be happy - because personal preferences or life circumstances might intervene in different ways.

The third is disaggregation. Going forward, the work of expanding quality of life and well-being must be advanced by actors at national and subnational level, and by groups. But for most countries, GDP is only available at the national level. Bhutan's GNH Index is disaggregated – by districts, by age groups, by occupational categories and gender. It gives a crystal-clear profile of well-being – identifying which groups might require which kinds of extra supports. So we know what to do to improve matters.

The fourth is rigor. Gone are the days when the black box of GDP was accepted without question. New statistics require precision, transparency, clear documentation and robustness – so students can learn and critique them, statisticians can replicate and improve them, and policy makers can interpret and use them. Bhutan's 2022 GNH Index is a very professional exercise in measurement, which fulfills the requirements of cutting-edge statistics in an information age.

The fifth is vision. Many of us have heard vaguely about Bhutan's aim to advance Gross National Happiness, and imagined it to be a rather romantic idea. But when we look at the richness of the measure's nine domains, we find it to be a step ahead of similar discussions in the west. And when we examine the measure as a whole, we realize it is more profound and potentially useful than many metrics that are far better known.

At present, it would be impossible to create a global GNH index because of current data limitations. But we live on the cusp of a true revolution of data, and so this is a solvable problem if many put their minds to it. And if a GNH Index were taken up outside Bhutan, then others would naturally come to learn of its use in policy and its final effects as well. I have never been to Bhutan, but am one of those who are now very keen to do so.

For these reasons, I wish to commend the Centre for Bhutan and GNH Studies for issuing a technically rigorous, and hope-inspiring 2022 Gross National Happiness Report.

Acknowledgements

The GNH Index book was written through a collaborative effort that would not have been feasible without the involvement of a number of people and organisations. We would want to take this time to recognise and thank everyone who has helped produce this book.

First and foremost, we would like to express our profound gratitude to the people of Bhutan for their unshakable dedication to Gross National Happiness and for being the forerunners of this unique approach to development.

We would like to express our heartfelt appreciation and gratitude to the Japan International Cooperation Agency (JICA) Bhutan Office for their funding support for the 2022 GNH survey and analysis. Their financial support has been critical in disseminating this essential study and encouraging the use of the GNH Index as an alternative development strategy. We appreciate JICA's commitment to promoting and implementing GNH, and we look forward to continuing our partnership.

We would like to thank the researchers of the Centre for Bhutan & GNH Studies (CBS) who worked diligently to undertake the 2022 GNH survey data collection. CBS researchers Sonam Zangmo, Sangay Chopel, Kinley, Pem Dem, Sonam Choki, Kinley Pema, Sonam Lham, Passang Lhamo Dukpa, Tashi Tshering, Sita Darjee, Dipta Muni Timsina, and Ugyen Lhendup deserve special mention for overseeing and enabling the field work. We also recognise the efforts of all 94 De-suup enumerators who worked tirelessly to conduct lengthy interviews and collect high-quality data. They walked to some of the most distant corners of the country to conduct field survey interviews in tough geographic and climatic conditions. Their hard work and devotion have resulted in a high response rate for the survey. CBS researchers Sonam Zangmo and Tshewang Yueden deserve special thanks for revising the online survey questionnaire formats in Survey Solutions for Computer Assisted Personal Interviewing (CAPI).

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Glossary

GNH survey: Survey carried out to collect information on the 33 indicators with a nationally and regionally representative sample.

Indicators: The 33 indicators used to compute the GNH Index.

Domains: The nine domains under which the 33 indicators have been categorised.

Sufficiency cutoff: The corresponding thresholds set for the 33 indicators. Sufficiency cutoffs determine if a person has achieved sufficiency in each indicator. For example, a person has achieved *sufficiency* in the schooling indicator if he or she has completed at least six years of schooling. A person is considered *deprived* in the schooling indicator if he or she has not completed six years of schooling.

Sufficiency score: The sufficiency status of each person in each indicator is added up to form a sufficiency score, which is the sum of the weights of all indicators in which he or she has achieved sufficiency. The sufficiency score ranges from 0% to 100%, and a higher number indicates sufficiency in a greater proportion of the nine domains or 33 indicators.

Happiness cutoff: This is the cross cutoff applied on the weighted indicators. It determines if an individual is happy based on the sufficiency score. It is the proportion of weighted indicators in which an individual needs to be sufficient in order to be identified as happy. Three happiness cutoffs (50%, 66%, 77%) are applied to the sufficiency score to create a happiness gradient. The middle threshold of 66% is used to identify whether a person is happy or not-yet-happy.

Indicator weight: The weight assigned to each of the 33 indicators. Weights sum to 100%.

Domain weight: The weight assigned to each of the nine domains. Each domain is equally weighted at 11.11%.

Deeply happy: Share of people who have achieved a sufficiency score of at least 77%.

Extensively happy: Share of people who have a sufficiency score of 66% to 76.9%.

Narrowly happy: Share of people who have a sufficiency score of 50% to 65.9%.

Unhappy: Share of people who have a sufficiency score from 0% to 49.9%.

GNH Index: The GNH Index represents the share of people who are happy plus the share of people who are not-yet-happy, adjusted with the average sufficiency among not-yet-happy people. Its value ranges from 0 to 1, with 0 reflecting zero happiness and insufficiency in all the 33 indicators, and 1 universal happiness (every person is happy, according to the 66% happiness cutoff).

Incidence of happy people: The share of people who are happy because their sufficiency score is 66% or higher. Value ranges from 0 to 1 and reflects the percentage of the population who are happy.

Incidence of not-yet-happy people: The share of people who are not-yet-happy. The value ranges from 0 to 1. Note that if you subtract the headcount of happy people from 1 then you will get the headcount of not-yet-happy people, which reflects the percentage of the population who are not-yet-happy.

Average sufficiency among happy people: The average level of sufficiency among happy people is the average sufficiency score of happy people. The value ranges from 0% to 100%.

Average insufficiency among not-yet-happy people: The average level of insufficiency in weighted indicators among not-yet-happy people is the average sufficiency score of not-yet-happy people. The value ranges from 0% to 100%.

Censored sufficiency headcount ratio: Share of the population who are happy and sufficient in the indicator. Each headcount ratio represents the percentage of the population who are happy and sufficient in the indicator.

Raw/uncensored sufficiency headcount ratio: Share of the population who are sufficient in the indicator. Each headcount ratio represents the percentage of population who are sufficient in that indicator, irrespective of whether they are happy or not-yet-happy.

Censored deprivation headcount ratio: Share of people who are not-yet-happy and deprived in the indicator. This shows the percentage of the population who are not yet happy and are insufficient in the indicator.

Raw/uncensored deprivation headcount ratio: Share of the population who are deprived in the indicator. Each bar represents the percentage of population who are deprived in that indicator, irrespective of whether they are happy or not yet happy.

Indicator contribution to profiles of happy people: The contribution of an indicator is determined by dividing the weighted censored sufficiency headcount ratio for each indicator by the average sufficiency score among happy people. This is multiplied by 100 to give the percentage contribution. An indicator's contribution gives us the percentage contribution of an indicator to the overall sufficiency profile of happy people, considering the weights attached to each indicator.

Domain contribution to average sufficiency among happy people: To compare the ways that happy people experience sufficiency across groups in each of the nine domains, we produce the percentage contribution by domain to average sufficiency among happy people. The domain contribution among happy people provides an insight into the relative sufficiency in a particular domain, based on the weight attached to the domain.

Anim: Nun

Driglam Namzha: Traditional code of etiquette and conduct

Dzongkhag: District

Gewog: Block

Gomchen: Lay monk

Thromde: Municipality

Zorig Chusum: 13 traditional artisan skills

Acronyms

BLSS	Bhutan Living Standards Survey
CAPI	Computer Assisted Personal Interviewing
CBS	Centre for Bhutan & GNH Studies
DGRK	Druk Gyalpo's Relief Kidu
FYP	Five-Year Plan
GDP	Gross Domestic Product
GHQ	General Health Questionnaire
GNH	Gross National Happiness
GNHC	Gross National Happiness Commission
JICA	Japan International Cooperation Agency
MoH	Ministry of Health
ODF	Open Defecation Free
NSB	National Statistics Bureau
PHCB	Population and Housing Census of Bhutan
PSU	Primary Sampling Unit
RGoB	Royal Government of Bhutan
SSU	Secondary Sampling Unit
USU	Ultimate Sampling Unit

Overview

Bhutan's proactive and decisive public health interventions have been effective in containing the spread of COVID-19. The government moved quickly to implement social relief payments to safeguard vulnerable households and mitigate the impact of job and livelihood losses. This was a direct initiative of the extraordinary leadership of His Revered Majesty, who made unequivocal commitment to the people that he would provide Kidu to all business and jobs affected by the covid pandemic. Druk Gyalpo's Relief Kidu (DGRK) made a profound difference to the security and wellbeing of the people during the pandemic. While these initiatives have been effective in addressing immediate problems and concerns, the pandemic-induced shocks have resulted in a deeper economic crisis, with non-hydropower income dropping significantly, increasing the budget deficit and non-hydropower debt.

Given the conditions, the concept note for Bhutan's 13th Five Year Plan (FYP) consciously pivots towards an ambitious economic agenda. The 13th FYP will be primarily concerned with economic recovery, with the goal of transforming Bhutan into a high-income country within the next 10 years. The memo advises institutions and organisations to focus their spending on critical economic development drivers in the post-COVID future. Among the highlighted focus areas are innovation and technology, human capital, and governance. It also emphasises the significance of adopting a strong economic strategy to overcome the problems that the country may encounter after graduating from the LDC category.

So, where should GNH stand in this context?

The country's current economic condition provides a once-in-a-lifetime opportunity to explore measures that not only boost the economy's long-term potential but also successfully invest in areas that we may have taken for granted over the years. It opens up the possibility of centralising a wellbeing economy by putting people's quality of life at the centre of economic recovery. It encourages governmental entities to

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develop concrete strategies to keep social investment at the forefront of the policy agenda. In a nutshell, it advocates refocusing on GNH.

The epidemic served as a wake-up call for us to assess what has happened to social and natural capital, both of which contribute to and determine living conditions. The pandemic affected every aspect of life, especially our mental health and livelihood. The pandemic's impact is exacerbated by inequalities in other dimensions of life, including health and social care. GNH evidence can be critical in assisting governments' pandemic recovery efforts. Using a GNH lens can push decision makers to reconsider the outcomes that are most important to people and help improve policy content from a multidimensional standpoint. Above all, it will assist in realigning policy options and reconnecting people with public institutions.

It has become common knowledge that investing in wellbeing policies has broader societal, economic, and environmental advantages. Nicolas Sarkozy, then-French President, established the Sarkozy Commission in 2008, also known as the Commission on the Measurement of Economic Performance and Social Progress. The group was responsible for creating new measurements of human development that went beyond established indicators like Gross Domestic Product (GDP). Nobel laureate economists Joseph Stiglitz and Amartya Sen co-chaired the panel, with Jean-Paul Fitoussi. The commission's report and summary, 'Mismeasuring Our Lives: Why GDP Doesn't Add Up,' was published in 2009 and offered several proposals for building alternative metrics of success that consider aspects such as wellbeing, social inclusiveness, and environmental sustainability. The report stressed that GDP is a faulty measure since it fails to account for crucial components of human wellbeing and social advancement, such as inequality, health, and education. The group advocated the creation of new measurements that would account for these elements, as well as a more complete approach to gauging success that went beyond GDP to include environmental aspects. The report was enormously influential and fuelled a push for alternative measurements of developments.

In 2021 the UN Secretary General submitted a proposal to advance on the conceptual framework and recommendations to advance Beyond

GDP by the UN Chief Executives Board for Coordination (CEB) in response to the High Level Committee on Programmes (HLCP). The proposal includes suggestions on data, policy coherence, and capacity building to assist Member States in implementing the 2030 Agenda for Sustainable Development, SDG goal 17.19. The workplan on going Beyond GDP aims to 'build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries' by 2030.

Here in Bhutan, for many decades GNH has provided a developmental pathway to prioritise what is genuinely important in the quest of a satisfying and meaningful life. The GNH framework seeks to place multidimensional wellbeing at the centre of all economic, fiscal, and development decisions, thereby assisting in the creation of conditions that improve people's lives.

The GNH Index was created to facilitate decision making. It is a measurement instrument that seeks to extensively and systematically assess how people in the country are doing as individuals, communities, and as a nation. The GNH Index aspires to implement an inclusive wellbeing metric that goes beyond standard monetary indicators, incorporating non-traditional criteria such as spiritual values, communal strength, and environmental protections, among others. The GNH Index has served as a strategic framework for national planning in previous years as the foundation for National Key Result Areas (NKRAs), and we continue to rely on it to help lead us in the post-pandemic environment.

This is the third GNH Index; the first was released in 2010, and the second in 2015. As in previous years, this Index incorporates data from the GNH survey conducted by the Centre for Bhutan & GNH Studies (CBS). The 2022 GNH Survey and Index like 2015 benefitted from financial assistance from the Japan International Cooperation Agency (JICA) Bhutan office. In 2010 the International Development Research Centre of Canada offered vital support. These partnerships clearly demonstrate the value of cross-collaboration.

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The GNH Index is made up of 33 indicators organised across nine GNH domains. The survey gathered insights through face-to-face conversations with people utilising a questionnaire, allowing for a more in-depth and personal understanding of a person's experiences and viewpoints, including on the 33 indicators. CBS conducted 11,052 individual interviews.

The findings of the 2022 GNH Index, trends, and potential programming interventions are highlighted in this book. It comprises five chapters plus a background section. The background section introduces the concept of GNH. It also outlines the methods used to develop the index, including the indicators, domains, and computational features required to calculate GNH Index.

Chapter 1 analyses the 2022 GNH Index findings, providing a summary of the data and highlighting notable patterns. It also contains a comparison of GNH among people and areas, as well as descriptions of any discrepancies or inequities found. The 2022 GNH Index value is 0.781 and 48.1% of the population were classified as either 'deeply' or 'extensively' happy. This means 48.1% of those aged 15 years and above enjoy sufficiency in two-thirds of the weighted indicators. From a policy perspective they enjoy the causes and conditions of happiness.

Overall, 9.5% of Bhutanese people were deeply happy, 38.6% were extensively happy, 45.5% were narrowly happy, and 6.4% were unhappy. While those in urban regions are much happier than those in rural areas, although the distinction between rural and urban is often administrative rather than economic, there are more happy people in rural areas. Bumthang, Haa, Dagana, Paro, and Lhuentse are examples of high-performing districts. Tashi Yangtse, Tashigang, Samtse, and Samdrup Jongkhar are among the districts having poor GNH Index values.

Chapter 2 discusses how the GNH Index has changed over time and what causes may have contributed to these changes. This entails investigating the links between these factors and changes in wellbeing and happiness. The GNH Index has grown significantly in each period

since 2010. The GNH Index value was 0.743 in 2010, 0.756 in 2015 and 0.781 in 2022.

GNH growth was faster in 2015–22 than it had been in 2010–15. In each year of 2015–22, GNH grew by 0.0036 vs. 0.0027 in the previous period. The percentage of ‘deeply’ or ‘extensively’ happy people has increased over time, from 40.9% in 2010 to 48.1% in 2022. Its growth was faster in the recent period (0.67% increase per year for 2015–22 vs. 0.52% increase for 2010–15).

The average sufficiency among happy people has stayed consistent (73% in 2010, 72.8% in both 2015 and 2022), implying that ‘newly happy’ people have acquired the same level of adequacy as previous years. There have been considerable advances in the censored sufficiency headcount ratios of positive emotions, housing, asset ownership, household per capita income, schooling, literacy, and knowledge, among other things, between 2015 and 2022.

Chapter 3 contrasts GDP statistics with the GNH Index. It discusses theoretical contrasts, such as GDP focusing on economic production versus GNH focusing on non-monetary components of wellbeing. The chapter also analyses household per capita income quintile in relation to the GNH Index. It finds that 41.4% of people belonging to the richest quintile are in the not-yet-happy group, while 29.2% of people in the poorest quintile are in the happy group. So having income does not necessarily assure GNH.

Chapter 4 sketches nine GNH profiles and typologies of happy people, asking who they are and what their demographic characteristics look like. These different typologies of happy people deepen our understanding of the nature and causes of wellbeing and happiness. They show the plural and diverse ways that Bhutanese experience sufficiency across GNH indicators.

Chapter 5 explores the policy significance of the findings, as well as some programmatic implications for improving the GNH indicators. It outlines a step-by-step process for assessing programme status and alignment with GNH indicators and domains, identifying key priorities

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based on index results, and engaging stakeholders such as community members, policy makers, experts, and other relevant groups to identify specific actions that can be undertaken to further promote wellbeing and happiness in Bhutan.

The book concludes by summarising the important GNH Index findings and emphasising the necessity of tracking GNH changes over time in order to foster a better understanding of holistic progress and to support GNH evidence-based policy and practice. As we recover from COVID-19's devastation and strive to rebuild better, it is critical that we invest strategically in those who need it the most. The GNH Index insights are envisaged to help provide policy direction for focusing programmatic actions to those who require the most attention. We also hope that the general public will be able to engage in this movement as a result of this book.

Background

What is Gross National Happiness?

Gross National Happiness (GNH) is a concept established in the 1970s by the Fourth King of Bhutan, Jigme Singye Wangchuck, as a measure of a nation's prosperity and progress. It advocates a governing ideology that prioritises citizens' happiness and wellbeing above all else, implying that the ultimate purpose of development should be to raise the population's happiness and wellbeing.

GNH asserts the belief that happiness comes from a holistic approach to life, when monetary development is balanced with non-monetary aspects of life, including spiritual and emotional wellbeing. Balancing monetary and non-monetary domains of life therefore becomes crucial for maintaining overall wellbeing. Money and material wealth can bring a sense of security and provide access to resources and experiences that improve our lives. However, relying solely on money and material possessions for happiness can lead to dissatisfaction and feelings of emptiness.

In order to achieve a healthy balance, it is important to focus on the non-monetary aspects of life, such as physical vitality, relationship with the natural environment, family and community, work-life balance, and other meaningful experiences. These non-monetary aspects can bring a sense of purpose, fulfilment, and satisfaction that cannot be bought with money. GNH emphasises the significance of striving for a balance between monetary and non-monetary aspects of life that can help nations and communities lead a more fulfilling and well-rounded life.

GNH aims to provide a meaningful way of measuring progress and success that goes beyond just economic indicators such as Gross Domestic Product (GDP), making it a valuable tool for nations and societies in creating happier and more wellbeing-focused and sustainable communities. There is growing interest in incorporating GNH principles into decision-making processes. The Royal Government of Bhutan (RGoB) has been proactively advocating and promoting GNH

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in the international arena, in efforts to influence countries, organisations and communities to track comprehensive progress and identify areas for improvement in happiness and wellbeing from a more holistic and sustainable approach.

What is the Gross National Happiness Index?

The Gross National Happiness Index (GNH Index) is a measure of the Bhutanese population's overall wellbeing and happiness, the value of which ranges from 0 to 1. A higher GNH Index value represents greater wellbeing and happiness and one is a 'perfect score'. The GNH Index is based on 33 indicators that measure nine GNH domains.

The GNH Index aggregates the proportion of happy people, plus the proportion of not-yet-happy people multiplied by the average sufficiency levels of not-yet-happy people. So the Index captures the rate of improvement across both happy as well as not-yet-happy people. The GNH Index can be analysed by each of its 33 component indicators to explore different profiles of happiness. Each indicator has a defined sufficiency cutoff and weight. The sufficiency cutoffs and weights, as explained in previous GNH reports³ are based on objective evidence, international standards and societal preferences, among other inputs.

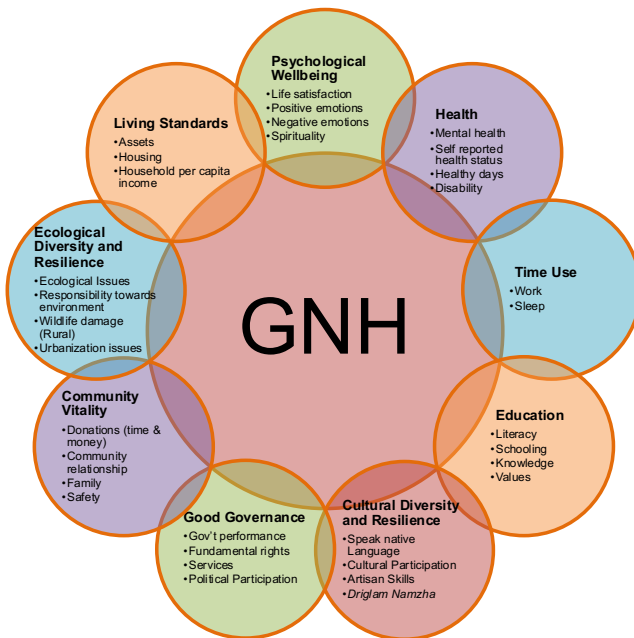
The GNH Index views happiness and wellbeing from a multidimensional perspective, so it collects information from multiple aspects of a person's life, such as physical health, emotional wellbeing, social relationships, financial stability, environment, and culture, to name a few, and then aggregates it into an index. These factors are grouped into nine GNH domains: psychological wellbeing, health, education, time use, cultural diversity and resilience, good governance, community vitality, ecological diversity and resilience, and living

³ Ura, K., Alkire, S., and Zangmo, T. (2012). *A Short Guide to Gross National Happiness Index*. Thimphu: Centre for Bhutan Studies; Ura, K., Alkire, S., Zangmo, T., and Wangdi, K. (2015). *Provisional Findings of 2015 GNH Index*. Centre for Bhutan Studies and GNH Research, Royal Government of Bhutan. Available on www.grossnationalhappiness.com.

standards. Individuals may place varying weights on any of these factors, but from a GNH viewpoint they are all equally important in contributing to an overall sense of wellbeing and happiness.

These areas are meant to provide a complete picture of wellbeing that goes beyond standard markers of progress. The GNH framework provides a holistic and sustainable approach to measuring progress and evaluating impact on the ground by taking these nine domains into account, in comparison to GDP, which solely evaluates economic activity and ignores the impact on quality of life and the environment. There are 33 markers of wellbeing and happiness across the nine GNH domains (Figure 1).

Figure 1: Domain and indicators of GNH Index



How is data collected for the GNH Index?

The GNH national surveys are conducted frequently to collect data on the nine domains and the 33 indicators of GNH. Every three to five years, these nationwide GNH surveys collect insights from a nationally and

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regionally (rural and urban) representative sample. Surveys are carried out with a standardised GNH questionnaire using Pen-and-Paper Personal Interviewing (PAPI) or Computer Assisted Personal Interviewing (CAPI).

The GNH questionnaire covers a wide range of questions about life satisfaction, emotional experience, physical and mental health, access to services, and health behaviours, how individuals spend their time, educational attainment, access to education, and the quality of education, questions about cultural identity, connection to culture, and cultural values, trust in institutions, social connections, community involvement, environmental protection, income, and housing, among others. The responses to the GNH questionnaire are intended to present a comprehensive picture of Bhutan's happiness and wellbeing, as well as to guide policies and activities targeted at enhancing wellbeing and happiness. So far, there have been three rounds of national GNH surveys: in 2010, 2015, and most recently in 2022. A pilot survey was also carried out in 2006 and 2007.

The questionnaire for the 2022 GNH survey was created in Survey Solutions software for CAPI. It took four months to complete the in-person interviews (April to July 2022). CBS conducted the 2022 survey using a rigorous data gathering, entry, and cleaning method. A survey manual guide was also created to assist with data gathering.

How many people did the GNH survey 2022 cover?

The GNH survey in 2022 had a sample size of 11,440 people aged 15 and above. To match with national proportions, 73% (8,400) were identified from rural areas, while the remaining 27% (3,040) were identified from urban areas. The response rate was high at 96.6% (11,052).

Table 1: Demographic characteristics

Characteristics	2022		2015		2010	
	N	%	N	%	N	%
Sex						
Male	3,991	36.1	2,966	41.5	3,426	48
Female	7,061	63.9	4,184	58.5	3,708	52
Other	-	-	3	0	-	-
Area of residence						
Rural	8,169	73.9	5,127	71.7	5,554	77.8
Urban	2,883	26.1	2,026	28.3	1,588	22.2
Age group						
15-19	265	2.4	458	6.4	276	3.9
20-24	682	6.2	686	9.6	649	9.1
25-29	1366	12.4	876	12.3	986	13.8
30-34	1680	15.2	952	13.3	925	13
35-39	1413	12.8	906	12.7	829	11.6
40-44	1185	10.7	671	9.4	714	10
45-49	1028	9.3	636	8.9	667	9.4
50-54	833	7.5	562	7.9	580	8.1
55-59	738	6.7	418	5.8	504	7.1
60-64	635	5.8	368	5.1	392	5.5
65-69	462	4.2	257	3.6	263	3.7
70-74	369	3.3	202	2.8	193	2.7
>=75	396	3.6	161	2.3	148	2.1
Marital status						
Never married	1,284	11.6	1,103	15.4	691	9.7
Living together	38	0.3	-	-	-	-
Married	8,177	74	5,394	75.4	5,692	79.8
Divorced	706	6.4	268	3.8	231	3.2
Separated	65	0.6	32	0.5	103	1.4
Widowed	782	7.1	356	5	416	5.8

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Characteristics	2022		2015		2010	
	N	%	N	%	N	%
Level of education						
No formal education	5,758	52.1	4,146	58	4,682	65.6
Primary education (VI)	1,269	11.5	914	12.8	982	13.8
LS education (VIII)	615	5.6	445	6.2	383	5.4
MS education (X)	1,267	11.5	685	9.6	536	7.5
HS education (till degree 2nd yr./Diploma/Certificate)	1,279	11.6	721	10.1	350	4.9
Bachelor's degree	774	7	207	2.9	175	2.5
Post-graduate	90	0.8	35	0.5	34	0.5
Religion						
Buddhism	9,392	85	5,945	83.1	6,123	85.8
Hinduism	1,352	12.2	1,039	14.5	933	13.1
Christianity	230	2.1	146	2	83	1.2
Others	18	0.2	15	0.2	-	-
None	60	0.5	7	0.1	-	-
Household size						
Single member HH	1,081	9.8	215	3	265	3.7
2-3 member HH	4,944	44.7	1,768	24.7	1,858	26.1
4-5 member HH	3,780	34.2	2,939	41.1	2,820	39.5
6-7 member HH	1,033	9.4	1,593	22.3	1,515	21.2
>7 member HH	214	1.9	638	8.9	674	9.5

What kind of sampling design was used for the 2022 GNH survey?

A multi-stage stratified sampling methodology was used to ensure that the sample was representative at the national, regional and district levels. Similar to the previous surveys, rural and urban areas were used as the main sampling strata. The areas were further classified into Enumeration Areas (EA). The Primary Sampling Units (PSU) were identified as *chiwog* for rural and enumeration block for urban. A sampling frame was created based on the 2017 Population and

Housing Census of Bhutan (PHCB). A CBS team revised household listings in the selected PSUs to incorporate migration considerations.

How is the GNH Index computed?

The GNH Index is estimated using the Alkire-Foster method, which is a multidimensional poverty measurement tool that provides a comprehensive and robust assessment of poverty.

To develop a measure of poverty, the technique captures deprivations across multiple dimensions of poverty, such as health, education, and living standards. The Alkire-Foster technique counts the simultaneous deprivations that a person or household experiences in multiple indicators of poverty to identify the poor. The indicators might be weighted similarly or differently. People are classified as multidimensionally poor if the weighted sum of their deprivations exceeds or equals a poverty cutoffs, such as 20%, 30%, or 50% of total deprivation. It is a flexible approach that can be tailored to a variety of contexts by choosing different dimensions (for example, living standards), poverty indicators within each dimension (for example, housing conditions), and poverty cutoffs.

The same approach is used for the GNH Index. In this case, the Alkire-Foster technique combines people's levels of sufficiency in 33 indicators. Applying indicator-level sufficiency cutoffs, people are assessed if they are deprived or have achieved sufficiency in each of the 33 indicators. The method computes the number of people who are GNH happy by keeping track of average sufficiency scores across the GNH indicators. After weighting these indicators to reflect their relative importance, a GNH Index is constructed by summing the incidence of sufficiency with incidence of deprivation multiplied by the intensity of deprivation (average deprivation score).

Key definitions in the GNH Index

$$GNH\ Index = H^H + (H^U * A_{suff}^U)$$

H^H = Incidence of happy people; the percentage of the population who are happy

H^U = Incidence of not-yet-happy people; 100% minus H^H

A_{suff}^U = Average sufficiency score among those who are not-yet-happy

Two-step method for computing the GNH Index using the Alkire-Foster method

1. Identification:

I. Identify whether the individual is adequate in each of the 33 indicators. This is accomplished by using an indicator-level sufficiency cutoffs. There are 33 sufficiency levels for the 33 indicators. Based on their achievement level in the indicator, an individual is labelled as sufficient (denoted by 1) or insufficient (denoted by 0).

II. Identify whether the individual is happy or in the not-yet-happy group. This is accomplished by employing a second-order cutoff, which is used to identify happy people. Happy people have an average sufficiency level of at least 66% of the weighted 33 indicators. If their average sufficiency level across the 33 indicators is less than 66%, then people are classified as not-yet-happy.

2. **Aggregation:** Estimates such as the share of happy people, the share of not-yet-happy people, the average sufficiency of happy people, and the average sufficiency of not-yet-happy people are derived from the identification stage. The GNH Index reflects both the incidence of happy people and the intensity of sufficiency experienced by people who are not-yet-happy.

The index is the summation of the headcount ratio of happy people and the product of the two partial indices, the headcount ratio of not-yet-happy people and intensity, that is average sufficiency among not-yet-happy people. This can also be defined as the share of the population that is happy, adjusted by the intensity of sufficiency among the not-yet-happy group.

Table 2: GNH indicators, sufficiency thresholds, and indicator weights

Indicators	Indicator sufficiency thresholds	Indicator weight	Domain weight
Life satisfaction	A person is said to be sufficient if they scored at least 19 in the life satisfaction score. The life satisfaction index score ranges from 5 (low satisfaction) to 25 (high satisfaction). The life satisfaction score comprises five variables assessing respondents on their satisfaction levels with respect to health, occupation, family, standard of living and work life balance.	1/3	1/9
Positive emotions	A person is said to be sufficient if they scored at least a positive emotion score of 21. The score combines the frequencies of positive emotions felt: compassion, generosity, forgiveness, contentment and calmness.	1/6	
Negative emotions	A person is said to be sufficient if they scored at least 8 and 11 in the two respective negative emotion scores. The first negative emotion score combines frequencies of negative emotions such as anger, fear and worry. The second combines selfishness and jealousy.	1/6	
Spirituality	A sufficiency threshold of 13 is applied, which implies that respondents must rate either 'regularly' or 'moderately' or 'occasionally' for spirituality level and consideration of karma variables, and rate 'several times a day' or 'once a day' or 'a few times a week' for frequency of prayer recitation and meditation.	1/3	
Self-reported health status	For a person to be sufficient in self-reported health status, he or she must have a rating of 'excellent' or 'very good'.	1/10	1/9
Healthy days	A person is said to be sufficient if he or she has at least 26 healthy days in the recent month.	3/10	
Disability	A person is said to be sufficient if they report having a disability and that disability was restricting their daily activities to 'all the time' or 'sometimes'.	3/10	

Background

Indicators	Indicator sufficiency thresholds	Indicator weight	Domain weight
Mental health	A person is said to be sufficient if they have achieved a mental health score of 15. The mental health score is made up of 12 questions ranging from 0 to 36. A lower score between the ranges of 0 to 15 indicates normal mental wellbeing, a score between 16 and 20 indicates some mental distress and a high score of 21 to 36 indicates severe mental distress.	3/10	
Work	A person is said to be sufficient if they worked no more than eight hours.	1/2	1/9
Sleep	A person is said to be sufficient if they sleep no less than eight hours.	1/2	
Literacy	A person is said to have achieved sufficiency if they were able to read and write in any one language, English or Dzongkha or Nepali.	3/10	1/9
Schooling	A person is said to have achieved sufficiency if they had six years of schooling.	3/10	
Knowledge	A person is said to have sufficiency if they had achieved a knowledge score of 19. The knowledge variables include: knowledge of local legends and folk stories, knowledge of local festivals (<i>tshechus</i>), knowledge of traditional songs, knowledge of HIV/ AIDS transmission, and knowledge of the Constitution. The knowledge score ranges from 5 (low) to 25 (high).	1/5	
Values	A person is said to have sufficiency if they consider at least one of the values to be justifiable. The value indicator consisted of five destructive actions: killing, stealing, lying, creating disharmony in relationships and sexual misconduct.	1/5	
Zorig Chusum skills (artisan skills)	A person is said to have sufficiency if they have responded at least 'yes, very well' or 'yes, very little' to at least one of the 13 artisan skills (weaving, embroidery, painting, carpentry carving sculpture, casting, blacksmithing bamboo works, goldsmithing and silversmithing masonry, leather works and papermaking).	3/10	

Indicators	Indicator sufficiency thresholds	Indicator weight	Domain weight
Cultural participation	A person is said to have sufficiency if they have attended at least six days of social or cultural events taking place in the community in the past 12 months.	3/10	
Speak native language	A person is said to have sufficiency if they have responded 'very well' in terms of fluency of their mother tongue.	1/5	
<i>Driglam Namzha</i> (Way of Harmony)	A person is said to have sufficiency if they have rated 'important' to <i>Driglam Namzha</i> and said 'getting stronger' in terms of perceived change in practice and observance during the last few years.	1/5	
Political participation	A person is said to have sufficiency if they have reported 'yes' to the voting in the next election and have attended at least one meeting (<i>zomdue</i>) in the past one year.	2/5	1/9
Services	A person is said to have sufficiency if they have achieved sufficiency in four basic services. They live in an area which is less than an hour's walk to the nearest healthcare centre. They report disposing of waste by either 'compositing', 'burning', or 'municipal garbage pickup'. They have piped water into their dwelling or outside of their house or a public outdoor tap. Lastly, they have 'good' or 'very good' quality access to water.	2/5	
Government performance	A person is said to have sufficiency if he/she achieved at least 28 in government performance score. The score consists of ratings across seven questions (employment, equality, education, health, anti-corruption, environment and culture) and has a maximum of 35, indicating high performance, and minimum of 6, indicating low performance of the government. A sufficiency threshold of 28 means a person has to perceive that public services are 'very good' or 'good' in at least five of the seven performance aspects.	1/10	
Fundamental rights	A person is said to be sufficient if they have reported 'yes, definitely' or 'yes, maybe' to all	1/10	

Background

Indicators	Indicator sufficiency thresholds	Indicator weight	Domain weight
	seven fundamental rights and freedom statements (freedom of speech and opinion, the right to vote, the right to join the political party of their choice, the right to form <i>tshogpa</i> (association) or to be a member of the <i>tshogpa</i> , the right to equal access and the opportunity to join public service, the right to equal pay for work of equal value, and freedom from discrimination based on race, sex, and so on.		
Donation (time and money)	A person is said to have sufficiency if a donation of at least 10% of household income was made and they have volunteered at least three days in the past 12 months.	3/10	1/9
Safety	A person is said to have sufficiency if he/she has not been a victim of crime in the past 12 months.	3/10	
Community relationship	A person is said to have sufficiency if sense of belonging to the community was rated at least 'very strong' and trusted at least 'some of them' in the community.	1/5	
Family	A person is said to have sufficiency if he/she achieved at least 16 in the family relationship score. The family relationship score consists of six questions and has a maximum of 18 and minimum of 6.	1/5	
Wildlife damage	A person is said to have sufficiency if wildlife has not affected the household's crops or if the household land has not been left uncultivated due to wildlife damage. This indicator is applicable to those living in rural areas, particularly to farmers.	2/5	1/9
Urbanisation issues	A person is said to have sufficiency if the responses were 'content' or 'very content' to the quality of pedestrian streets. This indicator is only applicable to those living in urban areas.	2/5	
Responsibility towards environment	A person is said to have sufficiency if the response was 'highly responsible' towards environmental conservation.	1/10	

Indicators	Indicator sufficiency thresholds	Indicator weight	Domain weight
Ecological issues	A person is said to have sufficiency if responses were 'contended' or 'very contented' or 'no' to at least three of the seven environmental issues of concern (noise pollution, air pollution, river and stream pollution, littering, floods, soil erosion and absence of waste disposal sites).	1/10	
Household per capita income	A person is said to have sufficiency if the annual household per capita income was at least Nu. 32,951.27. To allow comparability with 2010, an alternative poverty line was estimated using 2015 and 2022 Consumer Price Index (CPI). ⁴	1/3	1/9
Assets	A person is said to have sufficiency if the household owns at least two appliances (mobile phone, fixed-line telephone,	1/3	

⁴ In 2022, the Bhutan Living Standards Survey Report changed the monetary poverty lines, in ways that are no longer comparable with the poverty lines used in GNH 2010 and 2015. The previous poverty lines, according to the 2022 BLSS report, were updated using the CPI. Therefore, to create comparability between the 2022 GNH Index and previous versions (2010 and 2015), we have estimated the comparable poverty line using the evolution of the CPI since 2015. Some background notes on how the previous GNH income thresholds were computed:

- Formula used for 2010 income threshold of 15,000: $1.5 * \text{most recent income poverty line (2007)} * \text{median income ratio}$ which corresponds to 13856.96 which was then rounded off to 15,000.
- Formula used for 2015 income threshold of 23,127: $15,000 \text{ (2010 GNH income threshold)} * (1 + 0.5418)$ (0.5418 corresponds to inflation rate of 2009 to 2014)

Based on the past notes and using 2010 GNH income threshold as our baseline and to allow comparability across time, we worked on the finalised 2022 GNH income threshold as follows: First 2022 poverty line in real terms was computed using the same formula as done in the past which is GNH income threshold of 2015 multiplied by 1.369309755 (this is the inflation rate 2015-2022) = 31668.0267

or we could say GNH income threshold of 2010 multiplied by $(1 + 0.5418)$ further multiplied by 1.369309755 (this is the inflation rate 2015-2022) = 31668.0267. For the final 2022 GNH income threshold estimate was then further adjusted by ratio of median income of GNH and BLSSR= 34201.66427.

Background

Indicators	Indicator sufficiency thresholds	Indicator weight	Domain weight
	personal computer, refrigerator, colour television and washing machine), or owns at least five livestock, or owns around five acres of land.		
Housing	A person is said to have sufficiency if he/she lives in a housing with roofing of CGI sheet/concrete brick/stone (any one of the roofing materials specified), toilet at pit latrine with slab and the housing has a room ratio of two.	1/3	

Where and how is the GNH Index used?

The GNH Index is being used for the several purposes, including:

1. *Measuring and tracking holistic progress:* The GNH Index provides a comprehensive measure of progress in terms of wellbeing and happiness, allowing the nation to track the quality of life of Bhutanese population over time and assess the impact of policies and interventions.
2. *Informing decision making:* By providing a comprehensive and robust measure of wellbeing, the GNH Index informs decision making at all levels of government, from local to national, and helps policy makers prioritise interventions to improve wellbeing. It can be used to compare wellbeing across different regions, providing insights into the distribution of wellbeing and helping to identify disparities and inequalities, and guide resource allocation by governments and organisations.
3. *Promoting transparency and accountability:* The index promotes transparency by providing an objective and easily accessible measure of GNH, which can help to hold public institutions accountable for improving conditions for wellbeing. The GNH Index provides valuable insights and information about how subgroups are faring across indicators and domains as well as across time.

Overall, the GNH Index provides a useful tool for understanding the wellbeing and happiness of the Bhutanese population, in a way that prioritises wellbeing and happiness over economic growth alone. It encourages a shift from traditional economic indicators towards a more holistic view of progress and success.

Chapter 1: The GNH Index in 2022

Since 2010, progress across the Bhutanese population has been tracked and evaluated through a single Gross National Happiness (GNH) Index, the value of which ranges from 0 to 1. A higher value represents greater wellbeing and happiness. The index is based on 33 indicators that measure nine GNH domains.

This chapter introduces the GNH Index and presents preliminary findings for 2022. It also defines the key terms used for constructing and analysing the GNH Index. The national GNH results are explained and then disaggregated to compare GNH across rural-urban areas, districts, age, gender, and other characteristics. The results are summarised below.

Key highlights

- The 2022 GNH Index value is 0.781.
- Overall, in 2022 48.1% of the population were classified as either 'deeply happy' or 'extensively' happy. This means 48.1% of those aged 15 years and above enjoy sufficiency in two-thirds of the weighted indicators.
- In total, 9.5% of the Bhutanese population were deeply happy, 38.6% were extensively happy, 45.5% were narrowly happy and 6.4% were classified as unhappy. The narrowly happy and unhappy are called 'not-yet-happy'.
- While people living in urban areas are significantly happier than rural dwellers, there are more happy people living in rural regions than in urban: 56.8% of happy people live in rural areas, and 43.2% live in urban areas.
- High-performing districts include Bumthang, Haa, Dagana, Paro, and Lhuentse. Districts with low GNH Index values include Tashi Yangtse, Tashigang, Samtse, and Samdrup Jongkhar.
- Happy people enjoy the highest levels of sufficiency in the living standards and health domains.
- Across the population in 2022, people enjoyed the most sufficiency (raw/uncensored sufficiency headcount ratios) in safety (96.2%) and value indicators (95%). People achieved the least sufficiency in the knowledge indicator (14.3%), that measures knowledge on local legends, the constitution, local festivals, and HIV/AIDS. The next lowest sufficiency (31%) was in the *Driglam Namzha* indicator, which measures people's views on the significance and decline of the traditional etiquette of courtesy.

How is the GNH Index computed?

The GNH Index is computed by adding together two measures. The first is the proportion of happy people. The second is the proportion of not-yet-happy people, adjusted by their average sufficiency levels. So, the GNH Index captures vital information for both happy as well as not-yet-happy people.

The method of construction is fairly simple. In the first stage, a sufficiency cutoff is applied to each of the 33 indicators for each person. Each indicator has a defined sufficiency cutoff and weight. The sufficiency cutoffs and weights are based on objective evidence, international standards and societal preferences, among other inputs. The method starts by assessing whether each person has achieved sufficiency or not in each of the 33 indicators.

Next, the overall sufficiency scores (across all 33 indicators) for each person are calculated by multiplying their sufficiency level by each indicator's respective weight, then adding them all up. The sufficiency score shows the percentage of weighted indicators in which each person has sufficient conditions for GNH.

A happiness cutoff of 66% is then applied to the sufficiency scores to generate two categories of people: happy people and not-yet-happy people. The happiness cutoff of 66% means that for a person to be categorised as happy, she or he needs to have achieved sufficiency in either six of the nine weighted domains, or in 66% of the 33 weighted indicators. The cutoff was set on normative grounds based on extensive consultations with a range of state, non-state, and local actors.⁵

To further analyse results across various levels of sufficiency scores, three happiness thresholds were applied at 50%, 66% (the GNH Index happiness threshold) and 77%, giving us insights into a happiness gradient across four groups (the unhappy, narrowly happy, extensively

⁵ Alkire, S., Ura, K., Zangmo, T., and Wangdi, K. (2012) A Short Guide to Gross National Happiness Index. Thimphu: Centre for Bhutan Studies.

happy, and deeply happy people) with varying intensities of sufficiency on the upper as well as lower end of the 66% happiness cutoff.

Finally, the GNH Index and all its indicators were analysed for many representative subgroups, including district and region, and for trends over time.

Key definitions in the GNH Index

$$GNH\ Index = H^H + (H^U * A_{suff}^U)$$

H^H = Incidence of happy people; that is, the percentage of the population who are happy

H^U = Incidence of not-yet-happy people; that is, 100% minus H^H

A_{suff}^U = Average sufficiency score among those who are not-yet-happy

Gross National Happiness Index (GNH Index): The GNH Index represents the share of people who are happy plus the share of people who are not-yet-happy, adjusted with the average sufficiency among not-yet-happy people. Its value ranges from 0 to 1, with 0 reflecting zero happiness and insufficiency in all 33 indicators, and 1 universal happiness (every person is happy, according to the 66% happiness cutoff).

Incidence of happy people: The share of people who are happy. Its value ranges from 0 to 1 and it reflects the percentage of the population who are happy.

Incidence of not-yet-happy people: The share of people who are in the not-yet-happy group. Its value ranges from 0 to 1. Subtracting the headcount of happy people from 100% gives the headcount of not-yet-happy people and reflects the percentage of people who are not-yet-happy.

Average sufficiency among happy people: The average level of sufficiency among happy people is the sum of the sufficiency score of all happy people divided by the number of happy people. Its value ranges from 66% to 100%.

Average sufficiency among not-yet-happy people: The average level of sufficiency among not-yet-happy people is the sum of the sufficiency scores among not-yet-happy people divided by the number of not-yet-happy people. Its value ranges from 0% to 65.9%.

How are Bhutanese people doing in 2022?

National results

Progress across the population is tracked and evaluated through a single GNH Index, the value of which ranges from 0 to 1. A higher GNH Index value represents greater wellbeing and happiness and vice versa. The GNH Index is based on 33 indicators that measure nine GNH domains.

The GNH Index aggregates the proportion of happy people, plus the proportion of not-yet-happy people multiplied by the average sufficiency levels of not-yet-happy people. So the Index captures the rate of improvement across both happy as well as not-yet-happy people. The GNH Index can be analysed by each of its 33 component indicators to explore different profiles of happiness. Each indicator has a defined sufficiency cutoff and weight. The sufficiency cutoffs and weights, as explained in previous GNH reports⁶ are based on objective evidence, international standards and societal preferences, among other inputs.

For the GNH Index, the overall happiness threshold was set at 66%, meaning that for a person to be classified as happy, she or he should have sufficiency in at least 66% of the weighted indicators or domains. Using the cutoff of 66%, the GNH Index for 2022 has a value of 0.781.

$$48.1+(51.9*57.9) = 0.781$$

GNH Index is composed of three measures: share of happy people, share of not-yet-happy people, and average share of sufficiency among the not-yet-happy group of people. In 2022, 48.1% of Bhutanese people were classified as either 'deeply happy' or 'extensively' happy; in

⁶ Ura, K., Alkire, S., and Zangmo, T. (2012). *A Short Guide to Gross National Happiness Index*. Thimphu: Centre for Bhutan Studies; Ura, K., Alkire, S., Zangmo, T., and Wangdi, K. (2015). *Provisional Findings of 2015 GNH Index*. Centre of Bhutan Studies and GNH Research, Royal Government of Bhutan. Available on www.grossnationalhappiness.com.

other words, 48.1% of the population⁷ have achieved sufficiency in at least 66% of the 33 weighted indicators (Table 3).

Furthermore, 51.9% of Bhutanese people were not-yet-happy (which we get by simply subtracting the share of happy people from 100%). For policy and programmatic purposes, it's vital that we understand the deprivations of those in the not-yet-happy group so future policies can accelerate GNH growth. To improve the GNH Index value, we would need to understand who they are, what indicators they lack sufficiency in, and most importantly, what kind of interventions could improve their conditions. Subsequent chapters provide more information on this.

Looking at the average share of sufficiency among not-yet-happy people, Table 3 shows that the not-yet-happy group experienced an average sufficiency in more than half (57.9%) of the 33 weighted indicators. It was not yet 66% for any of them – but it was not too far away either.

Returning to the GNH Index value of 0.781, what does this number mean? We can explain this number also by looking at the shortfalls among not-yet-happy people. It means that not-yet-happy people in Bhutan experience just over one-fifth ($1 - 0.781 = 0.219$ (21.9%)) of all possible deprivations. Note that if everyone was happy, the GNH Index value would be 100% or 1. Likewise, if everyone was deprived in all indicators, then everyone would be classified as not-yet-happy and the GNH Index would have a value of 0.

⁷ Note that Bhutan's total population aged 15 and above for 2022 is 583,936, based on the Population Projection of Bhutan Report (2017–47) published by National Statistics Bureau (NSB).

Table 3: National GNH Index, 2022

Happiness cutoff	Estimates	Value
Happiness cutoff of 66% of weighted indicators	GNH Index	0.781
	Incidence of 'deeply happy' or 'extensively' happy	48.1%
	Incidence of not-yet-happy people	51.9%
	Average sufficiency among 'deeply happy' or 'extensively' happy	72.8%
	Average sufficiency among the not-yet-happy people	57.9%

Source: Authors' computations using the 2022 GNH Survey

To analyse results further across various levels of happiness gradients, three happiness thresholds were applied at 50%, 66% (GNH Index happiness threshold) and 77%, giving us insights into four groups (unhappy, narrowly happy, extensively happy, and deeply happy) of people with varying intensities of sufficiency on the upper as well as lower end of the thresholds. Table 4 and Figure 2 present the happiness gradients.

Table 4: Happiness gradients, 2022

Happiness gradient	Sufficiency scores included	Proportion of population in each group	Average sufficiency score
Deeply happy	77%-100%	9.5%	80.9%
Extensively happy	66%-76.9%	38.6%	70.8%
Narrowly happy	50%-65.9%	45.5%	59.7%
Unhappy	0%-49.9%	6.4%	45.2%

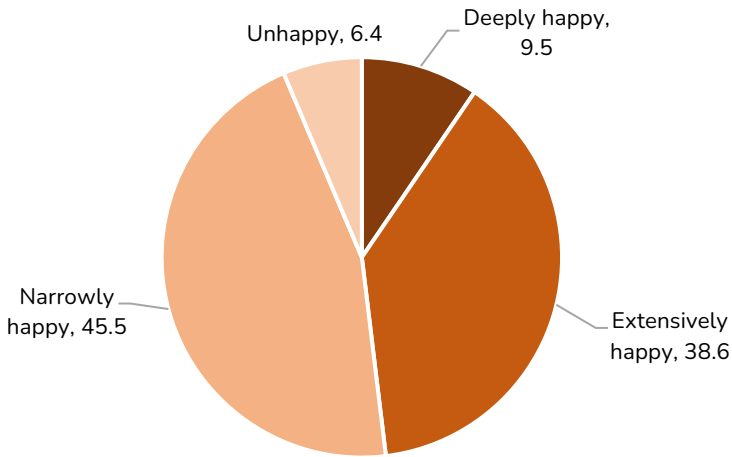
Source: Authors' computations based on 2022 GNH Survey

Note that the happy people group comprises deeply happy and extensively happy people with sufficiency scores of 77% to 100% and 66% to 76.9%, respectively.

Around 9.5% of the Bhutanese population are considered deeply happy because they enjoy sufficiency in at least 77% of the indicators. Similarly, people in the extensively happy group (38.6%) correspond to those who achieved sufficiency in 66% to 76% of the indicators. One can also see that the sum of these two headcount ratios produces the share of 'deeply happy' or 'extensively' happy (48.1%), as estimated

using the GNH Index happiness threshold of 66%. Overall, 93.6% of the population enjoy sufficiency in 50% of indicators or more. Likewise, the total of 45.5% of narrowly happy people and the 6.4% unhappy people represents the group of not-yet-happy people (51.9%).

Figure 2: *Distribution of population by happiness gradient (%), 2022*



Source: Authors' computations based on 2022 GNH Survey

Rural and urban results

Before we deep dive into disaggregated analyses of the GNH Index, one must note that the sample is only representative at the regional (rural and urban) and district levels. For this reason, the findings may only be considered for these two groups. For the rest, including sex, age groups and occupational status, the results are only indicative.

Table 5 outlines how rural and urban regions are performing. The classification of urban and rural areas follows the definitions adopted by the National Statistics Bureau (NSB). Results show that people living in urban areas are significantly happier.⁸ Yet the average sufficiency level among the happy groups do not vary across regions – so each happy person in rural and urban areas has the same sufficiency score on

⁸ The index value for urban areas is statistically significantly higher than its rural counterparts'. Three asterisks indicate a p-value of less than 0.001.

average. For those in the not-yet-happy group, the average sufficiency is slightly higher in urban areas (58.8%) – so not-yet-happy people in urban areas are closer to graduating into the happy category. The difference in average sufficiency across not-yet-happy people is not statistically significant.

While investing in rural areas is essential to improving happiness in the country, it is important to note that 58.7% of the population live in rural areas. That means that overall, nearly 57% of happy people in Bhutan live in rural areas – there are more happy people living in rural than in urban areas.

Table 5: GNH Index by region, 2022

Estimates	National	Rural	Urban
GNH Index	0.781	0.771	0.796***
Incidence of 'deeply happy' or 'extensively' happy	48.1%	46.4%	50.5%***
Incidence of not-yet-happy people	51.9%	53.6%	49.5%
Average sufficiency among happy people	72.8%	72.8%	72.7%
Average sufficiency among the not-yet-happy people	57.9%	57.3%	58.8%
Population share of 'deeply happy' or 'extensively' happy	100%	56.8%	43.2%
Population share ⁹	100%	58.7%	41.3%

Source: Authors' computations based on 2022 GNH Survey

Results by subgroups (sex, age, marital and occupational status)

The GNH Index can also be broken down to compare happiness between men and women.¹⁰ As Table 6 shows, the GNH

⁹ According to the Population Projection of Bhutan Report (2017–47) published by NSB, the population projection for those aged 15 and above is 583,936, of which 58.7% reside in rural areas and the remaining 41.3% in urban areas.

¹⁰ The sample is not representative by sex, age groups, marital status or occupational status, hence, this analysis must be taken with caution. According to the 2015 GNH survey statistics, approximately 41.4% of respondents are male and 58.6% are female. According to the NSB Population Projection Report (2005–30), in 2015, 50.7% of the population aged 15 and above (532,305) were men, while 49.3% were women. In the 2022 GNH survey, 37.3% were male while 62.7% were female. The

Index value is significantly higher for males than females.¹¹ More than 55% of males are classified as happy, compared to 44% of females. The need for targeted interventions to improve the GNH conditions of girls and women may be reinforced by these findings.

Table 6: GNH Index by sex, 2022

Estimates	National	Male	Female
GNH Index	0.781	0.814	0.762
Incidence of 'deeply happy' or 'extensively' happy	48.1%	55.3%	43.8%
Incidence of not-yet-happy people	51.9%	44.7%	56.2%
Average sufficiency among 'deeply happy' or 'extensively' happy	72.8%	73.3%	72.4%
Average sufficiency among not-yet-happy people	57.9%	58.4%	57.7%
Population share	100%	52.5%	47.5%

Source: Authors' computations based on 2022 GNH Survey

It is also possible to disaggregate the GNH Index and its associated statistics by age group.¹² The analysis shows that 15–39 age group is the happiest (Table 7). The comparisons here are simply indicative since the survey sample is not representative by age.

Population Projection of Bhutan Report (2017–2047) by NSB reveals that in 2022, out of the 583,936 people aged 15 and above, 52.5% were men and 47.5% were women. As we can see, there are slight variances in gender proportions in 2015, but there are significant differences in 2022.

¹¹ p-value of 0.000.

¹² In 2015 GNH survey data, after applying sampling weights, there were about 54.6% in the 15–39 age group, 37% in the 40–64 category and the remaining 8% were in the 65 and above group. According to the NSB Population Projections of Bhutan (2005–30), roughly 45% of the 2015 population were aged 15 to 39, around 19.9% were aged 40 to 64 and 4.8% were 65 and above. As observed, the sample does not accurately represent the age group population sizes. The outcomes for 2015 therefore, must be interpreted with caution. As per the 2022 GNH survey, 53.3% were aged 15 to 39, 37% were 40 to 64 and around 10% were 65 and above. As per the National Population Projection Report (2017–47), in 2022, 60.6% were aged 15 to 39, 30.7% were 40 to 64, and 8.7% were aged 65 and above. While the discrepancies between the two are not extreme, we still need to exercise caution when interpreting results.

Table 7: GNH Index, share of happy people by age groups, 2022

Age group	GNH Index	Incidence of happy people	Lower CI ¹³	Upper CI	Population share
15–39	0.797	51.1%	0.792	0.803	60.6%
40–64	0.769	45.7%	0.763	0.776	30.7%
65+	0.741	40.7%	0.729	0.754	8.7%

Source: Authors' computations based on 2022 GNH Survey

A comparison across marital status shows that marital status¹⁴ may impact a person's wellbeing and happiness. As indicated in Table 8, those who are single report the highest GNH Index (0.803) followed by married individuals (0.784). This translates to around 52% of single people being happy and 48% of those who are married. The least-happy people are widowed individuals, with a GNH Index value of 0.731.

It is important to note that the sample is not representative by marital status, and these general trends may not apply across populations. The confidence intervals are largely affected by the subgroup sample sizes, which at times are too low to allow significant comparisons. There are also many other factors that can impact an individual's wellbeing beyond their marital status, such as income, health, and social support networks.

¹³ CI refers to 95% confidence intervals based on standard errors.

¹⁴ With the application of sampling weights, 72% are married, 13.8% are never married and 6.7% are divorced; 6.4% are widowed, followed by the 'separated' and 'living together' categories (0.5% and 0.6%, respectively). Without applying weights, 11.6% are classified as never married, 0.3% as living together, 74% as married, 6.4% as divorced, 0.6 as separated and 7% as widowed. For this analysis, married is combined with living together and divorced is combined with separated. This results in 11.6% as never married, 74.4% as married, 7% as divorced/separated and 7% as widowed, without the application of sampling weights.

Table 8: GNH Index and share of happy people by marital status, 2022

	GNH Index	Incidence of happy people	Lower CI	Upper CI	Population share ¹⁵
Never married	0.803	52.3%	0.792	0.815	38.6%
Married	0.784	48.5%	0.779	0.788	56.0%
Divorced/ separated	0.762	44.5%	0.747	0.778	2.8%
Widowed	0.731	38.5%	0.715	0.746	2.6%

Source: Authors' computations based on 2022 GNH Survey

An exploratory analysis was also carried out using occupational status, despite not having a representative sampling structure. Again, the analysis is simply indicative.¹⁶ As Table 9 shows, monks and *animas* (nuns) were the happiest compared to other employment categories. This was followed, interestingly, by those in the 'looking for work' (unemployed) category. Intuitively, individuals who are unemployed are expected to experience lower levels of GNH compared to those who are employed; however, here the opposite seems to be happening. This may be due to strong social cohesion and connectedness with family and community. In Bhutan, unemployed people are seldom on their own and culturally have a support system. Overall, farmers show relatively low GNH and those living with a disability have the lowest GNH.

Since the Population Projection of Bhutan Report (2017–47) by NSB does not provide occupation group projections, population shares for the various occupational groups could not be provided.

¹⁵ The population share provided here is based on the 2017 Population & Housing Census of Bhutan published by NSB for the entire population. Hence, the projections are not accurate and interpretations should be made with caution. There are no projections on marital status for 2022.

¹⁶ Note that without sampling weights, 43.9% were farmers; 30% were working in civil service, private/business, corporate, freelancing and self-employed; 2% were studying; and 17.7% were homemakers (taking care of children, elderly people, carrying out household chores). Only 0.4% were monks/nuns and 0.9% were *gomchen*; 2% were retired or a pensioner; 0.6% had a long-term illness or disability; 1.6% were unemployed and looking for work.

Table 9: GNH Index by occupational status, 2022

Current occupation	GNH Index	Incidence of happy people	Lower CI (95%)	Upper CI (95%)
Monk /Anim (nun)	0.847	61.1%	0.782	0.911
Looking for work	0.840	59.9%	0.810	0.870
Studying	0.833	59.4%	0.807	0.860
Gomchen (lay priest)	0.806	54.2%	0.763	0.850
Working in a sector other than agriculture	0.802	51.9%	0.794	0.809
Taking care of household or family	0.794	50.4%	0.784	0.803
Retired or pensioner	0.781	48.3%	0.756	0.805
Working in farming, raising animals, forestry or fishing	0.748	41.6%	0.742	0.755
With long-term illness or disability	0.575	14.0%	0.529	0.622

Source: Authors' computations based on 2022 GNH Survey

How are the population happy?

Domain and indicator contributions¹⁷

To answer this, we need to look into the roles that the 33 indicators play in the makeup of the GNH Index. This can be done in two ways. First, we can incorporate indicator weights and assess the weighted contributions of each indicator or each of the nine domains to the average sufficiency among the happy people. Note that this contributions is not to GNH Index but rather the contribution to the average sufficiency among the happy. Second, by looking at the proportion of happy people we can evaluate, in absolute terms, how many people in the population have enjoyed sufficiency and are happy in each indicator (censored sufficiency headcount ratio), or explore how many individuals in the total population are sufficient in an indicator (raw/uncensored sufficiency headcount ratios).

¹⁷ Please note that the formula employed for the contributions are different from those administered during 2015. So, they are not comparable.

Domain contribution to average sufficiency among happy people¹⁸

To compare the ways that happy people experience sufficiency in each of the nine domains, we produce the percentage contribution by domain to average sufficiency among the happy. The domain contribution among happy people provides an insight into the relative sufficiency in a particular domain, based on the weight attached to the domain.

We must also keep in mind the indicator and domain weights since indicators with higher weight will contribute more to average sufficiency among the happy people. While each domain has been equally weighted, indicators have been assigned with different weights depending on the reliability and validity. The background section shares detailed information on weights applied to both indicators and domains.

As seen in Figure 3, happy people enjoy relatively more sufficiency in living standards and health domains. Given the pandemic situation, one might expect the opposite. Following the first COVID-19 case in early March 2020, the National Resilience Fund (NRF) was set up to provide economic relief and substantive support to individuals and businesses, and to help implement comprehensive health responses. One immediate response initiated to mitigate the impact of COVID-19 on livelihoods was cash transfers and the rollout of monthly rations to the needy through the Druk Gyalpo's Relief Kidu (DGRK) project. Other initiatives included loan interest waivers providing relief to all borrowers.

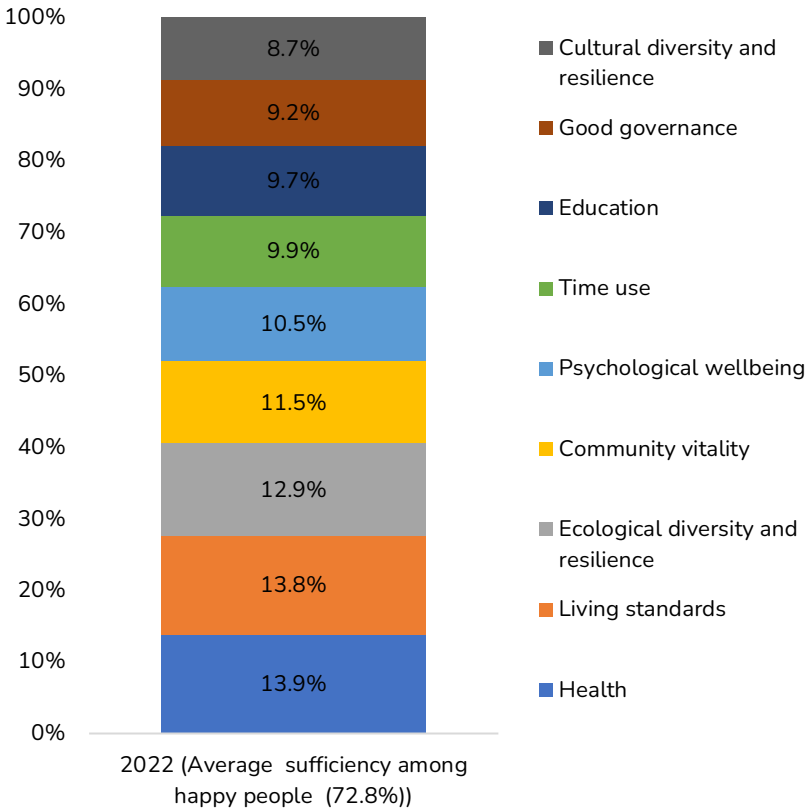
On health, Bhutan was quick to invest in preparedness, strengthening capacities and infrastructure such as screening procedures and mechanisms to respond to COVID-19. The government has recorded 21 COVID deaths so far and, compared to other countries, Bhutan had very low death rates or infections among health workers, and high patient recovery and vaccination coverage.¹⁹ Bhutan's success stemmed from

¹⁸ This is not the domain contributions assessed in a typical or standardized Multidimensional Poverty Index measures. The contributions do not imply those made to GNH Index but to the average sufficiency among the happy people.

¹⁹ According to the government website (<https://www.gov.bt/covid19>), 59,614 people were infected, of whom 59,564 were recovered while 29 are still active.

the rapid, coordinated and well-led response. It is perhaps due to the impact of these measures that the health domain did not falter. Other high-contributing domains are ecology and community vitality. The lowest contributor to the average sufficiency at the national level is the time use domain, followed by good governance.

Figure 3: Domain contribution to average sufficiency among happy people, 2022

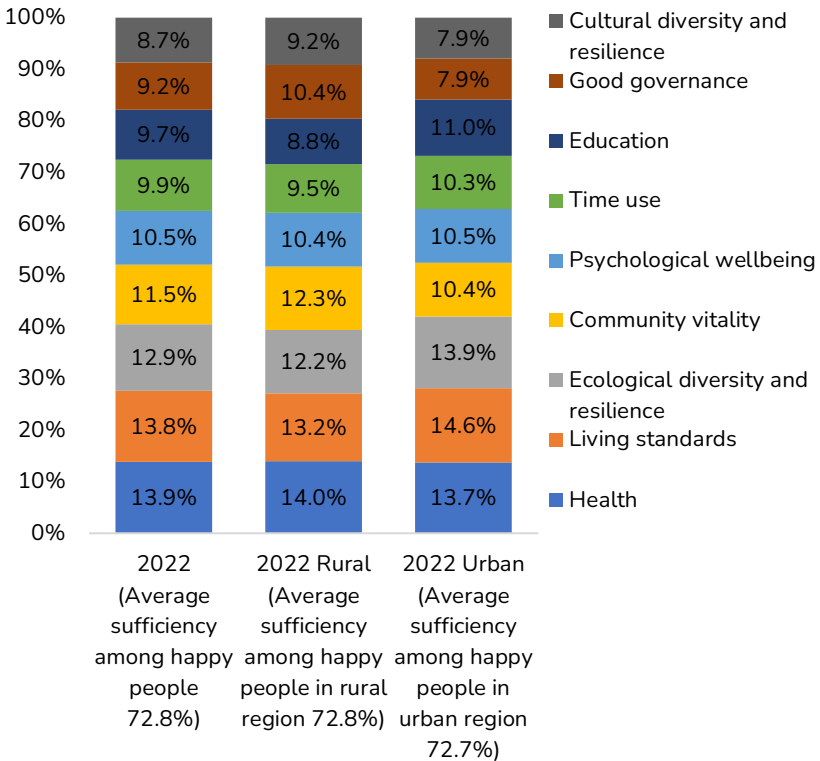


Source: Authors' computations based on 2022 GNH Survey

The domain contributions vary across population groups (Figure 4). For instance, for rural residents, the highest domain contributor is health, followed by living standards, while the lowest is education. In urban areas, living standards contributes most, followed by ecological diversity and health, while good governance and cultural diversity and

resilience contribute the least to the average sufficiency among happy people.

Figure 4: Domain contribution to the average sufficiency among happy people by region, 2022



Source: Authors' computations based on 2022 GNH Survey

These domain contributions highlight the sufficiency level that happy people enjoy. Domains in which people enjoy the highest censored sufficiency headcount ratios have the largest contributions. These contributions can be further disaggregated to show the indicator-level contributions. Figure 5 presents the indicator-level contributions to the average sufficiency among happy people. Note that domains do not have the same number of indicators and therefore, as previously stated, higher-weighted indicators with higher share of happiness will contribute more to the GNH Index value.

Nationally, some of the highest-contributing domains are services, urban issues and sleep indicators (greater than 5%). These are followed by housing, income, assets, wildlife damage, safety, mental health, disability and healthy days (4% to 4.9%). Considering these indicators are mostly related to government services, we can conclude that government services were performing comparatively well in 2022.

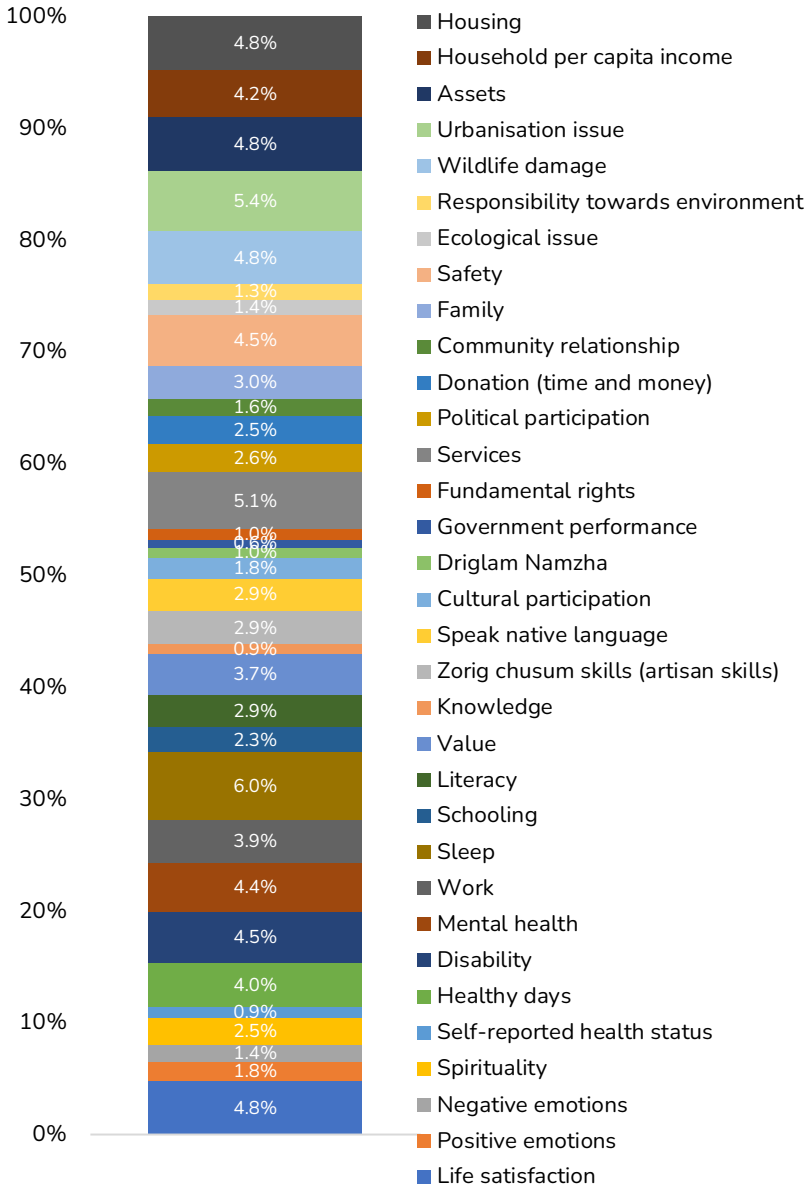
Figure 5 depicts the contribution at indicator level to average sufficiency among happy population. It is critical to highlight that indicators are not equally weighted, therefore conclusions must be drawn with caution. Indicators with a higher weight will contribute more. As a result, it is not advised that the indicator level contributions be utilised to make policy recommendations.

Indicator contribution to average sufficiency among happy people

The contribution of an indicator is determined by dividing the weighted censored sufficiency headcount ratio for each indicator by the average sufficiency score among the happy people. This is multiplied by 100 to arrive at the percentage contribution. The contribution of an indicator gives us the percentage contribution of an indicator to the overall sufficiency profile of happy people, considering the weights attached to each indicator.

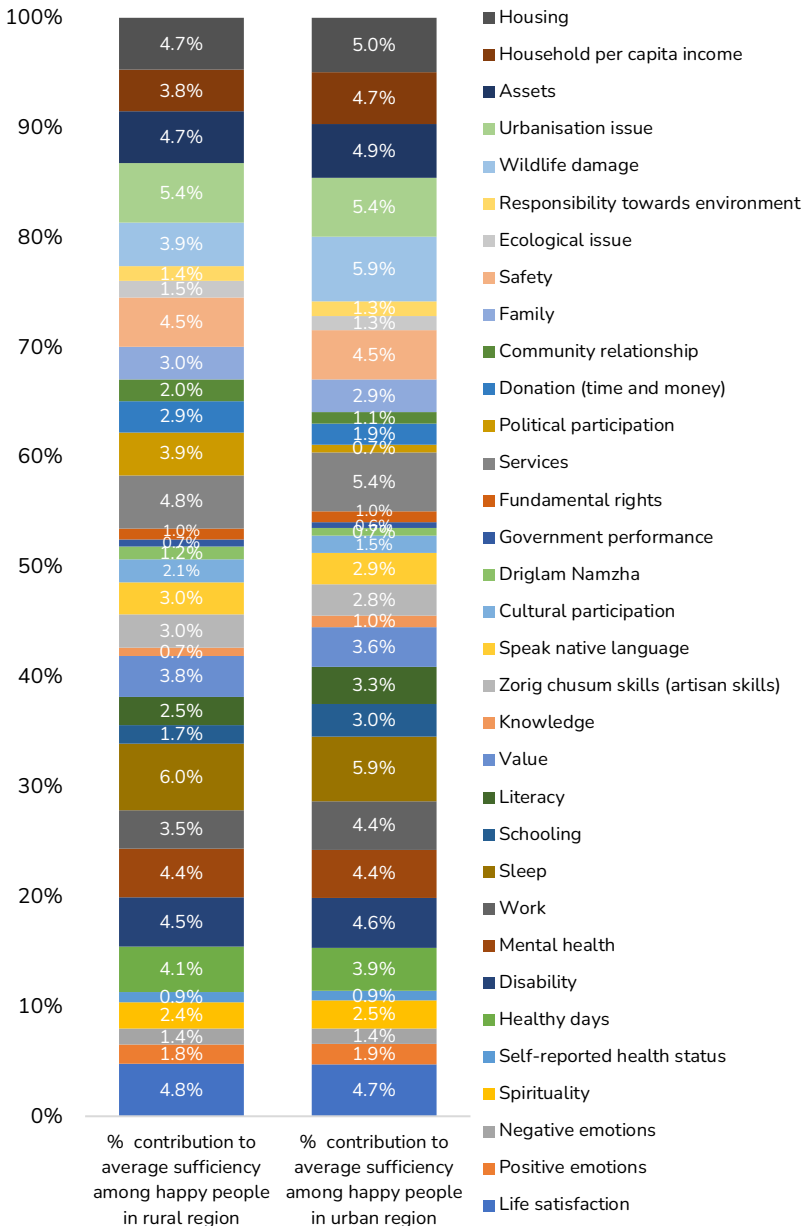
The same analysis can be extended to each of the subgroups (Figure 6). The regional trends follow national trends. The top-performing indicators for both rural and urban areas include those from health and living standards. Services also perform well in both areas. But these insights may need to be considered with an understanding of the weighted system as stated earlier. Higher weighted indicators result in greater percentage contributions and hence, policy recommendations should not be based on these insights.

Figure 5: Indicator contribution to the profiles of happy people, 2022



Source: Authors' computations based on 2022 GNH Survey

Figure 6: Indicator contribution to profiles of happy people by region, 2022



Source: Authors' computations based on 2022 GNH Survey

Censored and uncensored headcount ratios

For policy makers, a more significant insight would be from the assessment of sufficiency levels in each of the 33 indicators. Hence, in seeking to identify interventions aimed at improving sufficiency, it is helpful to look at sufficiency levels, first by assessing the censored sufficiency headcount ratio. This measures the share of the population who satisfy two conditions: they are happy and have achieved sufficiency in each indicator. Second, it is useful to evaluate the share of population who enjoy sufficiency regardless of whether they are happy or not-yet-happy. This is called the raw/uncensored headcount ratio. Furthermore, for policy it is more beneficial to zoom in on the not-yet-happy group and measure their level of deprivation (lack of sufficiency) in each of the 33 indicators. This will be explored in detail in Chapter 5, which focuses on identifying the policy implications of the 2022 GNH Index.

Censored sufficiency headcount ratio: Share of the population who are happy and sufficient in the indicator. Each headcount ratio represents the percentage of the population who are happy and sufficient in the indicator.

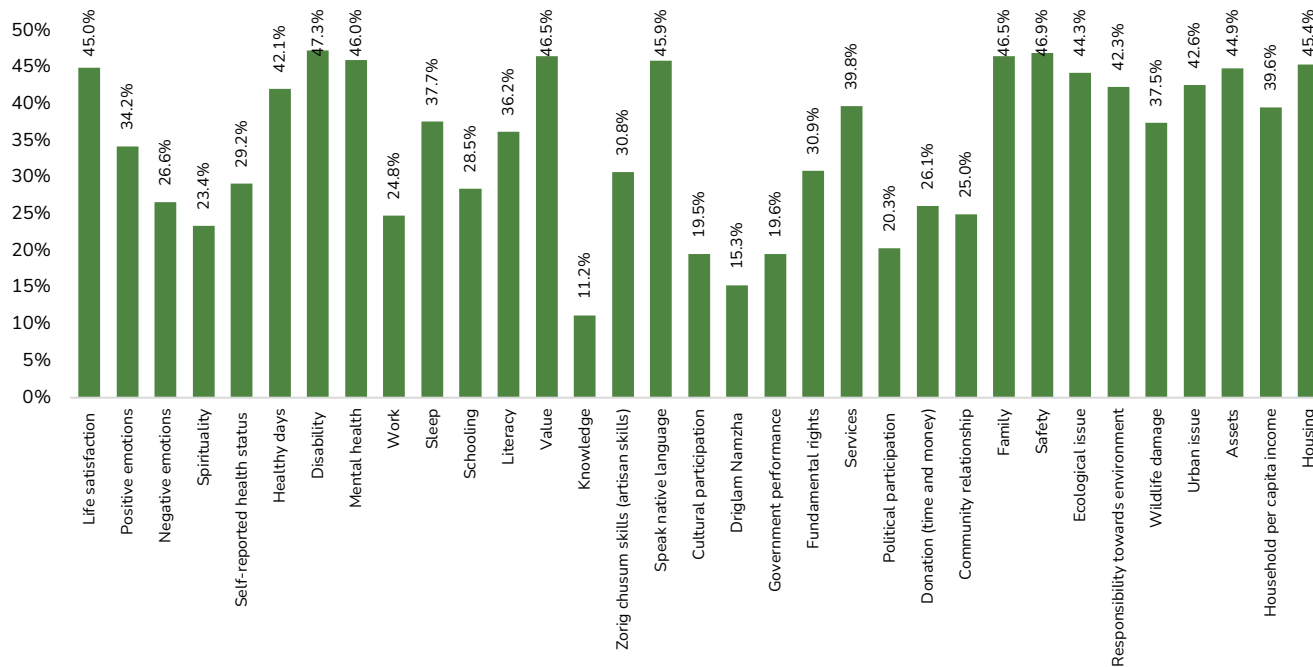
Raw/uncensored sufficiency headcount ratio: Share of the population who are sufficient in the indicator. Each headcount ratio represents the percentage of population who are sufficient in that indicator, irrespective of whether they are happy or not-yet-happy.

Figure 7 depicts the censored sufficiency headcount ratios for each of the 33 indicators in 2022. The maximum value of any of these censored sufficiency headcount ratios would be 48.1% - the percentage of 'deeply' and 'extensively' happy people. Looking at indicators with high levels of sufficiency, we see that 45% are happy and have attained sufficiency in the life satisfaction indicator of the psychological wellbeing domain. The lowest sufficiency level in that domain is with the spirituality indicator, where 23.4% are happy and classified as sufficient.

Within the health domain, the highest censored sufficiency is achieved in the disability indicator (47.3%). Under time use, sufficiency for sleep is higher than work. The indicator of values within the education domain

also has the highest sufficiency: 46.5% are happy and sufficient. With culture, Bhutanese people have achieved the highest sufficiency in native language. For the domain of good governance, the services indicator performs well (39.8%). Family and safety indicators under the community vitality domain also enjoy among the highest levels of sufficiency at 46.5% and 46.9%, respectively. Similar interpretations may be made for the rest of the domain indicators.

Figure 7: Censored sufficiency headcount ratios (percentage of population who are not only happy but have also achieved sufficiency in the indicator), 2022

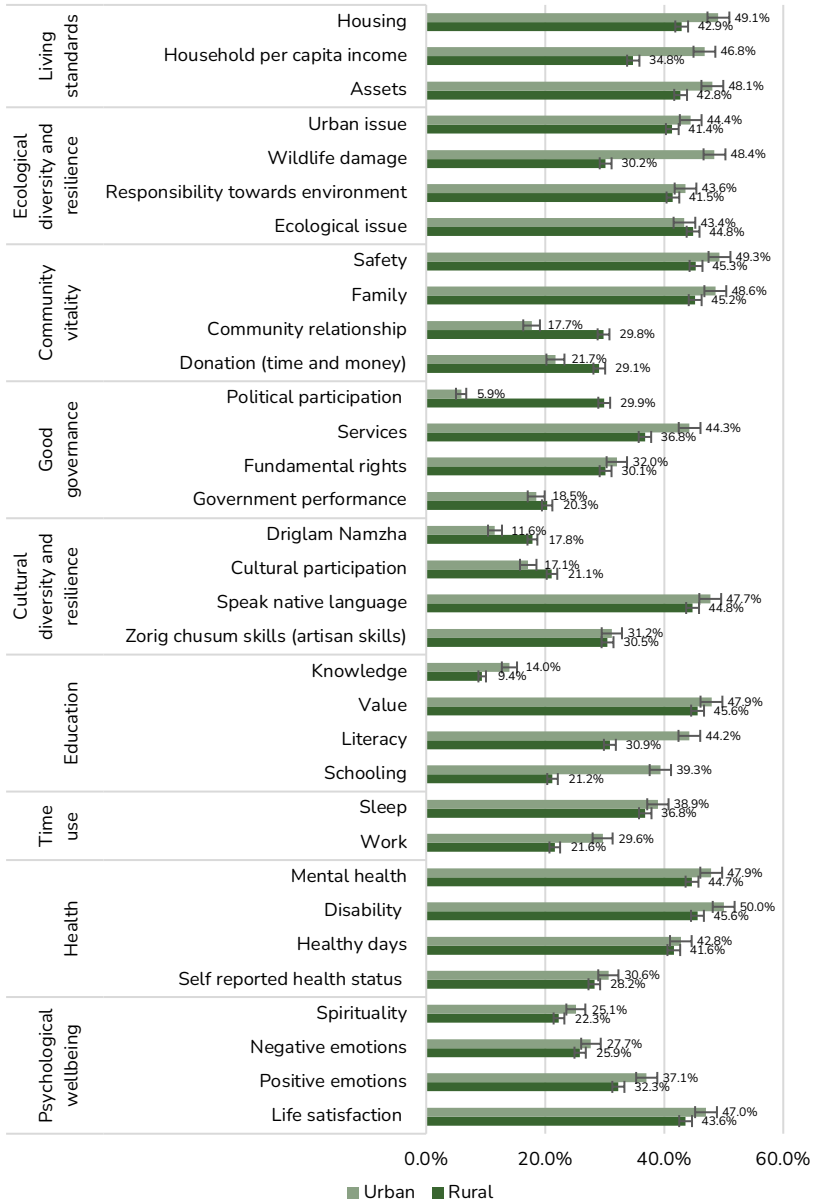


Source: Authors' computations based on 2022 GNH Survey

A deeper dive into the censored sufficiency headcount ratios across regions reveals that urban areas have significantly higher levels in psychological wellbeing, health, time use, education and living standards (Figure 8). For example, 47% of those living in urban regions are happy and sufficient in life satisfaction, while for rural areas this is 43.6%. Note that the error bars represents 95% confidence intervals (CI).

Similarly, 47.9% of urban dwellers are happy and sufficient in mental health, compared to 44.7% in rural regions. Around 49% of those located in urban areas are happy and sufficient in the housing indicator, compared to 42.9% in rural areas. On the other hand, some indicators are doing far better in rural regions. Under the domain of good governance, 29.9% of rural residents are happy and sufficient in the political participation indicator, while this figure drops to 5.9% among urban dwellers. Donation (29.1% vs. 21.7%) and community relationship (29.8% vs. 17.7%) are also strikingly higher in rural areas, as are *Driglam Namzha* (way of harmony) (17.8% vs. 11.6%) and cultural participation (21.1% vs. 17.1%) under the culture domain.

Figure 8: Censored sufficiency headcount ratios (percentage of population who are not only happy but have also achieved sufficiency in the indicator), 2022



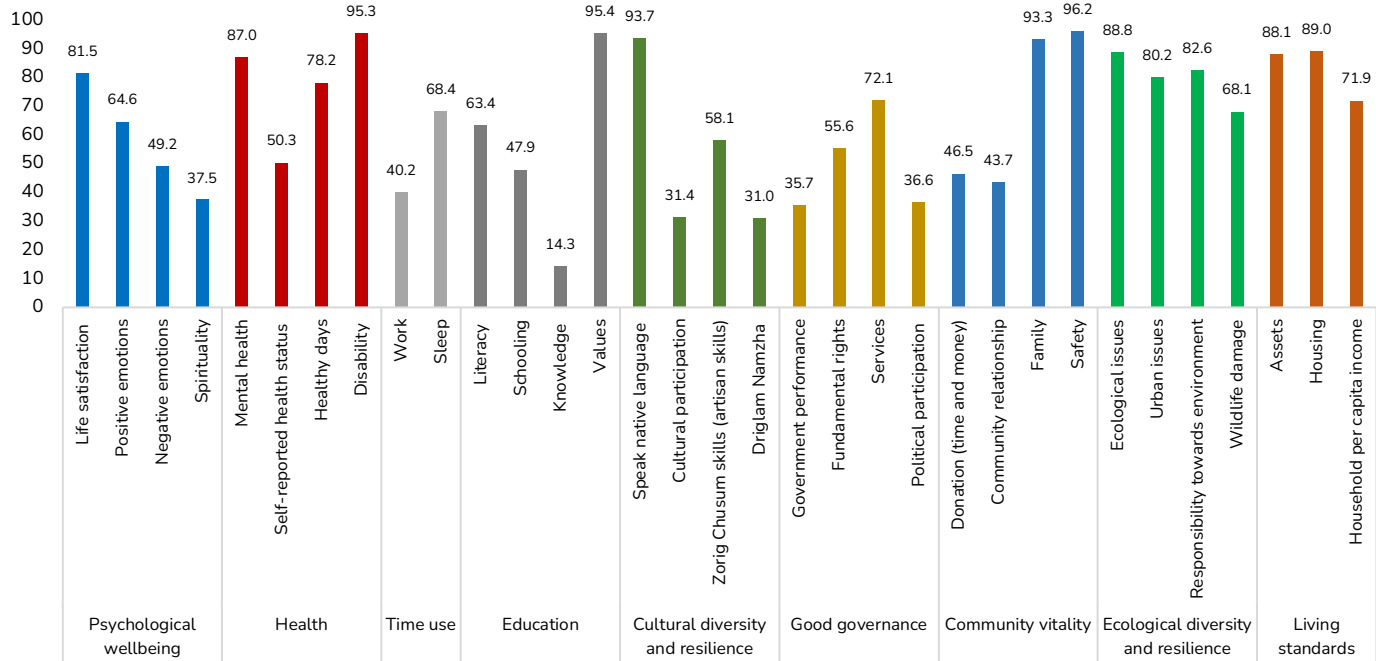
Source: Authors' computations based on 2022 GNH Survey

Figure 9 shows raw/uncensored sufficiency headcount ratios – the percentage of the population who have achieved sufficiency in each indicator. These range from a low of 14.3% to a high of 96.2%.

All the indicators in living standards domain have sufficiency above 71% – a strong showing. Another domain that is doing well is ecological diversity and resilience, with people achieving a sufficiency level of at least 68% in all the four indicators. People also enjoy a high rate of sufficiency in most health indicators. As mentioned earlier, Bhutan has been exemplary in effectively implementing action plans in both the health and livelihood sectors as a response to the pandemic.

High levels of sufficiency are found in the indicators of value and disability, but a few indicators show far lower rates of sufficiency. The raw headcount ratios are the lowest for the indicators of knowledge (14.3%) and *Driglam Namzha* (31%). Cultural participation is another indicator which has low sufficiency (31.4%) among Bhutanese people. People seem to spend fewer days attending community activities such as festivals and *rimdros*. Sufficiency in government performance is also not high, indicating weak perceptions on public service performance on issues such as job creation, reducing inequality, fighting corruption among others.

Figure 9: Percentage of people sufficient in each indicator across population (raw/uncensored sufficiency headcount ratios), 2022



Source: Authors' computations based on 2022 GNH Survey

From the GNH Index formula, we can help to improve the Index by increasing the level of sufficiency adequately enough for all Bhutanese people to gain sufficiency in at least 66% of the weighted indicators. In other words, the GNH Index improves if any not-yet-happy people achieve sufficiency in any of the 33 indicators. So advancing GNH requires programmes that enable a conducive environment for progress in most of the 33 indicators, as Chapter 5 will propose.

Where do happy people live?

The GNH Index varies significantly across districts, with values as low as 0.708 and as high as 0.869. This corresponds to the incidence of 'deeply' or 'extensively' happy people ranging from 34.1% to 66.8%.

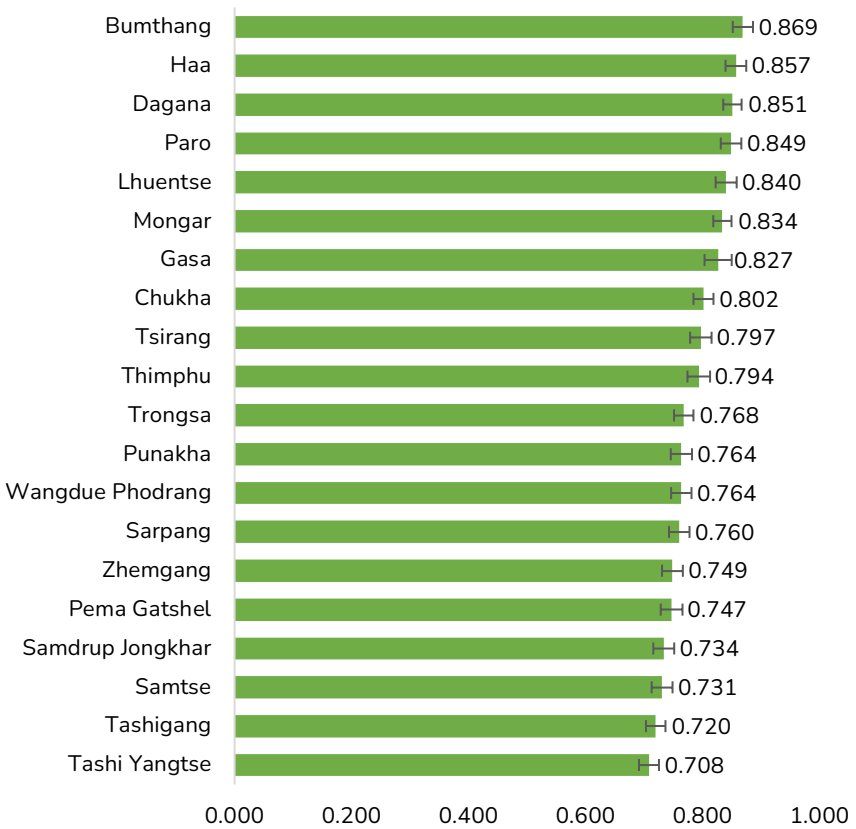
Bumthang Haa, Dagana, Paro and Lhuentse are among the top-performing districts. The small black lines on Figure 10 represent the 95% confidence intervals for GNH Index in each district. If the confidence intervals of two districts overlap then the index values are not significantly different from one another.

Figure 10 indicates that Bumthang is significantly happier than Tashi Yangtse, Tashigang, Samtse, Samdrup Jongkhar, Pema Gatshel, Zhemgang, Wangdue Phodrang, Punakha, Trongsa, Thimphu, Tsirang, Chukha, Gasa and Mongar. There is no significant difference in GNH Index value between Bumthang, Paro, Dagana and Haa.

As another example, Thimphu is significantly happier than Tashigang and significantly less happy than Haa and Dagana, but there is no significant difference between Thimphu, Tsirang or Trongsa. Overall, therefore, while there is difference in GNH Index values, some district values are not statistically significantly different from each other.

Analyses of the GNH Index by districts also enables us to highlight areas that have the lowest GNH values within the country and, by implication, those most in need of intervention with obvious benefits for targeting policies and programmes. Tashi Yangtse, Tashigang and Samtse have the lowest GNH Index values. We will return to this in Chapter 5.

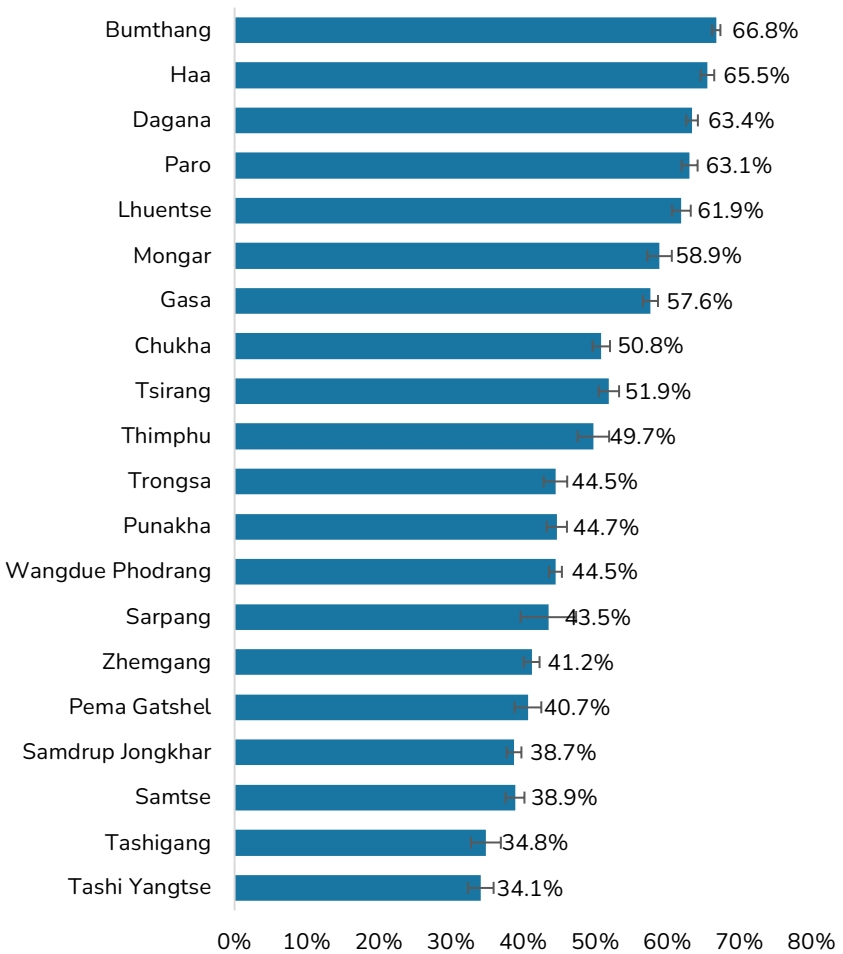
Figure 10: GNH Index by district, 2022 (sorted by value)



Source: Authors' computations based on 2022 GNH Survey

Figure 11 illustrates the incidence of happy people by district, which represents the percentage of people who have achieved a sufficiency score of at least 66% or higher. It is quite sobering to see the distribution – while two-thirds of the population in Bumthang enjoy the conditions of GNH, only one-third of people in Tashi Yangtse and Tashigang do so.

Figure 11: Incidence of people enjoying the conditions of GNH by district, 2022 (sorted by GNH Index value)²⁰



Source: Authors' computations based on 2022 GNH Survey

Based on the range of index values, the districts have been categorised as having high, medium or lower levels of GNH (Table 10).

²⁰ The error bars refer to 95% confidence intervals.

Table 10: GNH Index categories by dzongkhag, 2022

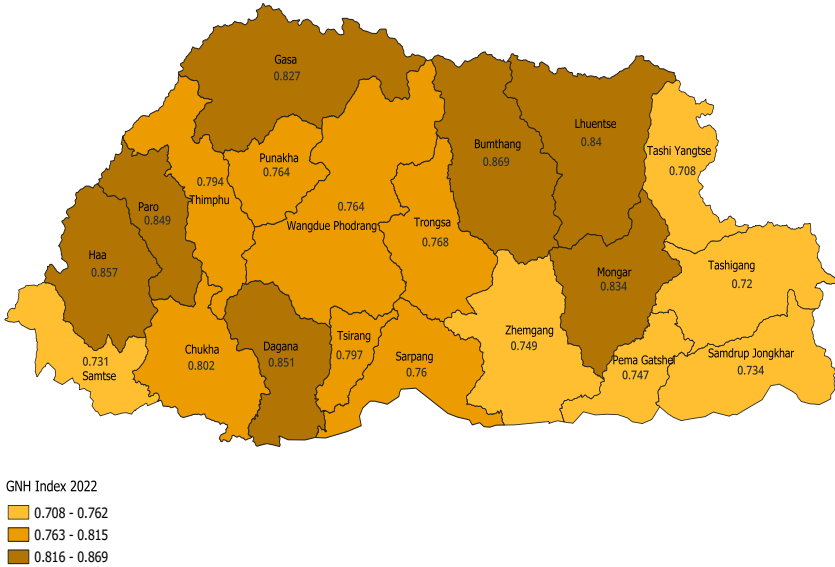
High GNH (0.834 to 0.827)		Medium GNH (0.802 to 0.760)		Lower GNH (0.749 to 0.708)	
Dzongkhag	GNH Index	Dzongkhag	GNH Index	Dzongkhag	GNH Index
Bumthang	0.869	Chukha	0.802	Zhemgang	0.749
Haa	0.857	Tsirang	0.797	Pema Gatshel	0.747
Dagana	0.851	Thimphu	0.794	Samdrup Jongkhar	0.734
Paro	0.849	Trongsa	0.768	Samtse	0.731
Lhuentse	0.840	Punakha	0.764	Tashigang	0.720
Mongar	0.834	Wangdue Phodrang	0.764	Tashi Yangtse	0.708
Gasa	0.827	Sarpang	0.760		

Source: Authors’ computations based on 2022 GNH Survey

Tashi Yangtse, Tashigang, Samtse, Samdrup Jongkhar, Pema Gatshel, and Zhemgang fall under the lower GNH category. Seven districts (Chukha, Tsirang, Thimphu, Trongsa, Punakha, Wangdue Phodrang, and Sarpang) belong to the medium category. The remaining six districts are classified in the high category of the GNH Index: Gasa, Mongar, Lhuentse, Paro, Dagana, Haa, and Bumthang. As districts differ in terms of population, happiest districts may not have the highest number of happy people. For instance, Bumthang has the highest index value, but it does not have the highest number of people who are happy – Thimphu does, followed by Chukha.

Figure 12 provides a map of district-level GNH Indices. Higher index values are geographically dispersed. Districts with higher GNH values are found in all regions of the country. However, low GNH values are concentrated in the eastern parts of the country, except Samtse in the south-west, and medium GNH values in the central parts of the country.

Figure 12: GNH Index map by dzongkhag, 2022

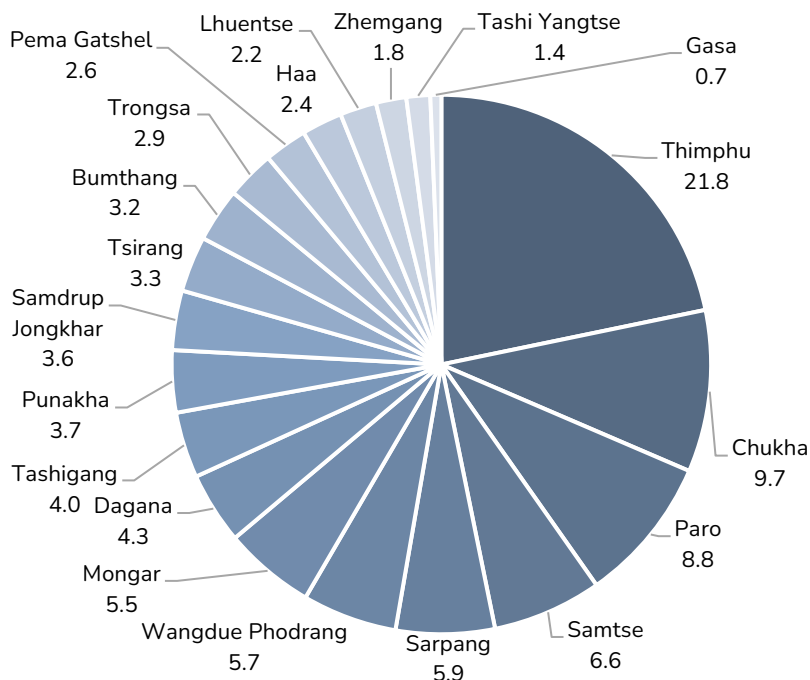


Source: Authors' computations based on 2022 GNH Survey

Figure 13 shows the proportion of happy people in each of the districts, using the population projections for 2022 in the Population Projections 2017-47 Report published by NSB. Gasa, which is one of the least-populous districts despite being in a high-category GNH Index, has a low number of happy people (1%). Thimphu (22%) and Chukha (10%) have the highest numbers of people who are happy and are the most populous districts.

Despite their high GNH Index values, Dagana and Haa districts together account for only 6% of the country's population who are happy. The largest number of happy people – over one in five – are in the most populous district (Thimphu) with a comparatively low incidence of happy people (49.7%). The figure is crucial for district-level budgeting purposes as it allows decision makers to consider both the level of GNH Index as well as the number of happy people or not-yet-happy people. Table 11 sorts the districts by their index value in 2022.

Figure 13: Where do happy people live (in %)?



Source: Authors' computations based on 2022 GNH Survey

Table 11: GNH Index by district (sorted by index value), 2022

Dzongkhag	GNH Index	Incidence of happy people	Incidence of not-yet-happy people	Average sufficiency among happy people	Average sufficiency among not-yet-happy people	Population share of district
Bumthang	0.869	66.8%	33.2%	74.2%	60.6%	2.4%
Haa	0.857	65.5%	34.5%	73.5%	58.5%	1.8%
Dagana	0.851	63.4%	36.6%	73.0%	59.3%	3.4%
Paro	0.849	63.1%	36.9%	73.4%	59.0%	6.7%
Lhuentse	0.84	61.9%	38.1%	74.4%	58.1%	1.8%
Mongar	0.834	58.9%	41.1%	73.3%	59.6%	4.8%
Gasa	0.827	57.6%	42.4%	73.5%	59.1%	0.6%
Chukha	0.802	50.8%	49.2%	72.4%	59.6%	9.1%
Tsirang	0.797	51.9%	48.1%	73.2%	57.8%	3.1%
Thimphu	0.794	49.7%	50.3%	72.2%	55.7%	20.8%
Trongsa	0.768	44.5%	55.5%	73.3%	58.2%	3.0%

Dzongkhag	GNH Index	Incidence of happy people	Incidence of not-yet-happy people	Average sufficiency among happy people	Average sufficiency among not-yet-happy people	Population share of district
Punakha	0.764	44.7%	55.3%	72.6%	57.3%	4.0%
Wangdue Phodrang	0.764	44.5%	55.5%	72.3%	57.4%	6.1%
Sarpang	0.76	43.5%	56.5%	72.9%	57.6%	6.5%
Zhemgang	0.749	41.2%	58.8%	72.4%	57.2%	2.2%
Pema Gatshel	0.747	40.7%	59.3%	72.6%	57.4%	3.1%
Samdrup Jongkhar	0.734	38.7%	61.3%	72.6%	56.5%	4.6%
Samtse	0.731	38.9%	61.1%	72.8%	56.0%	8.3%
Tashigang	0.72	34.8%	65.2%	71.9%	57.0%	5.6%
Tashi Yangtse	0.708	34.1%	65.9%	72.3%	58.9%	2.2%
National	0.781	48.1%	51.9%	72.8%	57.9%	100.0%

Source: Authors' computations based on 2022 GNH Survey

To assess how the 33 GNH indicators fare within districts, we look at individual indicator contributions to the average sufficiency among happy people. Figure 14 illustrates the percentage contribution of each indicator to dzongkhag-level sufficiency among happy people. The contribution of indicators varies between 0.5% to 6.7%. There is some variation across the districts, but what is more striking are the commonalities.

For instance, indicators under the living standards domain have the largest contributions in almost all the 20 districts. Housing and income contributions are over 4% in all the districts. Despite the COVID-19 pandemic having had a severe impact on countries worldwide, including Bhutan, the country has made considerable progress in terms of income and housing. The government's proactive response may have been one aspect that has aided Bhutan during the pandemic. Bhutan established strong lockdown measures early on, which aided in slowing the spread of the virus. In addition, the government gave financial assistance to companies and individuals impacted by the pandemic through interest waivers and unconditional cash transfers. The housing indicator covers variables such as room ratio and quality of roofing and toilets.

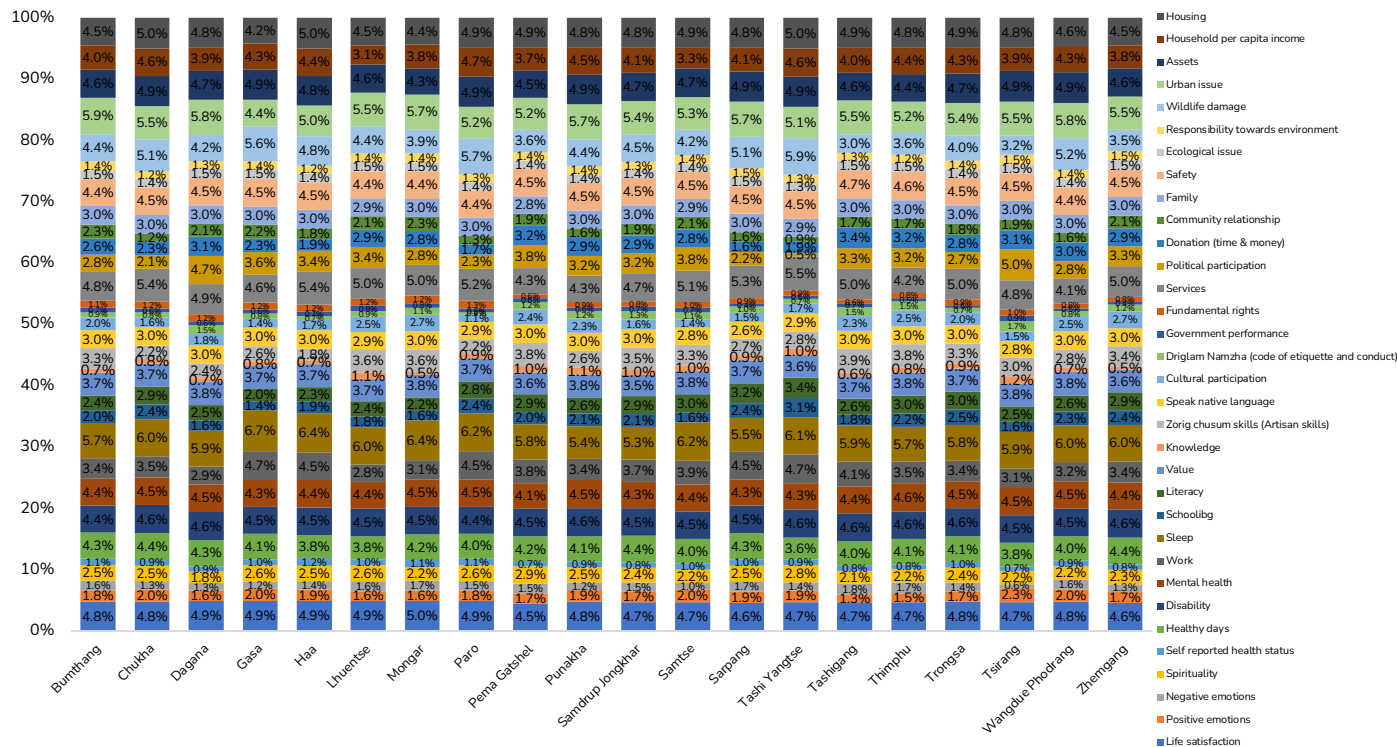
Recognising the importance of access to proper sanitation for public health, there have been continuous efforts by the government and its partners to achieve universal sanitation and hygiene.

Likewise, the healthy days indicator, which has a higher weight in the GNH Index, is also one of the high-performing indicators, with contributions above 4% in most of the districts. While the COVID-19 pandemic has undoubtedly caused problems to public health in Bhutan, the country's systematic preparatory response towards the pandemic and robust healthcare system may have contributed to Bhutan's trend of increasing healthy days. Another aspect that may have contributed is the public's willingness to follow public health norms. Bhutan has a strong sense of community, and citizens have shown a willingness to prioritise societal wellbeing over individual liberties. This may have aided in ensuring that public health measures, such as wearing masks, exercising social distance, and remaining at home while unwell, were followed, thereby reducing the public health impact.

In all districts, the service indicator under good governance shows strong contributions (over 4%). It includes, among other things, distance to the nearest healthcare facility, quality of the water, and availability of electricity. The safety indicator also exhibits high contributions. Early on during the pandemic, the government imposed strict nationwide lockdown measures such as closing borders, restricting travel, and suspending public gatherings. This may have decreased the potential for criminal behaviour.

By examining each of the indicator contributions to the average sufficiency among happy people, comparisons can be carried out between districts.

Figure 14: Indicator contributions to profiles of happy people by district, 2022



Source: Authors' computations based on 2022 GNH Survey

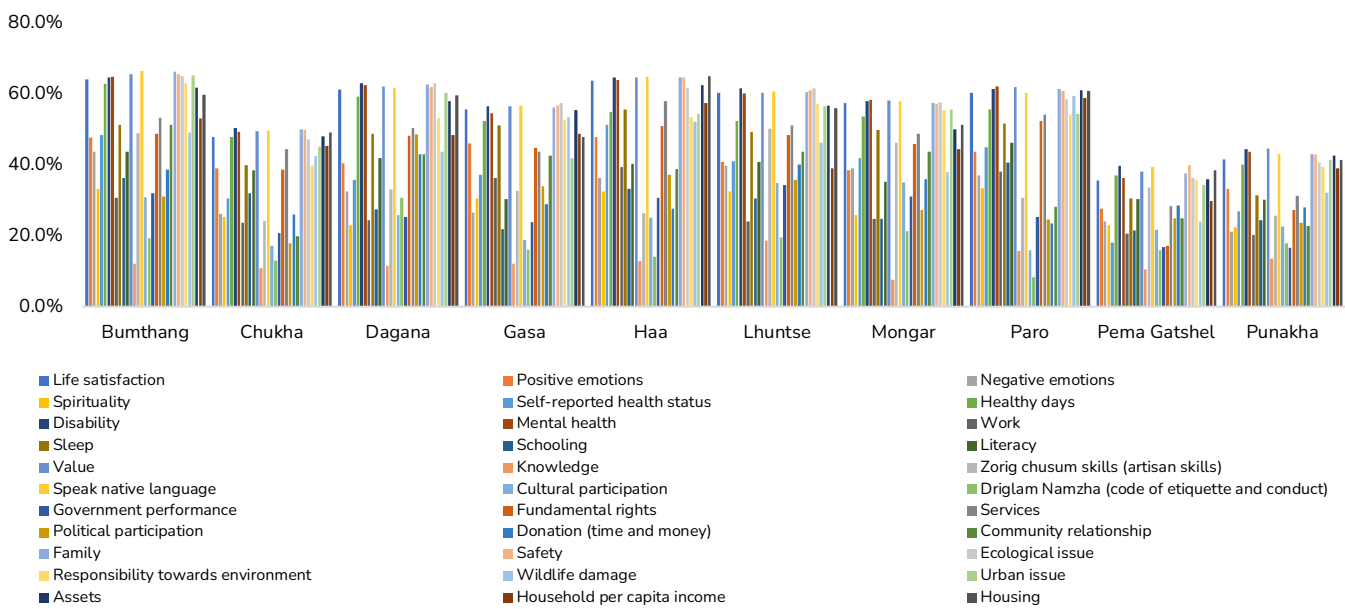
Similar to the indicator contributions, we can also analyse the state of the 33 indicators using the censored sufficiency headcount ratios, which indicate the proportion of population who are not only happy but have also achieved sufficiency in the indicator. Figure 15 demonstrates this.

Looking at one of the happy districts, Bumthang, the highest censored sufficiency headcount ratio is seen in the family relationship indicator under community vitality, and in native language indicator from the culture domain. In 2022, 66.4% of people living in Bumthang were happy and enjoy sufficiency in family relationships, while 66.6% were happy and sufficient in their native language.

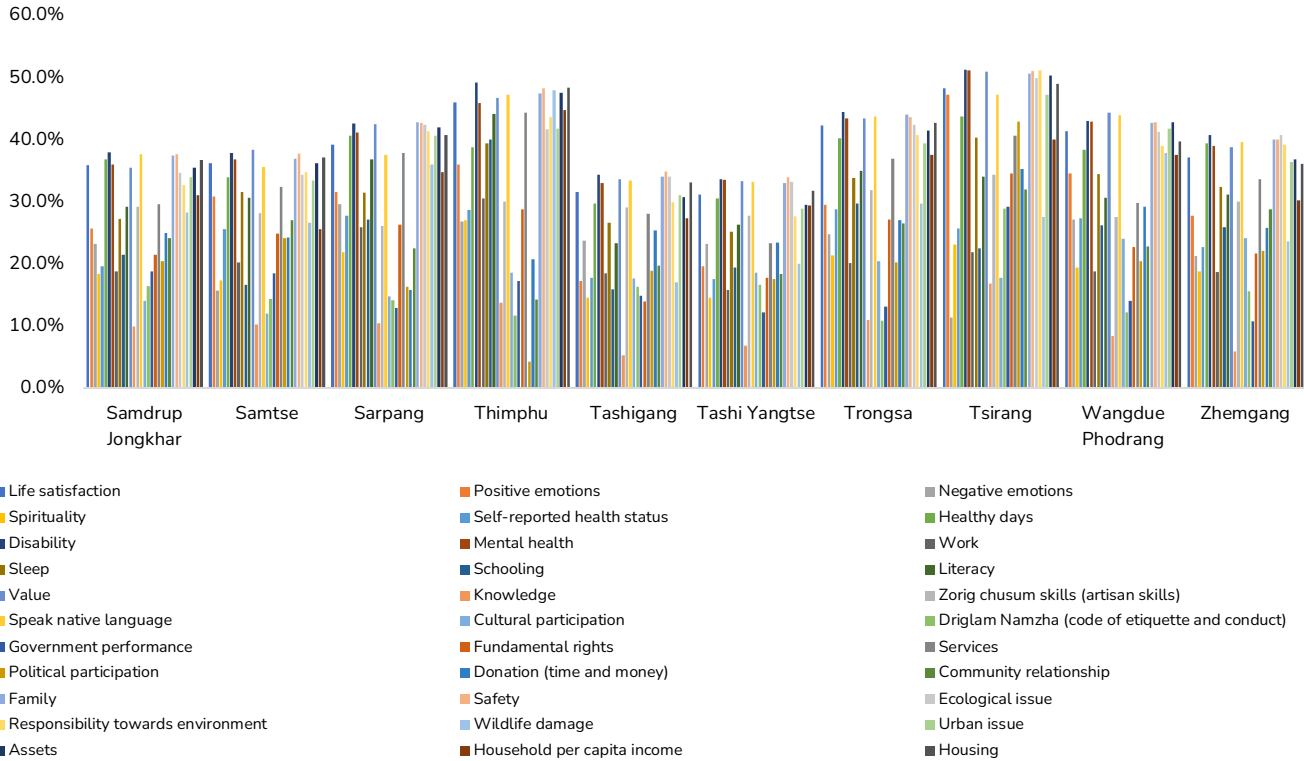
In contrast, Tashi Yangtse is one of the least-happy districts based on the 2022 GNH Index. The highest levels of sufficiency are shown across ecological issue, safety, family and speak native language indicators (above 40%). Knowledge (6.8%) is the indicator with the lowest censored sufficiency headcount ratio.

We can see that districts do differ significantly in terms of proportions of happy people and those who have achieved sufficiency across indicators. While there are certain similarities in the findings across districts, rather than allowing policy makers to apply blanket strategies, tailored district-level interventions may be desirable to increase the GNH Index values.

Figure 15: Censored sufficiency headcount ratios (percentage of people who are happy and achieved sufficiency in the indicator), 2022



GNH 2022



Source: Authors' computations based on 2022 GNH Survey

Chapter 2: Trends in the GNH Index

This chapter shows how the GNH Index has changed over time since 2010, nationally as well as by dzongkhag and other groups such as age group and sex. For each group, the chapter investigates the indicator and domain trends.

The goal of GNH is to create sustainable and balanced development by giving equal priority to the key domains of wellbeing and happiness. To help monitor and provide strategic directions towards this goal, the GNH domain framework focuses on a range of domains, including education, health, living standards, ecological diversity and resilience, good governance, psychological wellbeing, cultural diversity and resilience, and community vitality. Some of the components are also unconventional – for example, in community vitality the indicators reflect the networks, relationships, and norms of trust and reciprocity that facilitate cooperation and collaboration among people and institutions.

As a balanced yardstick, the GNH Index provides an avenue for policy makers in Bhutan to monitor and track holistic progress towards both economic and social goals. So far there have been three rounds of GNH data collection: in 2010, 2015, and most recently in 2022. All three surveys were based on a common sampling frame, questionnaire and survey design. The data were combined into a high-resolution GNH Index in all three rounds, using the Alkire-Foster method to aggregate the 33 indicators into the Index. The indicator and domain weights, along with the sufficiency and happiness thresholds, have remained unchanged since 2010. This common GNH Index structure and computation method has allowed for robust comparisons across time.

Key highlights

- The GNH Index has grown significantly in each period since 2010. The GNH Index value was 0.743 in 2010, 0.756 in 2015 and 0.781 in 2022.
- GNH growth was faster in 2015–22 than it had been in 2010–15. In each year of 2015–22, GNH grew by 0.0036 vs. 0.0027 in the previous period.
- The percentage of ‘deeply’ or ‘extensively’ happy people has increased over time, from 40.9% in 2010 to 48.1% in 2022. Its growth was faster in the recent period (0.67% increase per year for 2015–22 vs. 0.52% increase for 2010–15).
- The average sufficiency among happy people remained stable (73% in 2010, 72.8% in both 2015 and 2022), which means ‘newly happy’ people reached equivalent sufficiency as in prior years.
- Between 2015 and 2022, there have been significant improvements in the censored sufficiency headcount ratios of positive emotions, housing, assets ownership, household per capita income, schooling, literacy, and knowledge, among others.
- Since 2015, the largest decrease in censored sufficiency headcount ratios is seen in cultural participation (-14.3%).
- The GNH Index for urban regions is consistently higher than for rural regions in all time periods (urban values at 0.786, 0.811 and 0.796 for 2010, 2015 and 2022, respectively, vs. 0.715, 0.731 and 0.771, respectively, for rural areas), meaning that there is a need to increase GNH in rural areas.
- However, there is a very encouraging and significant increase in rural GNH since 2010. For example, from 2015–22 the rural GNH Index increased by an absolute value of 0.04 – from 0.731 to 0.771. There are also a higher number of happy people living in rural than in urban areas.
- People living in rural areas perform better than their urban counterparts in some indicators, including values, speaking their native language, donations of time and money, and community relationships.
- Over the past three time periods, the Bhutanese population has enjoyed the highest level of sufficiency (more than 90% uncensored/raw sufficiency headcount ratios) in value, native language proficiency, family and safety indicators.
- Across all the periods, Bhutanese people have the lowest level of sufficiency (less than 15% uncensored sufficiency headcount ratio) in the knowledge indicator.

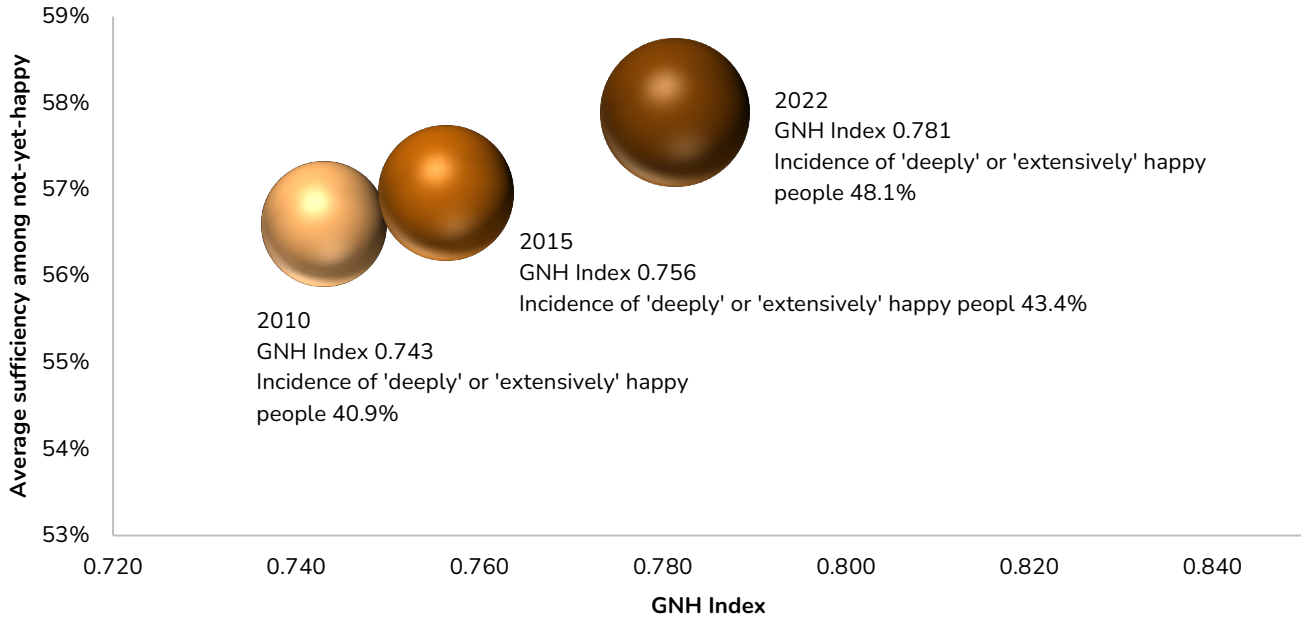
Changes in the national GNH Index

The GNH Index is a valuable tool for decision makers as well as the general public because it provides an easy-to-understand headline of trends across the nine domains and 33 indicators. At the same time, shortfalls in GNH can be broken down by its component indicators in order to inform policy responses to improve GNH, as Chapter 5 will show.

So, what important changes have been observed? Between 2010 and 2022, GNH increased through the GNH Index and its two components: share of happy people, and average sufficiency among the not-yet-happy group. The GNH Index combines the percentage of happy people plus the percentage of not-yet-happy people, multiplied by the average sufficiency of the not-yet-happy group. Comparing the values of these estimates reveals how the GNH Index has improved or deteriorated over time and across subgroups.

As Figure 16 shows, the share of ‘deeply’ or ‘extensively’ happy people increased by 7.2 percentage points from 2010 to 2022 (40.9% in 2010 to 48.1% in 2022). There was also a significant increase in the average sufficiency of not-yet-happy people (56.6% in 2010 to 57.9% in 2022).

Figure 16: National GNH Index and share of happy people, 2010–22²¹



Source: Authors' computations based on 2010, 2015 and 2022 GNH Surveys

²¹ Size of the bubble represents the incidence of happy people.

Comparing the GNH Index value in 2022 with its value in 2015, the GNH Index rose from 0.756 in 2015 to 0.781 in 2022, with the increase being highly significant (at the 99% confidence level) and faster than 2010–15. The incidence also rose by 4.7 percentage points – in annualised terms, both the increase of the GNH Index and incidence of happy people was faster in 2015–22 than in 2010–15.

The average sufficiency of those in the not-yet-happy group was stable, having an insignificant increase from 56.6% in 2015 to 57.9% in 2022. Recall that if some not-yet-happy people (who presumably have higher sufficiency than other not-yet-happy people) cross the happiness threshold to become happy then, barring other changes, average sufficiency among those who are still not-yet-happy would fall. A stable or rising trend indicates that Bhutanese people who are not-yet-happy are not being left behind but have had marginal increases. In terms of average sufficiency among happy people, all have sufficiency in at least 66% of the weighted domains, meaning that a person can opt to have sufficiency in any of the weighted domains or indicators so long as their sufficiency reaches 66%. For policy purposes, in Chapter 5 we focus on the average sufficiency among not-yet-happy people, in order to increase the GNH Index. This chapter, in contrast, investigates trends and focuses on how the profile of happy people has evolved.

Overall, as indicated in Table 12, across a 12-year period, 7.2% of the population moved into the happy group (the incidence of ‘deeply’ or ‘extensively’ happy people increased from 40.9% in 2010 to 48.1% in 2022).

Table 12: Changes across key national GNH Index measures, 2010–22

Happiness across time	Values			Annualised Changes					
	Estimates	2010	2015	2022	2010–15	2015–22	2010–22	Sig 2010-15	Sig 2015-22
GNH Index	0.743	0.756	0.781	0.0027	0.0036	0.0032	***	***	***
Incidence of 'deeply' or 'extensively' happy people	40.9%	43.4%	48.1%	0.52%	0.67%	0.61%	***	***	***
Incidence of not-yet-happy people	59.2%	56.6%	51.9%	-0.52%	-0.67%	-0.61%	***	***	***
Average sufficiency among happy people	72.9%	72.8%	72.8%	-0.03%	0.00%	-0.01%			
Average sufficiency among not-yet-happy people	56.6%	57.0%	57.9%	0.07%	0.13%	0.11%	**	***	*

Note: *** statistically significant at $\alpha=0.01$, ** statistically significant at $\alpha=0.05$, * statistically significant at $\alpha=0.10$.

Source: Authors' computations based on 2010, 2015 and 2022 GNH Surveys

Changes in censored and uncensored sufficiency headcount ratios

One way of analysing sufficiency levels is to look at two key measures: (1) the share of the population who have achieved sufficiency in an indicator, irrespective of whether they are happy or not yet happy (the technical term for this is the raw/uncensored sufficiency headcount ratio); and (2) share of people who are happy and also have achieved sufficiency in the indicator (the censored sufficiency headcount ratio). These two measures will be investigated on two levels: first across indicators, and then across the three time periods.

Note that for the GNH Index, the happiness cutoff is set at 66%, which means that an individual needs to gain sufficiency in roughly two-thirds of the 33 weighted indicators to be classified as happy.

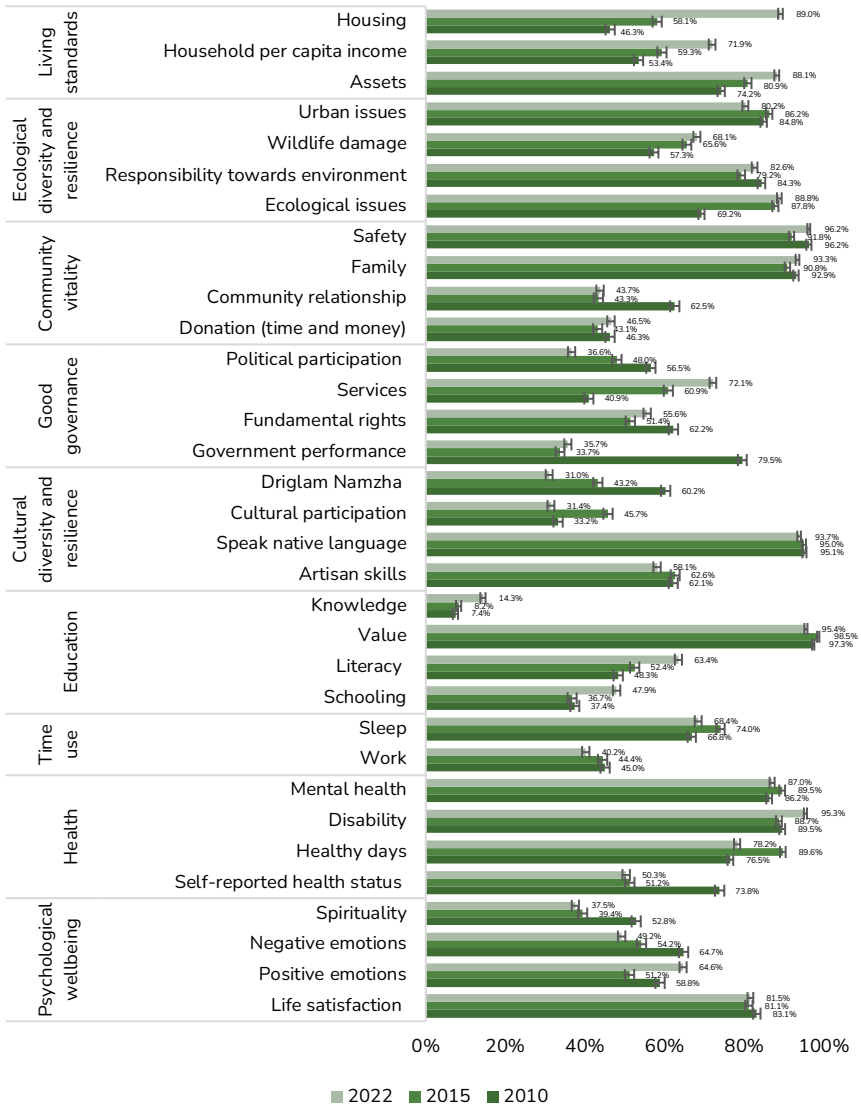
Definition of terms

Raw/uncensored sufficiency headcount ratio: Share of the population who are sufficient in the indicator. Each headcount ratio represents the percentage of population who are sufficient in that indicator, irrespective of whether they are happy or not-yet-happy. The uncensored headcount gives us the absolute number of individuals who are sufficient in an indicator: the status of sufficiency among the entire population.

Censored sufficiency headcount ratio: Share of the population who are happy and sufficient in the indicator. Each headcount ratio represents the percentage of the population who are happy and are sufficient in the indicator. The censored sufficiency headcount ratio gives us the proportion of individuals who are happy and sufficient in an indicator: the composition of sufficiency among happy people.

The 33 indicators have corresponding thresholds indicating the minimal level of achievements required for individuals or groups to enjoy sufficiency in that indicator. Based on these thresholds, Figure 17 presents the raw/uncensored sufficiency headcount ratios over time.

Figure 17: Levels of uncensored/raw sufficiency headcount ratios, 2010, 2015 and 2022



Note: The error bars represent 95% confidence intervals.

Source: Authors' computations based on 2010, 2015 and 2022 GNH Surveys

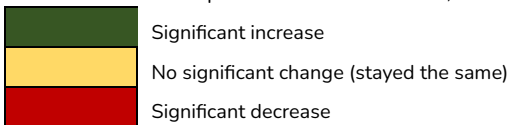
A follow-up analysis across three time periods (2010–15, 2015–22, and 2010–22) provides answers to key trend questions across time (Table 13). These questions include: how many indicators had substantial increases/growth between 2010 and 2022? How many indicators had major declines between 2010 and 2022? How many indicators increased or decreased significantly each period? How many churned - grew in one time and reduced in the next? Note that the green bar shows 'significant improvement', the yellow bar represents 'no significant improvement or deterioration', and the red bar means 'significant deterioration'.

Five indicators improved in both periods (green bars across all three time periods; 2010–15, 2015–22 and 2010–22). These indicators are literacy, services, housing, assets, and household per capita income. What about indicators that deteriorated across time (red bars across all time periods)? We observe that sufficiency levels (uncensored sufficiency headcount ratios) in only three indicators, negative emotions, *Driglam Namzha* and political participation, decreased over time. Finally, there are indicators such as positive emotions that decreased from 2010 to 2015 (red bar), but overall from 2010 to 2022 (green bar) sufficiency has increased.

Table 13: Changes in the uncensored/raw sufficiency headcount ratios

Domain	Indicator	2010–15	2015–22	2010–22
Psychological wellbeing	Life satisfaction	Yellow	Yellow	Yellow
	Positive emotions	Red	Green	Green
	Negative emotions	Red	Red	Red
	Spirituality	Red	Yellow	Red
Health	Self-reported health status	Red	Yellow	Red
	Healthy days	Green	Red	Yellow
	Disability	Yellow	Green	Green
	Mental health	Green	Red	Yellow
Time use	Work	Yellow	Red	Red
	Sleep	Green	Red	Yellow
Education	Schooling	Yellow	Green	Green
	Literacy	Green	Green	Green
	Value	Yellow	Red	Red
	Knowledge	Yellow	Green	Green
Cultural diversity and resilience	Zorig Chusum skills (Artisan skills)	Yellow	Red	Red
	Speak native language	Yellow	Yellow	Yellow
	Cultural participation	Green	Red	Yellow
	Driglam Namzha	Red	Red	Red
Good Governance	Government performance	Red	Yellow	Red
	Fundamental rights	Red	Green	Red
	Services	Green	Green	Green
	Political participation	Red	Red	Red
Community vitality	Donation (time & money)	Red	Green	Yellow
	Community relationship	Red	Yellow	Red
	Family	Yellow	Yellow	Yellow
	Safety	Red	Green	Yellow
Ecological diversity and resilience	Ecological issue	Green	Yellow	Green
	Responsibility towards environment	Red	Green	Yellow
	Wildlife damage	Green	Yellow	Green
	Urban issue	Yellow	Red	Red
Living standards	Assets	Green	Green	Green
	Household per capita income	Green	Green	Green
	Housing	Green	Green	Green

Source: Authors' computations based on 2010, 2015 and 2022 GNH Surveys



While assessing trends across time is interesting, the most recent period is of greater interest. We therefore focus on the absolute changes in the uncensored sufficiency headcount ratios between 2015 and 2022. Figure 18 shows the absolute changes in sufficiency levels in indicators across the population for this time period.

The living standards indicators saw significant improvement, with a 31% increase in sufficiency of housing, 12.6% increase in income, and 7.3% increase in asset ownership. There may be number of reasons for the improvement in the housing index, which includes roofing material, sanitation facility, and room ratio. For instance, sanitation facilities have improved significantly in Bhutan. According to a 19 November 2022 press release from the Ministry of Health (MoH),²² Bhutan has become open defecation-free (ODF). The article applauded the success of the government initiative under which every household now has access to improved sanitation. This comes following the nationwide coverage of access to improved sanitation facilities, with the recognition of the last 76 *gewogs* (blocks) from 12 *dzongkhags* (districts) achieving ODF status and 100% improved sanitation. Likewise, there was a general boost in local agriculture, including vegetables, due to pandemic-induced import restrictions, which would have increased the disposable incomes of rural farmers. The Druk Gyalpo's Relief Kidu (DGRK) (the unconditional cash transfer) for pandemic-related income losses, may have provided relief in terms of overcoming rental expenditures. Household per capita income may have also increased largely due to this cash transfer.

Between 2015 and 2022 there was also significant improvement in positive emotions (13.4%). The COVID-19 pandemic has undoubtedly been a challenging time for Bhutanese people, but it may have provided many lessons. It has brought people together, with many communities coming together to support each other. This may have led to increased empathy, compassion, and gratitude, which can help to foster positive emotions. It may have reminded people of impermanence and led to an

²² N. Wangdi. (2022). 'Bhutan becomes open defecation free country', Kuensel. <https://kuenselonline.com/bhutan-becomes-open-defecation-free-country/> (last accessed 21 April 2023).

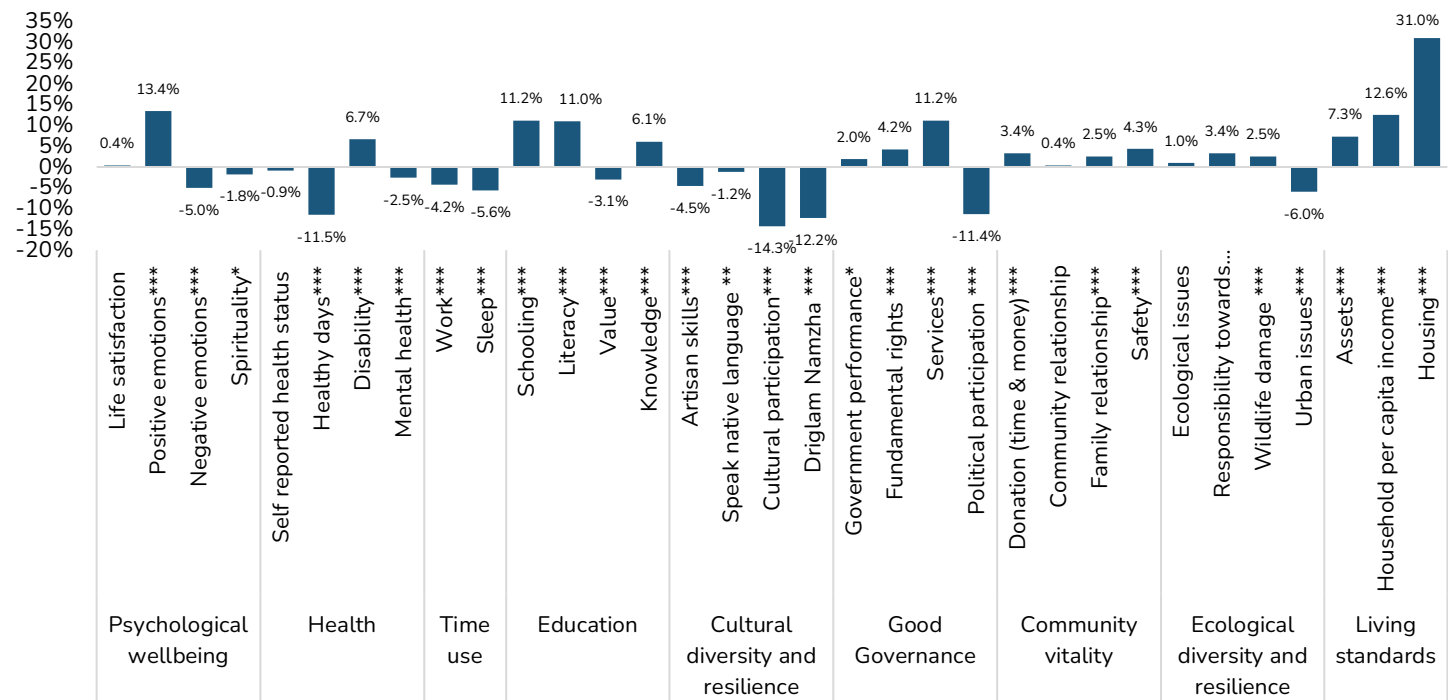
increased appreciation for life. Despite the challenges, Bhutanese people have shown remarkable resilience during the pandemic. This resilience may lead to a sense of pride and accomplishment, as well as increased confidence in one's ability to overcome future challenges.

The services indicator under good governance has also shown significant improvement (11.2%). It indicates progress in infrastructure such as distance to health care centre, access to electricity, household waste management, and source and quality of drinking water. Bhutan continues to invest in improving its healthcare infrastructure, expanding access to primary care in remote communities. Bhutan has also made progress in improving access to clean drinking water, with more people gaining access to piped water, water treatment facilities, and improved sources of water. The successful Desuung National Service Projects²³ aimed at improving and expanding water sources and supply may also have contributed to the improvement in the service indicator.

The fundamental rights indicator has also improved by 4.2%, with a significance level at 99.9%. Fundamental rights refer to the people's perception of the availability of the seven rights enshrined in the Constitution. With the increase in sufficiency level of schooling and literacy indicators (11.2% in schooling and 11% in literacy), the population of Bhutan may have greater knowledge of their rights compared to previous generations. There are also other factors such as the availability of information, and advocacy efforts by civil society organisations.

²³ De-suung. (n.d.). 'Category: Water Project', <https://desuung.org.bt/category/water/> (last accessed 21 April 2023).

Figure 18: Absolute changes in sufficiency levels across 33 indicators (uncensored/raw sufficiency headcount ratios), 2015–22



Note: Three asterisks connotates significance at 99.9%, two means significance at 99% and one asterisk indicates significance at 95%.
 Source: Authors' computations based on 2015 and 2022 GNH Surveys

In terms of the government performance indicator, there is a significant increase in sufficiency level by two percentage points. The indicator assesses people's perception of the government performance in seven aspects (creating jobs, reducing inequality, fighting corruption, preserving culture, protecting environment, providing education and health services). The adoption of digital public service delivery that accelerated during the COVID-19 pandemic may have been a key contributor. With lockdowns and social distancing measures in place, many governments and public service organisations have had to find new ways of delivering services to citizens.

For instance, the Ministry of Health initiated telemedicine, allowing patients to consult with doctors remotely. With schools and universities closed, many institutions implemented online learning platforms, allowing students to continue their education. Most of the common services, such as applications for clearances and permits, moved online, allowing citizens with an internet connection to access these services from home. This may have brought in significant changes in the way that services are delivered to citizens. It is essential to remember that these analyses apply to the whole population because they use the uncensored sufficiency headcount ratio.

Looking at what has deteriorated, the largest significant drop is seen in cultural participation (by 14.3%) which may have been due to the pandemic, as measures such as lockdowns, social distancing, and quarantine were implemented to reduce the spread of the virus. These measures led to significant disruptions in people's daily lives, including their ability to socialise and interact with others.

Among those who were employed, many switched to remote work and remote learning during the pandemic, which reduced opportunities for social interaction with colleagues and classmates. This may also explain the significant decline in the mental health indicator (by 2.5%). The reduction in socialisation during the pandemic - and also on the positive side the increasing social acceptability of discussing mental health challenges openly - might have resulted in increased reports of anxiety, depression, and loneliness, particularly among vulnerable populations

such as elderly people, people living alone, and those with pre-existing mental health conditions.

Overall, the reduction in socialisation during the pandemic has had a significant impact on people's lives and wellbeing. With Bhutan achieving a high vaccination coverage and with restrictions being lifted, it is hoped that socialisation will gradually return to pre-pandemic levels, allowing people to reconnect with friends and family and resume social activities that are important for their mental and emotional health.

Driglam Namzha (Way of Harmony) refers to traditional norms for public conduct and behaviour. *Driglam Namzha* is also a technique of promoting Bhutan's distinct cultural heritage and preserving its traditional way of life. It showed a significant reduction (by 12.2%). More Bhutanese in 2022 felt that the practice of *Driglam Namzha* was not important or becoming weaker, compared to 2015.

There may be many reasons why people feel that it has deteriorated. For instance, Western influence and technological advancements have made it easier for people to connect with others around the world, but may have also contributed to the erosion of traditional cultural habits of courtesy. Likewise, as people become more educated, they may be more likely to adopt modern ways of life and reject traditional practices. It is important to promote and preserve traditional cultural practices such as *Driglam Namzha*, as well as to refresh how it is explained to the next generations. Such dedicated investment can ensure that future generations have access to their cultural heritage. This can be done through education, cultural preservation programmes, and community-based initiatives that aim to promote traditional cultural practices and values and appreciate their relevance anew in a digital age.

Healthy days (-11.5%) also witnessed a significant decrease in the level of sufficiency. A combination of factors may explain this, including the pandemic as well as changes in diet, lifestyle, and the environment in the country.

The pandemic-induced lockdowns and other initiatives aimed at reducing the virus's spread may have restricted many people to their

homes, with limited access to physical exercise alternatives such as gyms or sports facilities. As a result, many people have lowered their physical activity levels and increased their sedentary habits, which can contribute to negative health consequences such as weight gain, decreased cardiovascular fitness, and an increased risk of chronic illnesses. Dietary modifications may have also contributed. For example, many people may have turned to comfort foods or snacking to cope with stress or boredom as their time at home increased, while others have had to change their diets owing to supply chain interruptions or budgetary limitations.

Overall, Bhutan's disease profile has gradually transitioned over time from communicable diseases to lifestyle-related diseases.²⁴ Bhutanese people in general lead sedentary lifestyles and have poor dietary diversity.²⁵ The consumption of unhealthy foods, such as those that are high in sugar, salt, and fat, has increased. According to the Noncommunicable Disease Stepwise Approach to Surveillance (NCD STEP) 2019 survey,²⁶ noncommunicable diseases are responsible for 69% of all deaths in Bhutan. This may have contributed to an increase in obesity, type 2 diabetes, and other diet-related health problems.

The decline in the mental health indicator may also have contributed to the drop in sufficiency levels of healthy days. Overall, the trend towards

²⁴ Tamang, M., Dahal, B.P., Dorji, T., et al. (2022). 'Situation of physical activity in the prevention of non-communicable diseases in Bhutan: challenges and the way forward', *BMJ Open Sport & Exercise Medicine*, 8(4), e001448. <https://bmjopensem.bmj.com/content/8/4/e001448>

²⁵ The National Nutrition Strategy and Action Plan (2021–25) outlines that poor dietary diversity is prevalent among Bhutanese households.

²⁶The NCD STEP 2019 survey found that around 33.5% are overweight and 11.4% are obese compared to 27% men and 40% women were overweight in 2014; 87% do not consume sufficient fruits and vegetables; 17% engaging in heavy episodic drinking; 7% did not meet the WHO recommended physical activity of 150 minutes of moderate intensity physical activity per week; 18% having high blood pressure, and 1.9% of the population having raised blood sugar. Department of Public Health, Ministry of Health. (2020). 'Non-communicable Disease Risk Factors: Bhutan STEPS Survey 2019', <https://cdn.who.int/media/docs/default-source/searo/ncd/noncommunicable-disease-risk-factors-bhutan-steps-survey-report-2019.pdf> (last accessed 21 April 2023).

unhealthier lifestyles and environments is a growing concern for public health officials. To address this issue, efforts need to be continued to promote healthier lifestyles, such as through education campaigns, policy interventions, and community-based programmes.

Political participation also declined significantly (by 11.4%). It comprises two sub-indicators; people's willingness to vote and the frequency of *zomdue* attendance (village or town-level meetings). The decline may be due to a variety of factors, including disillusionment with politics, a perception that individual participation does not make a difference, and a limited trust in political institutions. It is important to note, however, that political participation can take many different forms, and some types of participation may be on the rise even as others decline. For example, Bhutan witnessed a record turnout during the local government elections in 2022. The Election Commission of Bhutan received 126,304 postal ballots, nearly four times more than the 35,051 recorded during the 2016 local government elections. The election broke all previous records on voter turnouts. Similarly, the use of social media and online activism has become more common in recent years, and may be a new form of political participation for younger generations. It is nevertheless vital to implement measures to increase participation, such as making voting and civic engagement easier.

Let us now look at the censored sufficiency headcount ratios presented in Figure 19 for 2015 and 2022. The censored sufficiency headcount ratios represent the share of people who are happy and sufficient in the indicator.

We observe that under the psychological wellbeing domain the share of people who are happy and enjoy sufficiency has significantly increased for life satisfaction and positive emotions, but has decreased for spirituality and negative emotions. However, the decrease is not significant as the confidence intervals overlap. Under the health domain, significant improvements in censored sufficiency headcount ratios are seen in the disability and mental health indicators.

Nationally, there are no significant improvements in the work and sleep indicators under the time use domain.

All the education domain indicators witnessed significant improvements in the share of population who are happy and achieved sufficiency. For instance, 11.2% were happy and had achieved sufficiency in the knowledge indicator in 2022, compared to 6.4% in 2015.

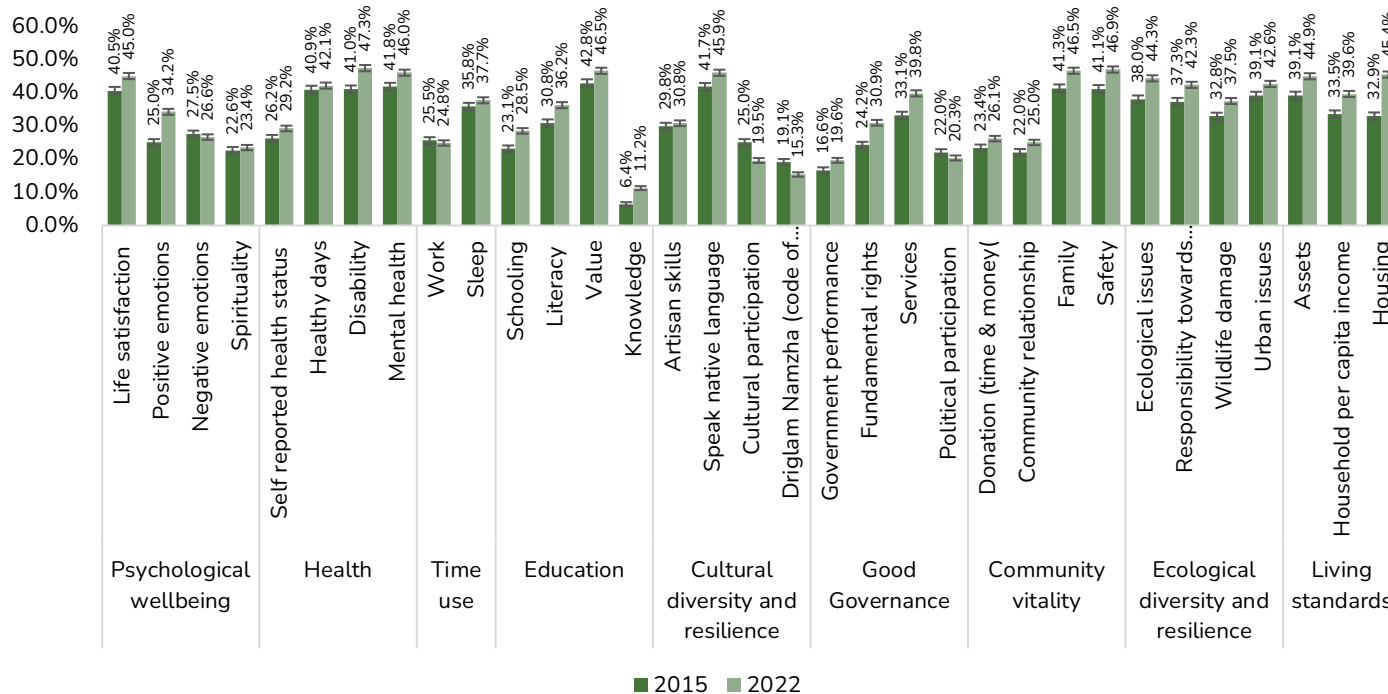
The culture domain has both positive and negative news. Cultural participation and *Driglam Namzha* deteriorated significantly over time. In 2015, 25% were happy and had achieved sufficiency in the cultural participation indicator, which declined in 2022 to 19.5%. The etiquette indicator dropped from 19.1% in 2015 to 15.3% in 2022. Nevertheless, the share of people happy and sufficient in native language improved significantly.

In the good governance domain, there have been significant improvements except for the political participation indicator. In 2015, 16.6% were happy and sufficient in the government performance indicator, which rose to 19.6% in 2022. Fundamental rights (24.2% in 2015 to 30.9% in 2022) and services (33.1% in 2015 to 39.8% in 2022) also saw substantial increases; 22% were happy and sufficient in political participation in 2015, but this dropped to 20.3% in 2022.

The donation, community relationship, family and safety indicators under the community vitality domain also improved significantly. The indicators of ecology and living standards also saw a significant increase in the censored sufficiency headcount ratios since 2015.

It is important to emphasise that these insights focus on changes among happy people, and while it is fascinating to record these findings and patterns over time, in order to accelerate GNH growth and for policy-making purposes, it is vital to focus on the sufficiency or deprivation levels among not-yet-happy people. This will be explored in Chapter 5.

Figure 19: Changes in sufficiency level of each indicator (censored sufficiency headcount ratios), 2015–22



Note: The error bars represent 95% confidence intervals. If the confidence intervals do not overlap, this depicts statistical significance.
Source: Authors' computations based on 2015 and 2022 GNH Surveys

Changes across region (rural and urban)

We now turn to the regional trends. Over the course of the two periods, urban GNH was consistently higher than rural GNH (urban GNH Index values at 0.790, 0.811 and 0.796 for 2010, 2015 and 2022, respectively, compared to rural values at 0.726, 0.731 and 0.771 for 2010, 2015 and 2022, respectively). But, since 2010, there has been a sharp improvement in rural GNH with, for example, a very strong improvement in 2022 compared to 2015 (by a value of 0.041). The same cannot be stated for urban areas, where there was no significant change in GNH from 2010 to 2022.

Relatedly, the incidence of happy people in rural regions rose significantly by 8.3 percentage points between 2015 and 2022, from 38.1% to 46.4%. In contrast, the incidence in urban regions decreased by 4 percentage points – from 54.6 to 50.5%.

Among not-yet-happy people, average sufficiency increased for rural dwellers (0.8% percentage points) while no significant change was seen in urban regions. While urban areas often have better access to resources and services, and higher economic output compared to rural areas, it is not necessarily true that GNH is improving for urban dwellers when analysed across time.

Overall, GNH is better in urban areas, but evaluation over time gives a different picture. GNH in rural regions is improving while its counterpart does not seem to catch up. Urban stagnation is likely to be affected in part by rural-urban migration during this period, and in part due to the far harsher impact of pandemic measures on urban populations. However, it still signals a policy priority.

A regional comparison based on population shares was not possible because there are no regional population projections for 2010 and 2015. However, to unpack this further, we look at indicator patterns and sufficiency levels in the later sections.

Table 14: Regional GNH Index, incidence of happy people, average sufficiency among happy and not-yet-happy people, 2010–22

					Between 2015 and 2022 estimates			
		2010	2015	2022	Absolute change	Relative change	t-statistic	P-value
GNH Index	Rural	0.726	0.731	0.771	0.041	5.58%	-9.280	0.000
	Urban	0.790	0.811	0.796	-0.015	-1.80%	1.870	0.061
Incidence of happy people	Rural	37.4%	38.1%	46.4%	8.3%	21.84%	-8.410	0.000
	Urban	50.2%	54.6%	50.5%	-4.1%	-7.43%	2.200	0.028
Average sufficiency among not-yet-happy people	Rural	56.2%	56.5%	57.3%	0.8%	1.49%	-4.710	0.000
	Urban	57.9%	58.4%	58.8%	0.5%	0.81%	-1.530	0.127
Population shares	Rural	NA ²⁷	NA	58.7%				
	Urban	NA	NA	41.3%				

Note: NA = not available.

Source: Authors' computations based on 2010, 2015 and 2022 GNH Surveys

The results in Table 15 also demonstrate that wellbeing and happiness are complex ideas that can be influenced by a variety of indicators other than those related to resources and the economy. For instance, rural regions may provide a deeper sense of social support and community, which will lead to higher wellbeing levels. Additionally, living close to nature and having access to green spaces can also have a positive impact on wellbeing, and these are often more readily available in rural areas. Furthermore, urban areas can also have negative impacts on wellbeing, such as higher levels of pollution, noise, and stress. In some cases, these factors may outweigh the benefits of living in an urban area. Hence, it is essential to consider multiple factors and indicators when assessing wellbeing in rural and urban areas, something that the GNH Index is structured to do, rather than relying solely on economic and resource-based measures such as GDP.

We now look at the changes in indicator sufficiency levels (Table 15). Here, we focus on the raw/uncensored sufficiency headcount ratios, which represents the population's overall level of sufficiency for each of

²⁷ The Population Projections Report 2005–30 did not reflect regional projections (by rural and urban).

the 33 indicators. For example, in 2010, 81.7% of rural people were sufficient in the life satisfaction indicator under the psychological wellbeing domain. This percentage dropped to 79.1% in 2015 before rising to 80.9% in 2022. The 33 indicators are not weighted equally and hence are not given equal importance in the makeup of GNH Index. Some of the unconventional indicators will be the starting point of our discussion.

Bhutanese people had the highest level of sufficiency in the value indicator, as mentioned in Chapter 1. Rural residents continuously demonstrated somewhat greater levels of sufficiency than urban residents: 94.6% in 2010, 98.4% in 2015, and 92.1% in 2022 for rural residents, compared to 98.3% in 2010, 98.6% in 2015, and 97.6% in 2022 for urban residents.

This may be because values tend to be more prevalent in rural areas as the communities often have a stronger sense of cultural continuity and heritage. In many cases, rural communities may raise children with support from elder family members and thereby have a closer connection to traditional values, often passed from one generation to the next. However, it is important to note that in 2015, only a marginal difference is observed.

There are also some regional differences in the sleep indicator, with rural people repeatedly reporting higher level of sufficiency across time (70.3% in rural areas, compared to 57.3% in urban areas in 2010; 70.2% in rural vs. 65.7% in urban in 2022). One reason for this may be that rural areas tend to be quieter and less congested than urban areas, which can lead to less noise and pollution that may disturb sleep. Additionally, people in rural areas may have more access to natural environments and green spaces, which can promote relaxation and reduce stress levels, leading to better sleep.

Rural people also tend to have higher sufficiency in the native language indicator (95% in 2010, 2015 and 2022). Urban people have a lower than 95% sufficiency level for all three time periods. It is difficult to generalise about the language skills of rural people compared to urban

people, as language proficiency can vary widely based on individual factors and regional dialects.

However, it is possible that some rural populations may have a stronger command of their native language, especially if their community has preserved their linguistic heritage and cultural traditions over time. Rural communities may also have less exposure to foreign languages and may be less likely to adopt them as their primary language, which can contribute to a stronger connection to their native tongue.

It is also interesting to note that rural areas appear to have higher rates of the donation indicator. In contrast to just 24.6% in urban areas, 53.4% of the rural population was sufficient in 2010. Both 2015 (49.8% in rural areas and 29% in urban areas) and 2022 (54.5% in rural areas and 34.4% in urban areas) show a similar pattern. One possible explanation is that rural communities often have a stronger sense of community and social responsibility, and may feel a greater obligation to support their neighbours. It is common to see rural households frequently assist one another in times of annual rituals, illness, death, and other connected problems.

Indicators of community relationships show significant regional variation, with rural areas having higher sufficiency than urban areas. In 2022, rural residents have nearly twice as much sufficiency as urban residents (55.5% vs. 26%). This is a continuation of the previous trend (72.1% in rural areas and 36.6% in urban areas in 2010). The family relationship indicator does not show any notable regional variations.

Table 15: Levels of uncensored/raw sufficiency headcount ratios, 2010, 2015 and 2022, by region

	2010		2015		2022	
	Rural	Urban	Rural	Urban	Rural	Urban
Life satisfaction	81.7%	86.9%	79.1%	85.5%	80.9%	82.4%
Positive emotions	58.8%	58.8%	50.3%	53.0%	61.8%	68.8%
Negative emotions	65.7%	62.0%	54.8%	52.8%	50.7%	46.9%
Spirituality	54.1%	49.3%	39.9%	38.2%	36.8%	38.7%
Self-reported health status	71.1%	81.0%	49.8%	54.3%	49.4%	51.7%
Healthy days	74.1%	82.8%	89.0%	91.0%	79.0%	76.8%
Disability	88.1%	93.2%	87.4%	91.3%	94.2%	97.1%
Mental health	84.4%	91.0%	88.4%	91.7%	87.5%	86.2%
Work	41.2%	55.3%	41.1%	51.5%	36.4%	45.7%
Sleep	70.3%	57.3%	75.9%	70.0%	70.2%	65.7%
Schooling	27.2%	64.9%	25.9%	59.9%	33.3%	69.9%
Literacy	40.0%	70.6%	43.1%	72.3%	51.8%	81.0%
Value	98.3%	94.6%	98.6%	98.4%	97.6%	92.1%
Knowledge	5.5%	12.6%	7.3%	10.2%	12.1%	17.7%
Zorig Chusum skills (Artisan skills)	63.1%	59.6%	63.5%	60.7%	58.5%	57.4%
Speak native language	95.7%	93.2%	95.1%	94.6%	95.0%	91.9%
Cultural participation	37.0%	23.2%	49.5%	37.8%	35.5%	25.3%
Driglam Namzha	66.0%	44.6%	48.8%	31.3%	38.8%	19.2%
Government performance	81.3%	74.6%	35.4%	30.1%	38.7%	31.1%
Fundamental rights	62.5%	61.3%	52.0%	50.0%	56.0%	54.9%
Service	30.0%	70.3%	50.3%	83.5%	67.4%	79.2%
Political participation	72.0%	14.7%	64.0%	13.9%	54.9%	9.1%
Donations	54.3%	24.6%	49.8%	29.0%	54.5%	34.4%
Community relationship	72.1%	36.6%	49.8%	29.6%	55.5%	26.0%
Family	92.9%	92.9%	90.3%	91.8%	94.2%	92.0%
Safety	96.7%	94.8%	93.2%	88.9%	96.4%	95.7%
Ecological issues	73.2%	58.4%	93.6%	75.5%	94.9%	79.4%
Responsibility towards environment	84.2%	84.4%	78.1%	81.6%	83.2%	81.6%
Wildlife damage	41.8%	99.1%	50.8%	97.0%	51.9%	92.4%
Urbanisation issues	97.9%	49.7%	91.2%	75.7%	81.5%	78.3%
Assets	72.8%	77.7%	76.6%	89.9%	85.1%	92.6%
Household per capita income	40.8%	87.3%	46.9%	85.8%	61.0%	88.2%
Housing	33.6%	80.3%	50.9%	73.4%	87.4%	91.5%

Source: Authors' computations based on 2010, 2015 and 2022 GNH Surveys

Spirituality has declined over time in both rural and urban regions. The spirituality indicator has four sub-indicators: spirituality level, consideration of karma, prayer recitation and frequency of meditation.

Let us now dive into the conventional economic indicators. Sufficiency is higher among urban people in all three metrics of living standards. Household per capita income is steadily increasing in both regions, but more clearly in rural areas (40% in 2010 to 61% in 2022 in rural areas; 87.3% to 88.2% in urban areas). Housing sufficiency has also significantly improved in rural areas (from 33.6% in 2010, to 46.9% in 2015, and 61% in 2022).

The ecological issues indicator, comprising eight sub-indicators, assesses people's perception of various issues including river pollution, air pollution, noise pollution, waste disposal, littering, landslide, soil erosion and flood. As expected, urban areas have lower levels of sufficiency. It is worth noting that the Bhutanese population, regardless of residence, exhibits lower levels of concern about environmental issues. Sufficiency is steadily increasing in both regions (73.2% in 2010 to 94.9% in 2022 in rural areas; and 58.4% in 2010 to 79.4% in 2022 in urban areas).

This finding may be surprising given that pollution is still a growing issue of concern, especially in urban parts of Bhutan. There are many reasons why people may show less concern over ecological issues, including limited awareness or understanding of the impacts of ecological issues or the importance of protecting the environment. Without this knowledge, they may not recognise the significance of environmental problems or feel compelled to act. Some people may feel overwhelmed by ecological issues or experience a sense of helplessness, leading them to feel that individual actions cannot make a difference.

Additionally, the slow and gradual nature of impacts that interventions can make on ecological issues may make it difficult for some people to feel motivated to act. Addressing ecological issues requires a multifaceted approach that considers the complex factors that influence attitudes and behaviours towards the environment. Education, outreach,

and policy interventions can all play a role in promoting greater awareness and action on ecological issues.

Sufficiency in the service indicator is increasing in rural areas, but decreasing in urban areas (85.3% in 2015 to 79.2% in 2022).

In terms of the government performance indicator, since 2015 estimates have increased for both regions. It may be common for people's perceptions of government performance to fluctuate over time, as factors such as economic conditions, political events, and social trends can all influence perceptions. For example, when the economy is doing well and people feel financially secure, they may be more likely to view the government favourably and credit it with creating a strong economic environment.

Conversely, during times of economic hardship or recession, people may become more critical of the government's economic policies and performance. People's perception on government performance may also be influenced by their own knowledge and awareness of government functions. These can sometimes trigger significant shifts in public opinion.

With the literacy and schooling indicators, while sufficiency levels are improving over time in both regions, they are greater in urban areas than rural areas, as is the global trend. This may be largely due to the greater availability of educational institutions and resources in urban areas. Urban areas also tend to have more highly educated and skilled professionals, who are often better able to provide educational support to their children and communities. In contrast, rural areas may have fewer schools and educational resources, which can make it more difficult for residents to access quality education. Investment to expand access to online learning resources, mobile libraries, and other innovative approaches to education should continue, to overcome geographic barriers and support educational attainment in rural communities.

Table 16: Changes in censored sufficiency headcount ratios by region, 2015–22

	Rural		Urban	
	2015	2022	2015	2022
Life satisfaction	35.5%	43.6%	51.3%	47.0%
Positive emotions	21.9%	32.3%	31.4%	37.1%
Negative emotions	25.0%	25.9%	32.9%	27.7%
Spirituality	21.1%	22.3%	25.9%	25.1%
Self-reported health status	22.7%	28.2%	33.6%	30.6%
Healthy days	35.6%	41.6%	52.2%	42.8%
Disability	35.6%	45.6%	52.4%	50.0%
Mental health	36.6%	44.7%	52.7%	47.9%
Work	21.2%	21.6%	34.8%	29.6%
Sleep	31.7%	36.8%	44.5%	38.9%
Schooling	15.2%	21.2%	39.8%	39.3%
Literacy	23.7%	30.9%	46.0%	44.2%
Value	37.7%	45.6%	53.7%	47.9%
Knowledge	5.6%	9.4%	8.3%	14.0%
Zorig chusum skills (Artisan skills)	27.7%	30.5%	34.4%	31.2%
Speak native language	36.8%	44.8%	52.2%	47.7%
Cultural participation	24.7%	21.1%	25.5%	17.1%
Driglam Namzha (Way of Harmony)	19.6%	17.8%	17.9%	11.6%
Government performance	15.6%	20.3%	18.8%	18.5%
Fundamental rights	21.2%	30.1%	30.6%	32.0%
Services	25.6%	36.8%	49.2%	44.3%
Political participation	27.5%	29.9%	10.1%	5.9%
Donation (time & money)	24.9%	29.1%	20.2%	21.7%
Community relationship	23.1%	29.8%	19.7%	17.7%
Family	36.1%	45.2%	52.4%	48.6%
Safety	36.5%	45.3%	50.9%	49.3%
Ecological issue	35.6%	44.8%	43.0%	43.4%
Responsibility towards environment	32.7%	41.5%	47.0%	43.6%
Wildlife damage	23.2%	30.2%	53.3%	48.4%
Urban issue	36.0%	41.4%	45.7%	44.4%
Assets	32.9%	42.8%	52.3%	48.1%
Household per capita income	25.5%	34.8%	50.6%	46.8%
Housing	26.8%	42.9%	45.9%	49.1%

Source: Authors' computations based on 2015 and 2022 GNH Surveys

We now examine the censored sufficiency headcount ratio, which represents the proportion of people who are happy and have acquired sufficiency in the indicator (Table 16), to investigate if these trends are

the same as or different from the uncensored national trends. Similar to the national trends, both regions have a decrease in sufficiency levels in the cultural participation and *Driglam Namzha* indicators. The impact is higher in urban areas.

Knowledge remains one of indicators with the lowest sufficiency in both regions, but has nevertheless improved over time in both areas. For instance, in 2015, 5.6% of happy rural residents were sufficient in the knowledge indicator, and this rose to 9.4% in 2022. Among those living in urban areas, this figure increased from 8.3% in 2015 to 14% in 2022. It is also worth noting that the values indicator deteriorated in urban regions. In 2015, 53.7% of urban people were happy and sufficient in the values indicators, but this declined to 47.9% in 2022. However, in the rural regions, this improved from 37.7% in 2015 to 45.6% in 2022. Indicators under the living standards domain have improved for both regions. In 2015, 26.8% of rural residents were happy and had sufficiency in housing indicator, which increased to 42.9% in 2022. Likewise, 25.5% were happy and sufficient in the income indicator; in 2022 this rose to 34.8%. The share of those who are happy and enjoy sufficiency in assets also increased, from 32.9% in 2015 to 42.8% in 2022. Overall, many indicators reveal significant progress over time.

However, not all the regional trends are positive. For example, the share of individuals who are happy and sufficient in mental health improved for rural areas but deteriorated among urban residents. Similarly, under the psychological wellbeing domain, the negative emotion share decreased among urban residents, from 32.9% in 2015 to 27.7% in 2022. Furthermore, in urban areas, the share of people who are happy and have a positive attitude towards environmental conservation also deteriorated, from 47% in 2015 to 43.6% in 2022. Indicators under good governance also offer useful insights. Political participation and services worsened in urban areas but improved in rural areas. Interventions would need to be targeted based on GNH Index regional patterns.

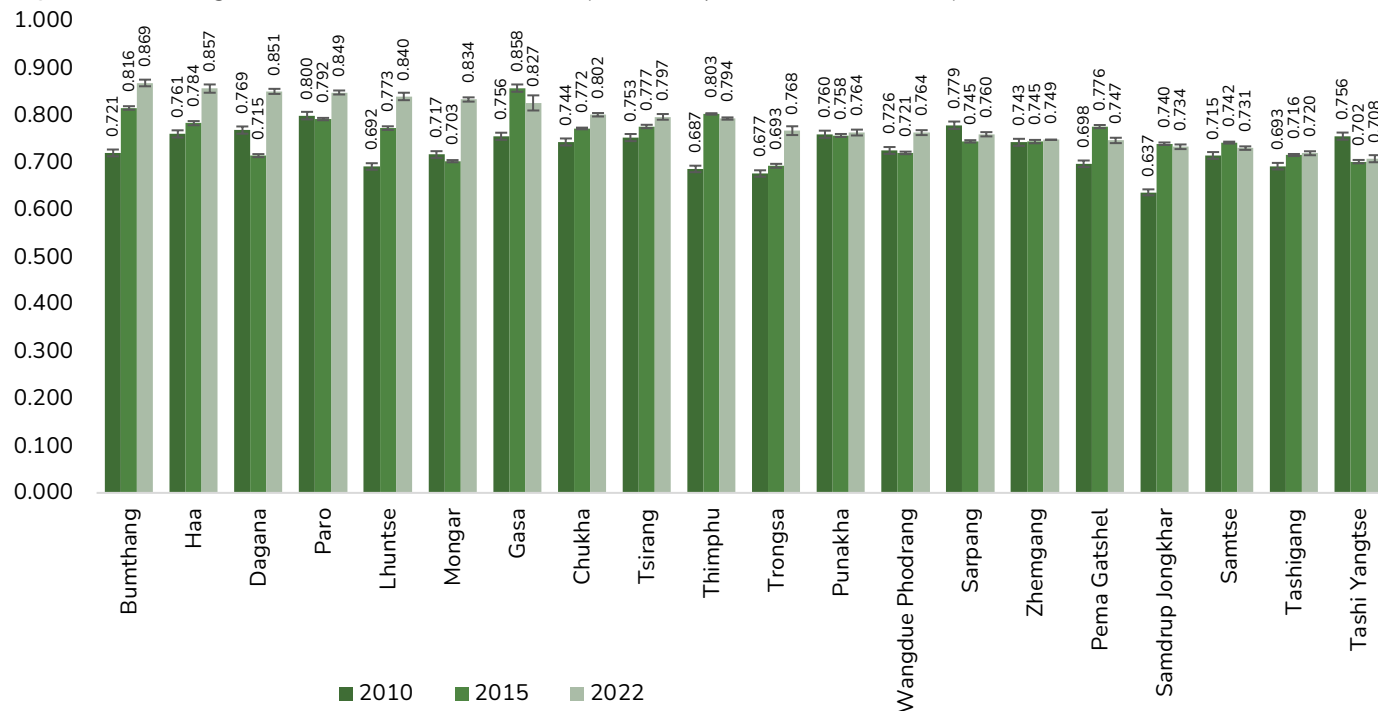
Changes across districts

Another important aspect is to break down the GNH Index and its associated estimates by district. We can conduct a detailed analysis of what has changed over time and across districts because the sample is district representative. Changes in the GNH Index at the district level can provide valuable insights into the wellbeing of local communities and assist policy makers in identifying areas in the country that appear to be doing well.

Moreover, district-level analysis can help identify happiness hotspots or specific areas or regions that are most happy. This information can be used by policy makers to replicate the success stories in these areas to improve the wellbeing and happiness of other districts that lag behind. By tracking changes in happiness rates at the district level, decision makers can evaluate the effectiveness of happiness improvement policies and programmes and make adjustments as necessary.

However, it is important to note that the insights presented here are from the happy groups. To improve the GNH Index, we must equally focus on the deprivations of the not-yet-happy group and implement interventions to address these. Such analysis will influence resource allocation decisions, such as the equitable and effective distribution of resources to regions with greatest need. Nonetheless, it is worthwhile investigating the positive patterns across districts. Figure 20 presents index values for the three years, sorted by 2022 district ranking. Though the district rankings have changed over time, Paro (0.800 in 2010, 0.792 in 2015, and 0.849 in 2022) is consistently one of the most-happy districts, while Tashigang (0.693 in 2010, 0.716 in 2015 and 0.720 in 2022) is consistently one of the least-happy districts.

Figure 20: Changes in GNH Index, 2010–22 (sorted by 2022 index value)



Note: The error bars represent 95% confidence intervals.

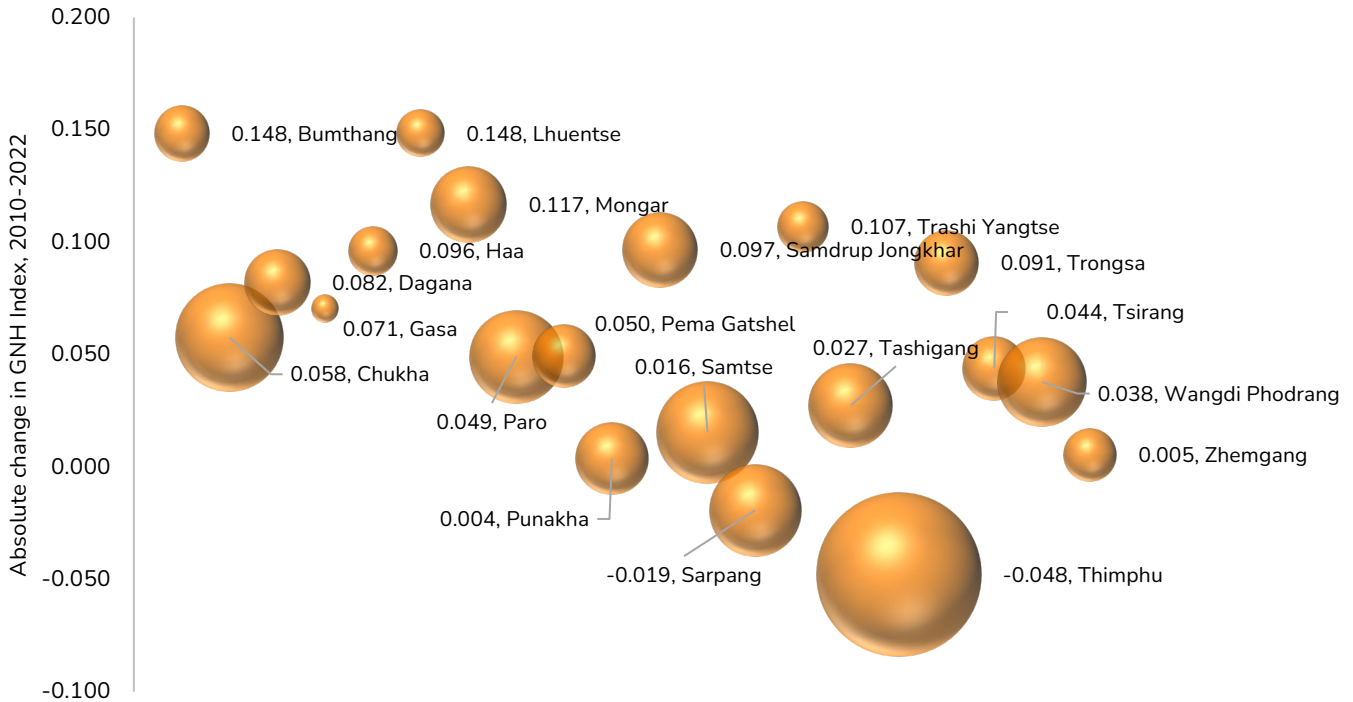
Source: Authors' computations based on 2010, 2015 and 2022 GNH Surveys

As Figure 20 shows, since 2010 the GNH Index has improved in most districts. For instance, there is a massive improvement in Bumthang, from 0.721 in 2010 to 0.869 in 2022, as well as in Haa (0.761 in 2010 to 0.857 in 2022), Dagana (0.769 in 2010 to 0.851 in 2022) and Mongar (0.717 in 2010 to 0.834), among others. Improvements in Trongsa (0.667 in 2010 to 0.768 in 2022), Lhuentse (0.692 in 2010 to 0.840) and Thimphu (0.687 in 2010 to 0.803 in 2022) are more pronounced in absolute terms.

In Sarpang (0.779 in 2010 to 0.760 in 2022) and Tashi Yangtse (0.756 in 2010 to 0.708 in 2022) there has been a reduction in GNH since 2010. Punakha (0.760 in 2010, 0.758 in 2015 and 0.764 in 2022) and Zhemgang (0.743 in 2010, 0.745 in 2015 and 0.749 in 2022) did not have significant progress over time. So merely looking at the GNH trends since 2010, higher investments would be recommended in low-performing districts, including Zhemgang, Pema Gatshel, Samdrup Jongkhar, Samtse, Tashigang and Tashi Yangtse.

Figure 21 illustrates the absolute change in the GNH Index value from 2010 to 2022, with the vertical axis showing the absolute change. Such analysis can provide important insights on the long-term trend in a district's wellbeing. Positive absolute changes suggest that the district is progressing and that its citizens are happier. Negative absolute changes, on the other hand, indicate that the district is encountering difficulties and that its GNH is deteriorating.

Figure 21: Absolute change in GNH Index, 2010–22



Note: Size of the bubble reflects the number of people in 2022, according to the Population Projection Report (2005–30).

Source: Authors' computations based on 2010 and 2022 GNH Surveys

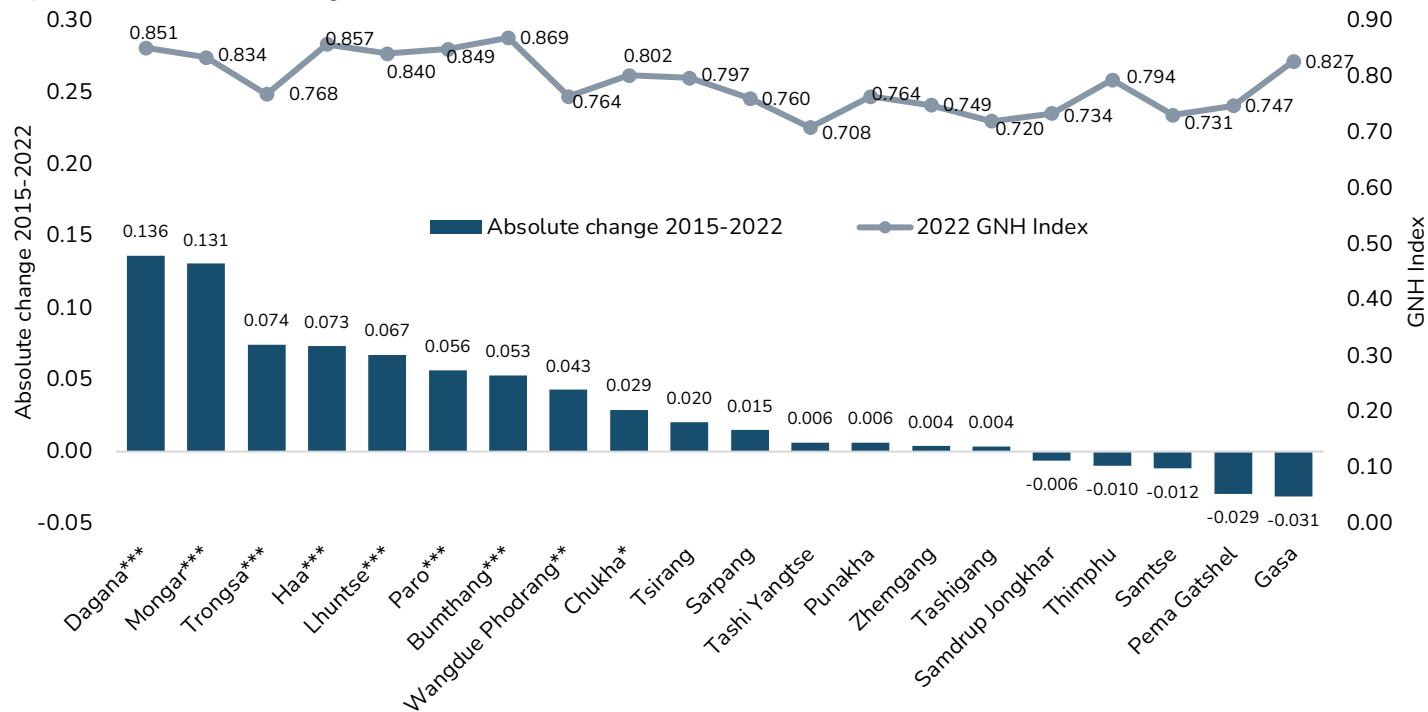
Recent trends are more useful for policy considerations. Therefore, Figure 22 depicts changes in GNH Index values at the district level, looking at index value changes in each district expressed in absolute terms from 2015 to 2022.

At a 99.9% confidence level, Dagana, Mongar, Trongsa, Haa, Lhuentse, Paro, and Bumthang experienced improvements in 2022. Wangdue Phodrang (up by 0.043 units) and Chukha (up by 0.029 units) also show increases at 99% and 95% confidence levels, respectively. Although Gasa, Pema Gatshel, Samtse, Thimphu, and Samdrup Jongkhar appear to show deterioration, none of the estimations were found to be significant.

Let us recollect that comparative analysis with 2010 had recommended Zhemgang, Pema Gatshel, Samdrup Jongkhar, Samtse, Tashigang and Tashi Yangtse as focus areas for improving GNH. Based on the 2015 comparisons, we note that there was no significant improvement in Pema Gatshel, Samdrup Jongkhar and Samtse between 2015 and 2022. These remain among the low-GNH ranking districts. Perhaps, we may then conclude that these three districts require attention in terms of GNH-enhancing programmatic interventions.

Yet, it is vital to remember that we can go beyond the district rankings and the absolute changes to consider the indicator composition of GNH, which provides a thorough picture of a district's overall wellbeing. We explore these in the subsequent sections.

Figure 22: Absolute changes in GNH Index, 2015–22



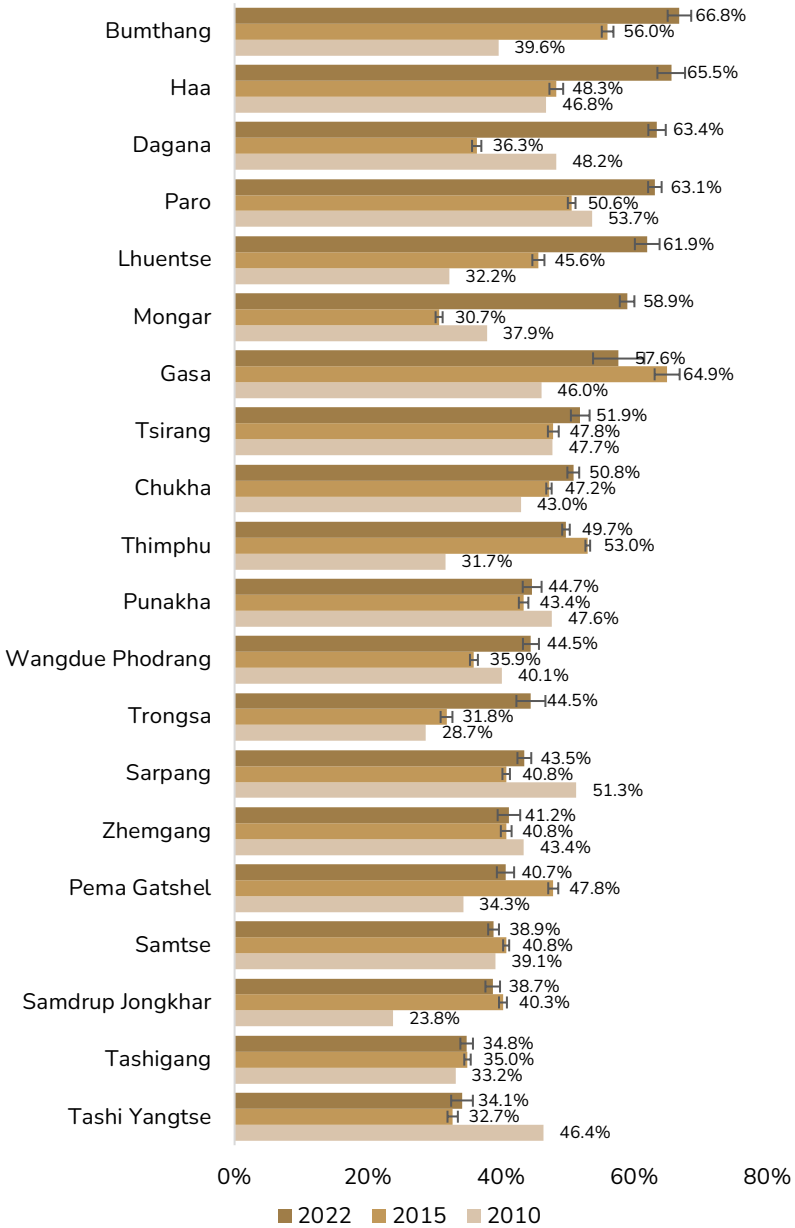
Note: *** statistically significant at $\alpha=0.01$, ** statistically significant at $\alpha=0.05$, * statistically significant at $\alpha=0.10$.

Source: Authors' computations based on 2015 and 2022 GNH Surveys

To assess the changes in the distribution of happy people across districts, Figure 23 shows the incidence of happy people, that is the percentage of people who have been able to achieve sufficiency in at least 66% of the weighted indicators or domains. High-GNH Index ranking districts will have a higher share of happy people.

The top five-performing districts from 2022 seemed to have increased their incidence of happy people since 2010; Bumthang (39.6% in 2010 to 66.8% in 2022), Haa (46.8% in 2010 to 65.5% in 2022), Dagana (48.2% in 2010 to 63.4% in 2022), Paro (53.7% in 2010 to 63.1% in 2022) and Lhuentse (32.2% in 2010 to 61.9% in 2022). Other significant improvements in the proportion of happy people were observed among people living in Mongar (37.9% in 2010 to 58.9% in 2022) and Trongsa (28.7% in 2010 to 44.5% in 2022).

Figure 23: Incidence of happy people, 2010, 2015 and 2022



Note: The error bars represent 95% confidence intervals.

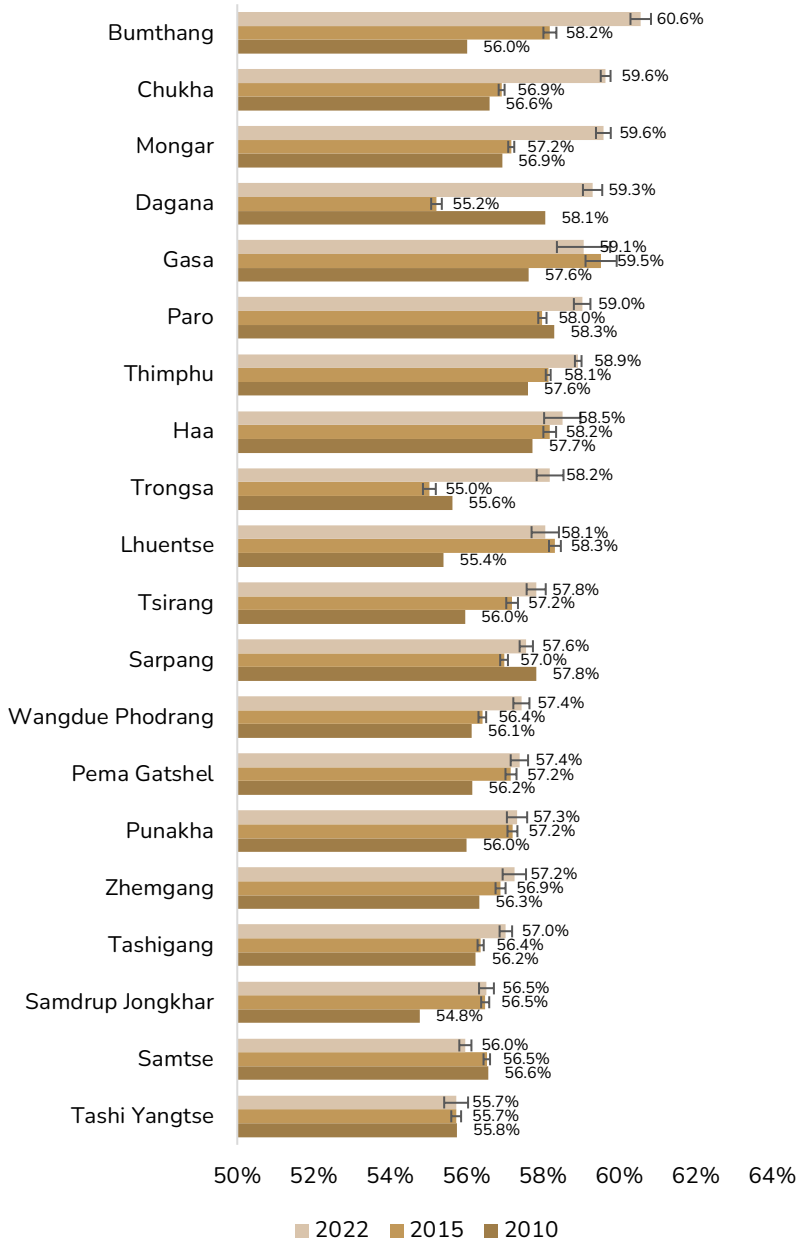
Source: Authors' computations based on 2010, 2015 and 2022 GNH Surveys

For the purposes of policy decisions, it is critical to assess how those in the not-yet-happy group, in particular, are progressing with their sufficiency. To increase district GNH, public officials need to improve sufficiency levels of residents adequately enough to fulfil the 66% happiness threshold.

As illustrated in Figure 24, there is limited improvement in the sufficiency level of those in lower GNH Index-ranking districts, compared to those in the higher-ranking category. For instance, achievements among the not-yet-happy groups remain roughly the same over the three time periods in Tashi Yangtse (55.8% in 2010, 55.7% in 2015 and 55.7% in 2022) and Samtse (56.6% in 2010, 56.5% in 2015 and 56% in 2022). Similarly, there has been a significant increase in sufficiency in not-yet-happy residents of Bumthang (56% in 2010, 58.25 in 2015 and 60.6% in 2022), Chukha and Mongar.

More analysis among not-yet-happy people is provided in the policy section (Chapter 5).

Figure 24: Average sufficiency among the not-yet-happy group, 2010–22



Note: The error bars represent 95% confidence intervals.

Source: Authors' computations based on 2022 GNH Survey

Analysis of both the share of happy people and average sufficiency among not-yet-happy people directs our attention to Tashi Yangtse district. This district merits GNH-enhancing programmes since it has not only suffered a sharp decline in its share of happy people since 2010, but has also experienced limited progress on the sufficiency level of those in the not-yet-happy category.

To get a sense of trends, Figure 25 displays the raw or uncensored sufficiency headcount ratios of the 33 indicators across the lowest five-ranking districts according to the GNH Index (Pema Gatshel, Samdrup Jongkhar, Samtse, Tashigang and Tashi Yangtse).

In Tashi Yangtse, under the psychological wellbeing domain, residents have experienced most deterioration in the positive emotion indicator. Compared to 2015, on average people may have felt less calm, compassionate, generous, forgiving and content. All the health indicators have worsened, with the greatest impact on healthy days followed by mental health. Under the time use domain, a marginal decline in sufficiency in sleep hours can be seen. Cultural participation has reduced, along with a notable decline in political participation. Wildlife damage has experienced the most significant deterioration of all the indicators, indicating that residents experienced more wildlife damage to their crops and livestock in 2022 than in 2015. The wildlife damage indicator may have possibly contributed to the overall decline in the GNH Index. When wildlife damages property, such as crops or livestock, it leads to financial losses and disrupts people's livelihoods. This can cause stress and anxiety, particularly for those who rely on their property for their income. This might explain the deterioration in mental health.

In Tashigang, *Driglam Namzha* has seen a significant drop, followed by artisan skills under the culture domain. The healthy days indicator has also deteriorated since 2015. There has been a slight decrease in negative emotions, mental health, community relationship, ecological issues, wildlife damage and urban issues.

In Samtse, people have experienced a notable decline in cultural participation under the culture domain, followed by work and sleep

under the time use domain. Sufficiency levels have also decreased in self-reported health status and mental health. Wildlife damage and urban issues also decreased, although only marginally.

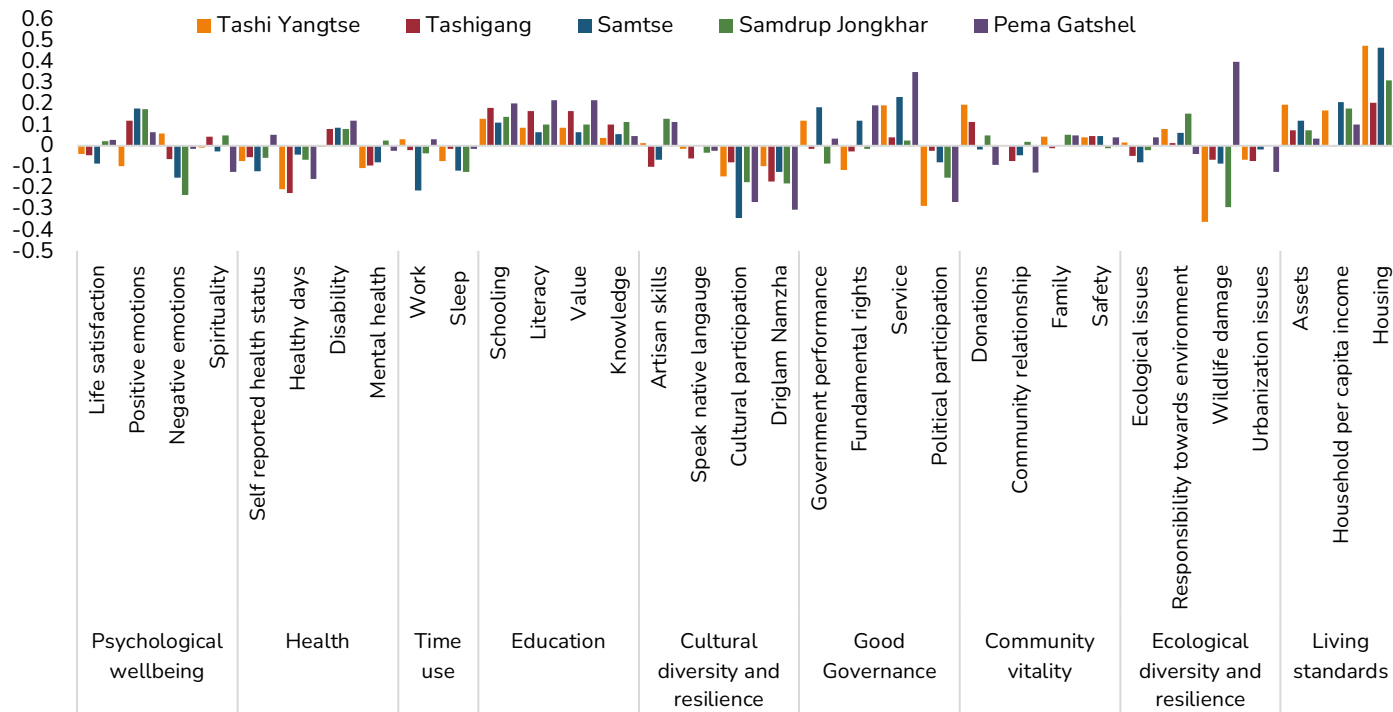
In Samdrup Jongkhar, wildlife damage and negative emotions have seen a prominent drop. People have also experienced a significant deterioration in cultural participation. They also participate less in elections and *zomdues* (political participation) and feel that the practice of *Driglam Namzha* is getting weaker. Across the five low-ranking districts, Samdrup Jongkhar has the most decline in the sleep indicator.

In Pema Gatschel, the most notable decrease has been in *Driglam Namzha* and participation in socio-cultural festivals. Similar to the residents of Tashi Yangtse, in comparison to 2015, people tend to participate lesser in elections and meetings. People also feel less healthy, with a decrease in healthy days compared to 2015. Community relationship has also declined slightly along with donation, spirituality and urban issues.

Overall, it is noteworthy that all the living standards indicators have improved in the five districts. The service indicator has also improved, although the increase is marginal for Tashigang and Samdrup Jongkhar. Education domain indicators have enjoyed progress, with none of them declining when compared to 2015. The five districts are also doing relatively well in the disability indicator. Responsibility towards the environment is mostly a positive change.

These insights are useful in understanding the patterns across the country's happy citizens. In order to bring about impact and enhance the GNH Index, we must increase the level of sufficiency or decrease the level of deprivations among not-yet-happy people. Therefore, analysis of the sufficiency and deprivations of not-yet-happy people becomes pertinent.

Figure 25: Absolute changes in the sufficiency level in 33 indicators (raw/uncensored sufficiency headcount ratios), 2015–22



Source: Authors' computations based on 2022 GNH Survey

Table 17 provides the district-level absolute changes in censored sufficiency headcount ratios across the 33 indicators since 2015. The changes have been colour-coded from green (improvement) to red (deterioration).

Looking at Bumthang, except for the political participation, spirituality, work and cultural participation indicators, there has been an improvement in the other 29 indicators with regard to the share of people who are happy and sufficient. The share of people who are happy and sufficient in spirituality decreased by 3%. Cultural participation dropped by 3.3% in 2022. The highest declines was observed in political participation, where share of those who are happy and sufficient dropped by 12.2%. Among Bumthang residents, the proportion of people who are happy and sufficient in work decreased by 1.4%. The highest increases have been seen in fundamental rights (23.5%) and housing (23.3%).

Looking at Haa, the second-most happy district based on 2022 GNH Index, cultural participation, *Driglam Namzha* and *Zorig Chusum* has declined since 2015. The share of Haa residents who are happy and sufficient in *Driglam Namzha* declined by 9.2%. There was around an 8.3% drop among the share of Haa residents who are happy and gained sufficiency in cultural participation. Likewise, the share of people who are happy and enjoyed sufficiency in artisan skills also reduced, by 4.8%.

The capital, on the other hand, offered a different tale. In contrast to Bumthang, numerous indicators lagged behind in 2022. All the health indicators have declined. For example, the proportion of those classed as happy and sufficient in mental health fell by 5.3%. The proportion of people who are happy and sufficient in healthy days has decreased by 11%. Thimphu is also struggling with time management: for both work and sleep indicators, where the proportion of people who are happy and sufficient has decreased. Similar patterns are seen in the domains of culture, community, and good governance. The environment domain has also worsened. In the urban issues indicator, there is a 4.8% decrease in the percentage of people who are happy and gained sufficiency.

Finally, looking at one of the least-happy districts, Zhemgang, indicates that it is doing worst in the work indicator. The share of people who are happy and sufficient in work decreased by 9.5% in 2022. *Zorig Chusum* decreased by 4.6% and political participation decreased by 7.3%.

Note that the largest decline in the percentage of happy and sufficient people is highlighted in red. The red figures do not all come from the same district, demonstrating that progress varies from indicator to indicator over time.

Table 17: Absolute changes (in %) in sufficiency level in each of the indicators (censored sufficiency headcount ratios) by district, 2015–22

	Bumthang	Chukha	Dagana	Gasa	Haa	Lhuentse	Mongar	Paro	Pema Gatshel	Punakha	Samdrup Jongkhar	Samtse	Sarpang	Thimphu	Tashigang	Tashi Yangtse	Trongsa	Tsirang	Wangdue Phodrang	Zhemgang
Life satisfaction	12.1	5.3	26.9	-6.1	16.7	18.6	27.9	12.8	-9.4	3.9	-2.6	-1.8	1.8	-4.5	-2.3	2.0	12.3	1.8	6.9	3.8
Positive emotions	9.2	11.9	16.3	13.1	15.6	21.5	16.0	10.4	12.2	7.1	6.8	12.3	5.0	4.3	-1.5	-0.1	7.0	13.8	19.6	2.6
Negative emotions	6.4	-1.7	7.8	-28.8	4.2	8.5	26.8	6.1	-9.2	-10.6	-8.6	-12.1	8.4	-4.5	-3.3	11.5	4.0	-21.2	0.0	-2.1
Spirituality	-3.0	5.2	2.4	-1.4	4.6	8.5	6.2	-0.2	-6.5	3.2	0.1%	-2.1	-3.1	2.7	-2.2	-4.5	1.9	-6.8	2.2	-5.0
Self-reported health status	15.2	1.8	13.8	-16.5	25.8	22.2	19.1	12.9	-6.5	-0.9	-6.0	2.1	6.6	-4.5	-4.1	-3.1	15.4	-5.3	3.1	4.3
Healthy days	10.9	3.2	25.7	-8.4	7.9	9.6	24.4	7.7	-9.0	1.7	-0.3	-4.5	3.6	-11.0	-3.7	-0.3	9.2	-1.7	3.1	1.5
Disability	11.8	4.5	28.2	-6.1	19.2	21.1	27.8	14.6	-5.6	5.1	2.4	-0.5	4.8	-1.6	0.9	1.7	17.6	5.8	8.4	5.3
Mental health	10.6	4.4	28.1	-8.7	16.8	17.0	28.7	12.5	-8.2	1.3	-3.6	-1.7	3.0	-5.3	-1.1	2.4	12.0	5.7	7.6	-0.6
Work	-1.4	-8.0	5.0	-14.0	14.0	4.2	14.1	7.7	-4.9	0.2	-10.2	-4.2	3.7	-4.2	-0.1	-7.0	4.5	-0.6	-0.5	-9.5
Sleep	8.8	-1.3	20.7	-8.4	14.3	9.1	25.7	8.0	-7.1	-1.7	-4.5	-2.8	-0.2	-5.1	-2.5	-3.3	9.4	3.5	6.1	0.0
Schooling	11.9	-1.8	7.3	-2.4	15.1	14.3	11.1	16.3	1.8	7.7	2.1	-4.9	3.9	3.4	5.7	4.0	12.5	-1.3	12.0	7.3
Literacy	9.5	-0.7	15.4	-5.6	10.0	15.2	19.1	15.8	-4.0	4.3	0.5	-1.0	6.2	0.9	2.6	8.6	14.0	-2.8	7.5	5.8
Value	9.7	4.0	27.0	-6.8	16.4	14.9	27.5	11.7	-9.2	1.7	-4.2	-1.6	2.0	-6.0	-1.0	1.0	12.1	3.5	9.4	-2.0
Knowledge	2.2	2.8	4.6	2.8	6.8	10.0	4.2	5.7	-1.5	9.3	4.4	5.2	3.4	7.9	2.7	-0.5	6.7	8.6	3.1	-1.7
Zorig chusum skills (Artisan skills)	1.9	-4.6	3.3	-7.7	-4.8	11.7	25.2	10.7	-1.7	3.3	-5.3	-3.0	-3.4	-4.8	1.8	1.9	7.0	-3.1	7.8	-4.6
Speak native language	11.5	6.3	30.1	-7.3	17.8	15.6	27.4	10.1	-8.5	0.0	-1.6	-2.0	1.2	-4.8	-1.3	1.3	11.9	4.5	8.3	-0.7
Cultural participation	-3.3	-7.1	8.5	-27.8	-8.3	3.3	17.1	-12.8	-7.5	-5.4	-16.8	-12.2	-9.1	-5.4	-9.5	1.0	3.9	-6.0	2.2	-3.0
Driglam Namzha (Way of Harmony)	1.5	-1.7	13.1	-17.9	-9.2	-6.5	1.8	-14.9	-5.8	-4.9	-3.5	-5.1	-1.0	-7.7	-3.9	3.4	-6.0	2.4	-3.5	-2.9

Trends in the GNH Index

	Bumthang	Chukha	Dagana	Gasa	Haa	Lhuentse	Mongar	Paro	Pema Gatshel	Punakha	Samdrup Jongkhar	Samtse	Sarpang	Thimphu	Tashigang	Tashi Yangtse	Trongsa	Tsirang	Wangdue Phodrang	Zhemgang
Government performance	7.7	1.3	8.3	0.2	13.6	15.4	17.2	7.6	-2.6	-4.3	7.5	3.5	-0.1	-0.2	5.6	-7.5	4.0	-4.8	-1.3	-2.8
Fundamental rights	23.5	13.8	30.1	21.6	22.6	16.9	28.9	23.5	-21.4	3.7	7.6	6.0	-0.6	-5.0	1.8	1.5	7.9	3.8	-3.0	1.0
Services	9.3	2.4	27.8	22.7	23.8	17.4	23.1	22.1	-5.1	-1.5	10.0	0.4	9.2	-1.6	2.9	0.9	13.3	4.8	2.8	1.0
Political participation	-12.2	5.5	26.1	-10.8	16.9	0.2	6.2	-11.3	-14.9	-9.0	-4.1	4.9	-7.8	-2.8	-6.6	-4.0	0.0	7.5	0.2	-7.3
Donation (time & money)	4.0	5.3	17.2	-14.1	4.7	4.6	21.1	-4.1	-8.8	1.8	-3.0	-0.6	-10.4	5.8	3.1	6.0	7.7	2.6	7.4	-1.8
Community relationship	16.9	4.8	21.4	-6.9	12.0	20.5	21.4	0.7	-8.0	-0.9	0.3	7.7	0.1	-4.5	-1.1	-1.0	4.0	5.8	2.2	-2.2
Family	15.6	6.7	27.9	-6.0	17.5	16.7	28.7	15.7	-10.2	0.9	-1.9	-2.3	3.6	-3.3	0.8	2.2	12.2	3.5	7.4	1.8
Safety	12.3	5.1	28.3	-3.5	17.5	18.1	27.2	13.2	-6.3	1.9	0.5	-0.8	5.6	-1.5	1.7	2.0	12.2	6.0	7.5	1.4
Ecological issue	10.9	11.7	28.2	-4.3	16.6	17.0	28.5	15.2	-6.4	-1.4	-3.1	1.9	5.1	-3.3	1.4	2.0	14.3	3.1	11.7	4.9
Responsibility towards environment	13.3	0.6	21.7	-3.4	11.8	15.9	25.6	9.7	-5.8	4.2	0.3	1.6	4.8	-1.9	3.7	-2.4	12.3	8.5	5.6	2.0
Wildlife damage	18.1	-1.9	20.8	-9.8	20.6	28.1	22.5	31.7	2.0	-9.0	-3.2	-9.6	12.0	-4.7	-13.1	5.5	17.4	-1.1	11.8	9.0
Urban issue	10.6	6.8	25.1	-11.3	8.1	13.2	26.5	7.4	-10.7	-0.8	-1.5	-4.7	7.1	-4.8	-1.8	-2.0	10.3	0.4	10.0	2.3
Assets	11.5	3.5	26.0	-4.2	19.6	15.7	23.2	13.6	-1.6	2.4	1.9	-2.1	4.4	-2.7	5.4	3.8	12.8	7.6	8.5	2.2
Household per capita income	9.2	4.9	24.5	-12.9	14.8	14.1	22.3	14.2	-2.1	9.1	5.7	-4.8	5.0	-5.0	6.1	6.6	15.0	10.7	9.5	9.6
Housing	23.3	10.2	36.6	20.8	26.1	18.1	29.7	19.0	6.5%	10.5	13.3	6.9	8.9	3.1	11.2	11.8	13.9	11.8	13.3	3.9

Note: The significance level in terms of the absolute changes has not been studied, hence the insights in this table are only indicative.

Source: Authors' computations based on 2022 GNH Survey

Changes by gender and age groups

As seen in Table 18, women have consistently reported lower GNH Index values than men since 2010 (0.783 for males and 0.704 for females in 2010; 0.814 for males and 0.762 for females in 2022), and gender differences are highly significant (99% confidence level). A higher percentage of males are also classified as happy, compared to females. In 2010, for example, only one-third (33.1%) of females were happy, whereas close to half (48.5%) of males were happy.

In 2015, the disparities widened (37.9% of happy females vs. 51.1% of happy males). In 2022, a large discrepancy remained between men and women (43.8% of happy females vs. 55.3% of happy males), although on a positive note, the gender gap had shrunk slightly.

Males in the happy group have a slightly higher average sufficiency level, and the same is the case in the not-yet-happy group when compared to females.²⁸

²⁸ According to the 2015 GNH survey statistics, approximately 41.4% of respondents were male and 58.6% were female. According to the NSB Population Projection Report (2005–30), in 2015, there were 532,814 people aged 15 and above; 52.6% (280,510) were men, while the remaining 47.4% (252,340) were women. In the 2022 GNH survey, 37.3% were male while 62.7% were female. The Population Projection of Bhutan Report (2017–47) reveals that in 2022, 58.7% were men and 41.3% were women. As we can see, there are slight variances in gender proportions in 2015, but there are significant differences in 2022. In 2010, as per the projections there were 482,750 people aged 15 and above, of which 53% (255,922) were males.

Table 18: GNH Index, incidence of happy people, average sufficiency among happy and not-yet-happy people, 2010–22

Estimates	2010		2015		2022		Male comparison 2015–22	Female comparison 2015–22
	Male	Female	Male	Female	Male	Female		
GNH Index	0.783	0.704	0.793	0.730	0.814	0.762	***	***
Incidence of happy people	48.5%	33.1%	51.1%	37.9%	55.3%	43.8%	***	***
Incidence of not-yet-happy people	51.5%	66.8%	48.9%	62.1%	44.7%	56.2%		
Average sufficiency among happy people	73.3%	72.3%	73.4%	72.1%	73.3%	72.4%		
Average sufficiency among not-yet-happy people	57.7%	55.7%	57.8%	56.5%	58.4%	57.7%	**	***
Population shares ²⁹ (Aged 15 and above)	53.0%	47.0%	52.6%	47.4%	58.7%	41.3%		

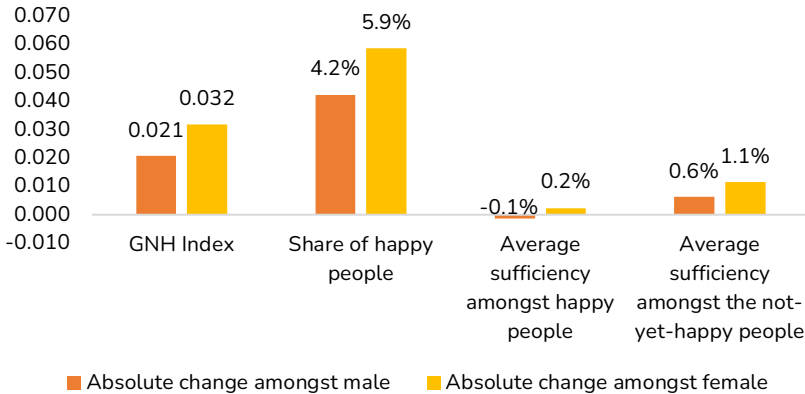
Source: Authors' computations using 2010, 2015 and 2022 GNH Surveys

Exploring gendered trends in GNH, Figure 26 shows that, between 2015–22, the GNH Index and incidence of happy people improved for both genders (99% confidence intervals), indicating that both men and women have improved their GNH since 2015.

Figure 26 depicts the absolute changes observed in males and females. While the data suggest that men are happier, it is worth noting that improvements across all index estimations are more pronounced for women.

²⁹ Population shares have been estimated based on Population Projection Report (2005–30) for 2010 and 2015 and Population Projection Report (2017–47) for 2022.

Figure 26: Absolute changes in GNH Index, incidence of happy people and average sufficiency among happy and not-yet-happy people by sex, 2015–22



Source: Authors' computations using 2015 and 2022 GNH Surveys

While these findings reveal disparities between men and women, they have to be further explored to determine the factors driving happiness and wellbeing. We investigated sufficiency levels across 33 variables using the uncensored sufficiency headcount ratios and determined whether trends have been consistent over time. Uncensored sufficiency headcount ratios refer to the share of population who have achieved sufficiency in each indicator. Figure 27 illustrates the absolute changes in uncensored sufficiency headcount ratios across men and women. It should be noted that these findings are being presented in order to better understand the trends over time. For policy suggestions, insights from examining deprivation among not-yet-happy people would be more relevant (see Chapter 5).

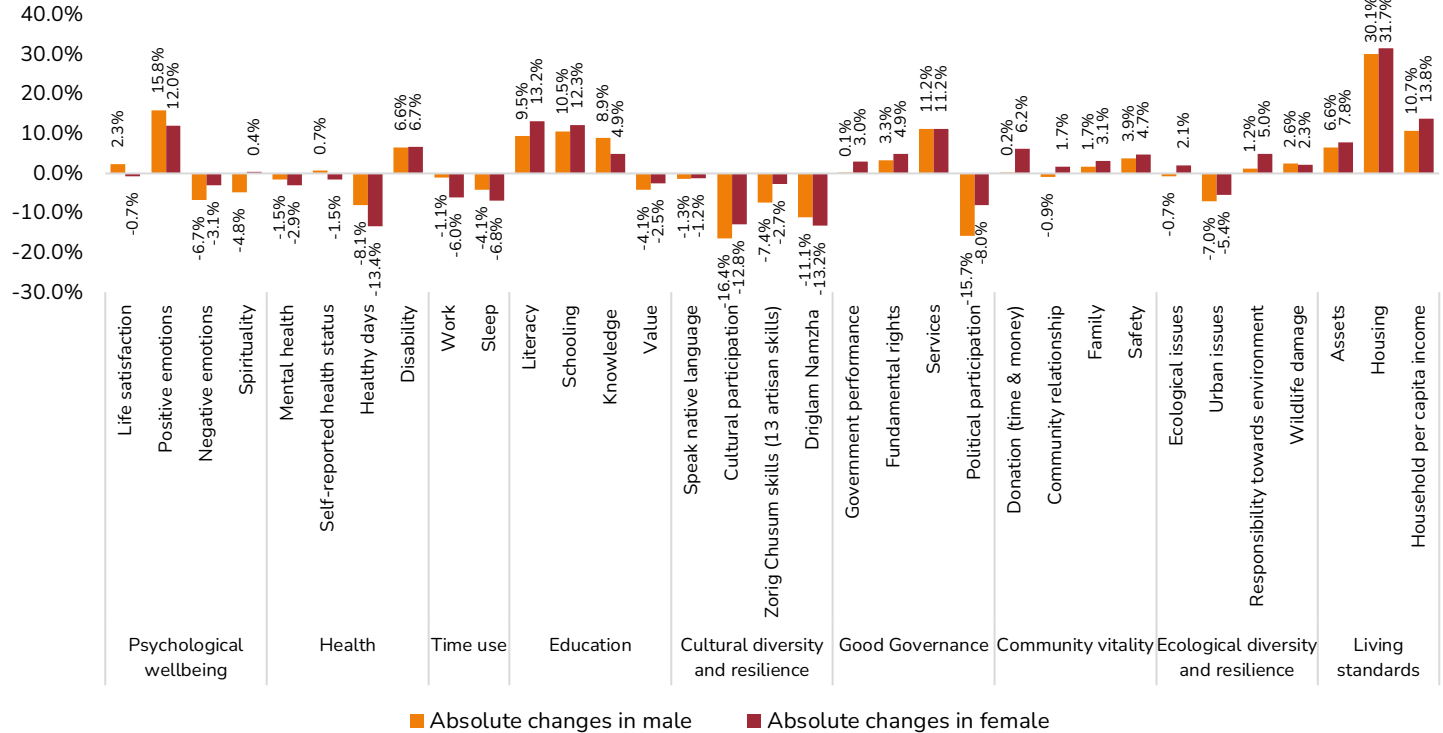
In 2022, women reported a significant decrease in the sufficiency level of the healthy days indicator under the health domain (13.4 percentage points). There were also more women reporting that the practice of *Driglam Namzha* was becoming weaker compared to 2015. Sufficiency in cultural participation has plummeted for females by 12.8 percentage points. In 2022, one-in-eight fewer women participated in socio-cultural events and gatherings. Sufficiency in political participation decreased by 8 percentage points, with a decline in women's

participation in elections and *zomdues*. Women are also facing issues with sleep and work hours, as sufficiency dropped by 6.8 and 6 percentage points, respectively, in 2022. On the positive side, females' sufficiency increased more than males' in the education domain indicators.

Men experienced the highest drop in cultural participation (16.4 percentage points), followed by political participation (15.7 percentage points). Compared to 2015, fewer men plan to vote and have actively participated in *zomdues*. According to them, *Driglam Namzha* is also weakening in the country, as sufficiency decreased by 11.1 percentage points. Men also reported a lower number of healthy days (sufficiency dropped by 8.1 percentage points) and displayed greater concern over pedestrian-friendly streets (sufficiency in urban issues declined by 7 percentage points).

To improve the GNH Index, it is vital to recognise that programmes require gender targeting due to the varied nature of insufficiency levels across males and females.

Figure 27: Absolute changes in uncensored/raw sufficiency headcount ratios by sex, 2015–22



Source: Authors' computations using 2015 and 2022 GNH Surveys

With regard to the illustrative³⁰ age group analysis, GNH has improved across all age groups since 2015 (Table 19). The 2022 GNH Index is highest for those aged 15 to 39. Yet the proportion of happy people has increased throughout the three age groups, with the 15–39 age group having the largest increase. The average sufficiency for people who are not yet happy follows the same age group trends. It is important to highlight that, even with age group representative samples,³¹ it would still be challenging to assess happiness levels, since life circumstances, social support and health as well as personality traits can factor in and contribute to wellbeing outcomes.

³⁰ Technically, the sample design is not representative of age groups, so results are illustrative.

³¹ In the 2015 GNH survey data, after applying sampling weights, about 54.6% of people were aged 15 to 39, 37% aged 40 to 64, and the remaining 8% were 65 and above. The Population Projections of Bhutan (2005–30) report shows that roughly 64.9% of the 2015 population were aged 15 to 39 years, around 28.3% were aged 40 to 64, and 4.4% were aged 65 and above. As per the 2022 GNH survey, 53.3% were aged 15 to 39, 37% were aged 40 to 64, and around 10% were aged 65 and above. As per the National Population Projection Report (2017–47), in 2022, 60.6% were aged 15 to 39, 30.7% were aged 40 to 64, and 8.7% were aged 65 and above. While the discrepancies between the two are not extreme, we still need to exercise some caution when interpreting results. Table 19 also displays the population projection population shares for 2010, extracted from the Population Projections of Bhutan (2005–30).

Table 19: *GNH Index, share of happy people, average sufficiency among happy and not-yet-happy people, 2015–22*

	GNH Index		Share of happy people		Average sufficiency among happy people		Average sufficiency among not-yet-happy people		Population shares	Population shares	Population shares
	2015	2022	2015	2022	2015	2022	2015	2022	2010	2015	2022
Age group											
15-39	0.776	0.797	47.1%	51.1%	72.8%	72.8%	57.8%	58.5%	66.4%	64.9%	60.6%
40-64	0.741	0.769	40.7%	45.7%	72.7%	72.7%	56.3%	57.5%	26.8%	28.3%	30.7%
65+	0.694	0.741	31.3%	40.7%	73.1%	72.5%	55.4%	56.3%	4.3%	4.4%	8.7%

Source: Authors' computations using 2015 and 2022 GNH Surveys

Let us examine how the sufficiency levels fare across the 33 indicators using the raw/uncensored sufficiency headcount ratios by age groups (Table 20). Under the psychological wellbeing domain, sufficiency in spirituality and negative emotion indicators improve with age in both years. For example, in 2022, 30% of those aged 15 to 39 have sufficiency in the spirituality indicator, compared to 42.7% of those aged 40 to 64 and 57.5% of 65-year-olds and above. A similar trend is depicted in 2015. Sufficiency decreases with age for all indicators in the health domain (mental health, healthy days, self-reported health status and disability).

Sufficiency in cultural participation peaks for the 40-64 age group, compared to their younger (15 to 39) and older counterparts (65 and above). Donations of time and money, another indicator under community vitality, also follows the same trend. Sufficiency in community relationship also increases with age in both years. For example, in 2022, approximately 34.6% of people aged 15 to 39 attained sufficiency in community relationships, compared to 52.5% of those aged 40 to 64, and 60.4% of those aged 65 and above. The disparity across age groups had increased since 2015, when 37.4% of those aged 15 to 39 reached sufficiency in community relationships, 49.9% of those aged 40 to 64, and 52.7% of those aged 65 and above.

Table 20: Changes in raw/uncensored sufficiency headcount ratios by age groups, 2015–22

	2015			2022		
	15-39	40-64	65+	15-39	40-64	65+
Life satisfaction	84.0%	79.4%	70.1%	84.2%	80.4%	70.9%
Positive emotions	50.6%	50.9%	55.5%	66.0%	63.1%	62.6%
Negative emotions	50.5%	58.1%	60.7%	43.6%	54.2%	60.9%
Spirituality	30.9%	46.4%	63.7%	30.3%	42.7%	57.5%
Mental health	91.9%	88.8%	76.9%	88.3%	88.5%	74.1%
Self-reported health status	59.0%	45.7%	25.4%	59.6%	43.6%	25.3%
Healthy days	91.0%	88.9%	83.9%	79.2%	77.6%	74.3%
Disability	93.8%	85.1%	71.1%	98.6%	94.8%	79.5%
Work	44.4%	39.1%	67.5%	38.4%	35.8%	65.7%
Sleep	76.3%	70.0%	77.1%	68.7%	66.4%	74.4%
Literacy	69.0%	35.1%	21.0%	84.2%	43.5%	25.7%
Schooling	53.3%	18.3%	10.4%	72.5%	22.5%	9.8%
Knowledge	9.6%	6.8%	5.9%	16.9%	12.0%	9.2%
Value	98.3%	98.7%	99.1%	93.6%	97.2%	99.1%
Speak native language	93.5%	96.4%	97.8%	91.7%	95.8%	97.1%
Cultural participation	42.5%	51.3%	42.7%	30.1%	34.8%	26.0%
<i>Zorig Chusum</i> skills (13 artisan skills)	64.4%	62.7%	50.8%	59.1%	58.5%	51.0%
<i>Driglam Namzha</i>	37.7%	49.1%	52.7%	24.0%	37.8%	43.4%
Government performance	32.9%	34.1%	37.0%	34.0%	36.6%	41.3%
Fundamental rights	51.8%	51.1%	49.2%	57.4%	55.2%	46.9%
Services	64.9%	57.5%	49.8%	73.0%	71.1%	70.6%
Political participation	39.0%	61.3%	47.8%	26.8%	49.4%	42.2%
Donation (time & money)	40.8%	48.6%	34.5%	42.0%	54.2%	41.7%
Community relationship	37.4%	49.9%	52.7%	34.6%	52.5%	60.4%
Family	90.9%	91.1%	89.2%	92.4%	94.7%	92.9%

	2015			2022		
	15-39	40-64	65+	15-39	40-64	65+
Safety	90.4%	93.1%	95.6%	95.2%	97.4%	96.7%
Ecological issues	86.2%	88.7%	94.2%	85.1%	92.3%	95.4%
Urban issues	84.0%	88.2%	92.0%	77.8%	82.5%	84.9%
Responsibility towards environment	79.7%	79.3%	75.1%	83.0%	82.6%	79.8%
Wildlife damage	73.1%	58.0%	49.6%	77.8%	57.8%	53.8%
Assets	82.8%	78.7%	77.7%	88.8%	88.2%	84.0%
Housing	58.8%	57.3%	56.9%	88.5%	89.8%	89.4%
Household per capita income	64.7%	54.9%	43.7%	79.0%	66.5%	53.3%

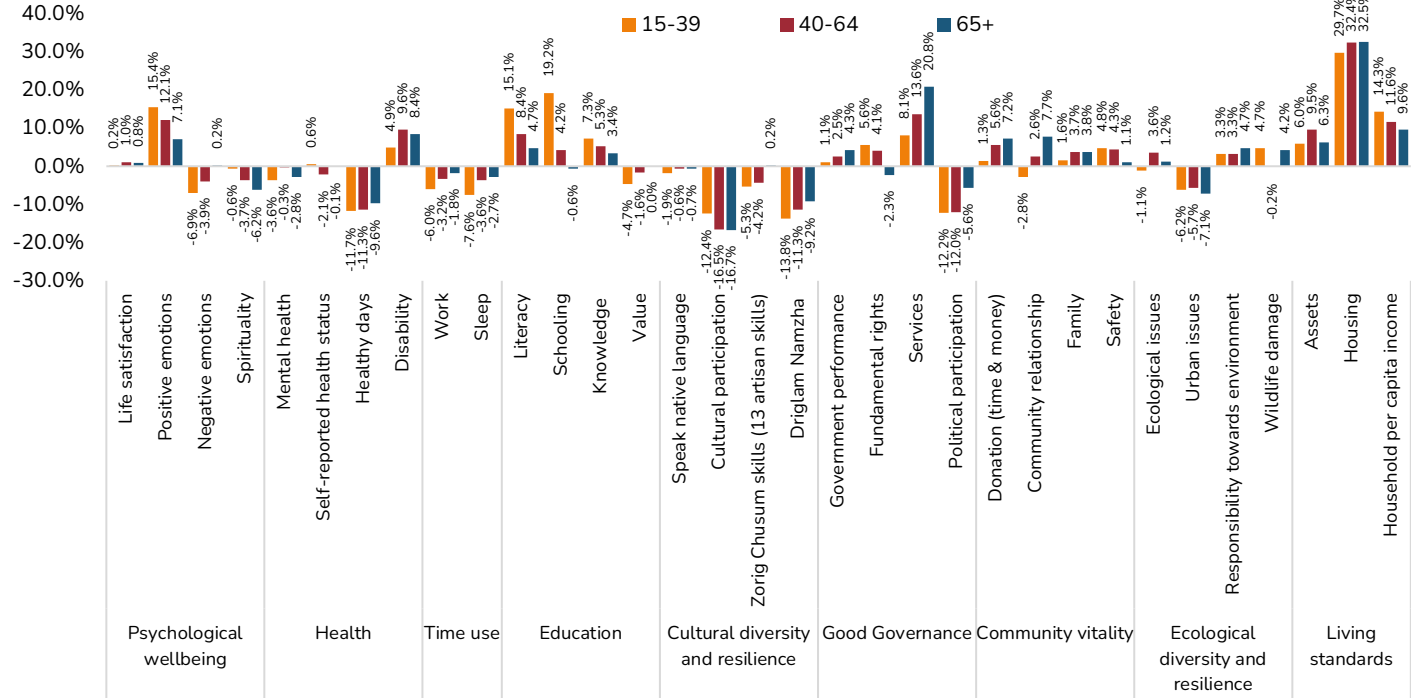
Source: Authors' computations using 2015 and 2022 GNH Surveys

The absolute changes in the 33 indicators by age group (uncensored sufficiency headcount ratios) between 2015–22 are shown in Figure 28.

All three age groups had the largest improvements in housing. Positive emotions have increased for all age groups in the psychological wellbeing category. While spirituality has declined across the board, rather surprisingly, those aged 65 and up experienced the greatest decline. However, the oldest age group had the biggest improvement in services.

The younger population, aged 15 to 39, experienced the largest deterioration of work and sleep hours, mental health, and negative emotions. Compared to their senior counterparts, the younger age group improved the most in formal education measures such as schooling, reading, and knowledge, as expected, and also in positive emotions and income. Yet, it is worth noting that this group has seen the largest deterioration in the value indicator since 2015. Other metrics that have declined include cultural participation, healthy days, and the *Driglam Namzha* indicators, while strong improvements were seen in fundamental rights, services, wildlife damage to crops, safety, assets, and disabilities.

Figure 28: Absolute changes in uncensored sufficiency headcount ratios by age groups, 2015–22



Changes in happiness gradients

Happiness thresholds are used to categorise people as happy or not-yet-happy. To investigate the degree of happiness over different gradients of happiness threshold, three cutoffs were used, as shown in Table 21, with Bhutanese people distributed into four categories.

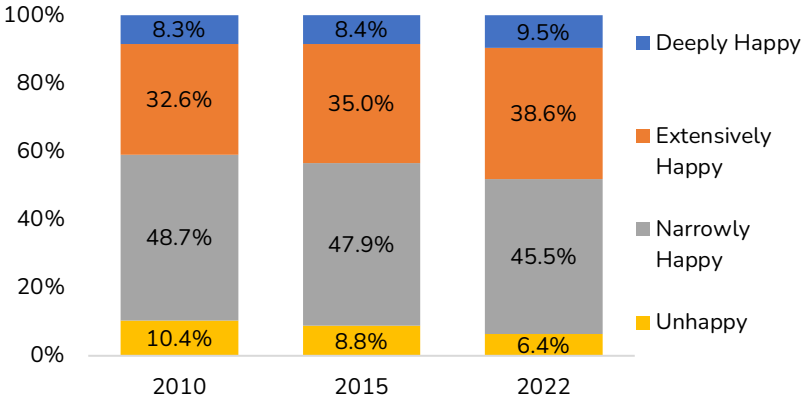
Those with at least 77% sufficiency were assigned to the 'deeply happy' category. Those with sufficiency scores ranging from 66% to 77% were classified as 'extensively happy'. Those who had sufficiency in just 50% to 65% of the weighted indicators were grouped under 'narrowly happy' and those who experienced the least sufficiency, from 0% to 49%, were classified as 'unhappy'.

Table 21: Changes in percentage of people across happiness gradients, 2010–22

	Happiness threshold	2010	2015	2022
Deeply Happy	77-100%	8.3%	8.4%	9.5%
Extensively Happy	66-76%	32.6%	35.0%	38.6%
Narrowly Happy	50-65%	48.7%	47.9%	45.5%
Unhappy	0-49%	10.4%	8.8%	6.4%

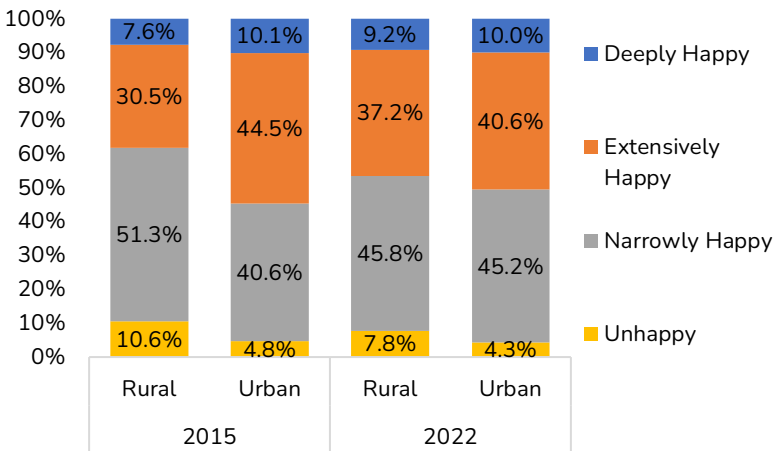
Note that when a happiness threshold of 66% is used in 2022, we get a headcount ratio of 48.1%, which is the sum of those in the extensively happy and deeply happy groups. There is an increase in the percentage of happy people in the deeply and extensively happy groups from 2015 to 2022. The increase from 2010 to 2015 is only marginal – most of the increase occurred in the recent period. The share of people in the narrowly happy group has decreased marginally (47.9% in 2015 and 45.5% in 2022). The share of unhappy group fell from 10.4% in 2010 to 6.4% in 2022.

Figure 29: Changes in percentage of people across happiness gradients, 2010–22



Comparing results across regions, rural residents improved the most (Figure 30). Since 2015, the share of rural people who are 'deeply happy' and 'extensively happy' increased, rising from 7.6% to 9.2% and 30.5% to 37.2%, respectively. As a result, rural proportions in the lowest happiness gradients have declined. However, since 2015, the share of people in the upper happiness gradients actually declined in urban areas – a worrying trend.

Figure 30: Changes in percentage of people across happiness gradients by region, 2015–22



Chapter 3: Understanding the GNH Index and its Relationship with GDP and Income

Gross Domestic Product (GDP) has become an integral part of measuring the economic growth and development of a nation. While GDP is useful in assessing economic activity, it is not an appropriate measure of wellbeing or happiness. The GNH Index on the other hand provides a more comprehensive picture of an individual's or community's happiness and wellbeing, beyond just economic growth. It is therefore worth noting that GDP and GNH are neither interchangeable nor mutually exclusive.

When Bhutan first promulgated GNH as the final objective of government, most countries preferred to focus only GDP growth. But over the past 15 years, this has changed dramatically. In 2009, Stiglitz, Sen and Fitoussi released their Commission report *Mismeasuring our Lives*³². This study was commissioned by President Sarkozy as many people in France felt GDP per capita did not reflect their wellbeing. It proposed several interventions such as improvements to GDP, the creation of green GDP, and development of quality of life measures. They also outlined eight domains – all similar to those in GNH, except for culture. OECD continues to follow up on this work. Princeton University also gathered over 250 academics in an International Panel on Social Progress, which published three volumes on different domains and measures beyond GDP³³. In 2021, the UN Secretary General set up a 'Beyond GDP' Core Group co-led by DESA, UNDP and UNCTAD. The Secretary General wrote,

[N]ow is the time to correct a glaring blind spot in how we measure economic prosperity and progress. When profits come at the expense of people and our planet, we are left

³² Stiglitz, J.E., A. Sen and J.-P. Fitoussi (2010), *Mismeasuring Our Lives: Why GDP Doesn't Add Up*, The New Press, New York.

³³<https://www.oecd.org/social/beyond-gdp-9789264307292-en.htm>

with an incomplete picture of the true cost of economic growth.³⁴

The concept paper, *Valuing What Counts: United Nations System-wide Contribution on Beyond Gross Domestic Product (GDP)*, was approved by the UN System Chief Executives Board for Coordination (CEB) in August 2022, and work is underway to develop new global measures of wellbeing.³⁵ Thus the launch of the 2022 GNH Index coincides with a ripple of international consternation about the shortcomings of GDP growth, and efforts to bring social and environmental variables into view in other countries – much as Bhutan’s GNH Index does already.

GDP, GDP per capita, and similar measures are not based on surveys nor on administrative data such as tax records, but on System of National Accounts³⁶. The GNH Survey also has some basic questions to establish the band of income the person and their household enjoy. This chapter uses the GNH data to answer few basic questions. Is the GNH Index identifying as happy mainly those who are well off in terms of their income? Or does it add something to a monetary measure?

The chapter delves into the GNH Index and monetary measures, in particular, the strengths and weaknesses of both measures are explored, allowing readers to gain a deeper understanding of their limitations as well as their potential. It explains how both measures can be used to improve economic and social outcomes, and how they can be used to guide policy decisions. This is an important consideration, as policy makers need to be able to measure the effectiveness of their policies and programmes in achieving desired outcomes. Understanding the differences between the GNH Index and monetary measures, as well as GDP, is crucial, as it allows policy makers to choose the most appropriate measure for their specific needs.

³⁴ United Nations Secretary-General Antonio Guterres, *Our Common Agenda: Report of the Secretary-General*.

³⁵ See documents linked from [https://unscebg.org/topics/beyond-gdp#:~:text=\[N\]ow%20is%20the%20time,true%20cost%20of%20economic%20growth](https://unscebg.org/topics/beyond-gdp#:~:text=[N]ow%20is%20the%20time,true%20cost%20of%20economic%20growth)

³⁶ <https://unstats.un.org/unsd/nationalaccount/sna2008.asp>

We also examine how the GNH Index functions across various income levels using the 2022 GNH survey data. In particular, we compare it across household per capita income quintiles and how they have changed over time. We generate a household per capita income³⁷ quintile in order to gain a rough measure of the distribution of relative economic wellbeing within Bhutan. By looking at income quintiles, we assess the association of income with GNH Index both in terms of its distribution as well as on how it varies across time and different population subgroups. The results provide insights into how income distribution impact happiness and wellbeing.

Key highlights

- The GNH Index and GDP have different conceptual underpinnings, as well as distinct priorities and goals.
- The GNH Index is quantitative measure of citizen's wellbeing and happiness and focuses on a wide range of economic and non-economic factors contributing to people's happiness over a certain period. In contrast, GDP is a standard quantitative measure of total market value created through the production of goods and services in a country during a certain period.
- Unlike GDP, the GNH Index assesses quality of life, prioritises sustainability, incorporates non-market activities, and considers negative externalities on health and the environment. It can be disaggregated by gender and district and other characteristics.
- The GNH indicators directly shows what requires improvement and the GNH Index shows where imbalances occur, to inform different actors and, if necessary, spark action.
- The monetary poorest have the largest proportions of unhappy people and the lowest proportions of deeply happy people. In 2022, the richest (top 20% of income quintile) had the highest share of

³⁷ Household per capita income was generated by combining the total household income from varied sources and dividing it by the household size. No further transformation was applied to this variable.

deeply happy people (15.3%) and the lowest proportion of unhappy people (2.3%).

- Yet 41.4% of people belonging to the richest quintile are in the not-yet-happy group (narrowly happy plus unhappy – 39.1+2.3). And 29.2% of people in the poorest quintile are in the happy group. So it is clear that income is not highly correlated with GNH.
- The average degree of sufficiency in the happy group does not differ significantly across the household per capita quintile income levels. Monetary poor happy people enjoy the same sufficiency in GNH as rich happy people.

Conceptual and methodological differences

GDP has been traditionally used as a measure of economic performance and is often used as a proxy for measuring overall wellbeing and happiness in a country. However, building on Amartya Sen's pivotal work on the capability approach, there has been increasing recognition that GDP has limitations as a wellbeing measure. The UNDP's Human Development Approach aimed to shift the objective of economic activity from focusing on growth as the end and human beings as the means, to focusing on human beings and freedoms as the end. In 2013, after noting the environmental damage that accompanied India's growth, Drèze and Sen argue that 'the achievement of high growth...must ultimately be judged in terms of the impact of that economic growth on the lives and freedoms of the people' (2013)³⁸. Shortfalls are evident in many countries: 'It is not only that the new income generated by economic growth has been very unequally shared, but also that the resources newly created have not been utilised adequately to relieve the gigantic deprivations of the underdogs of society' (p. 9).

Turning to other authors, according to the Easterlin Paradox, although economic growth and growing income levels can increase wellbeing in low-income countries or for those who are living in poverty, this benefit usually levels off once fundamental necessities are addressed

³⁸ Drèze, Jean (2013). *An uncertain glory: India and its contradictions*. Princeton, New Jersey : Princeton University Press.

(Easterlin, 1974³⁹). This implies that subsequent gains in wealth may not result in a proportionate improvement in wellbeing, especially after people have enough money to cover their fundamental needs for food, shelter, and security.

Prosperity appears to rise in developing countries together with GDP, but in highly developed nations, minor or small improvements in wellbeing that are essentially invisible at times, tend to be connected with growth in per capita wealth (Giovannini et al., 2007⁴⁰). This is because national income rises in industrialised countries have a smaller impact on wellbeing since the utility of the consumption benefit is declining and relative status is a zero-sum game at the society level (Clark et al., 2008⁴¹; McBride, 2001⁴²).

The GNH Index is based on the GNH concept that was introduced in Bhutan in the early 1970s as an alternative approach to measuring the country's progress and wellbeing. The sole goal of GNH Index is improve the causes and conditions of wellbeing for people and households, rather than simply focusing on economic growth as measured by GDP per capita or economic growth. The GNH Index and GDP therefore are conceptually different with distinct foci and objectives.

We examine how GNH and GDP differ further below.

GDP is a conventional economic statistic that calculates the monetary worth of all products and services produced inside a nation's borders over a certain time period. No matter who makes it or where it is

³⁹ Easterlin, R.A. (1974). *Does economic growth improve the human lot? Some empirical evidence*. David, P.A. and M.W. Reder (eds.), Nations and Households in Economic Growth: Essays in Honor of Moses Abramovitz, Academic Press, New York.

⁴⁰ Giovannini, E., J. Hall and M. Mira d'Ercole (2007). *Measuring well-being and societal progress*. OECD. Paris.

⁴¹ Clark, A. E., Frijters, P. and Schields, M. A. 2008, *Relative Income, Happiness and Utility: An Explanation for the Easterlin Paradox and other Puzzles*, Journal of Economic Literature 46 (1), 95-144.

⁴² McBride, M. 2001, *Relative income effects on subjective well-being in the cross-section*, Journal of Economic Behavior and Organization 45, 251-278.

consumed, it all falls within what is generated in a nation. It was created by the economist Simon Kuznets, who was given the task of creating a national accounting system to gauge the United States' economic activity during the Great Depression.⁴³

Since its creation, economists and statisticians from all around the world have enhanced and modified this system. Governments, companies, and international organisations use GDP, one of the most popular indicators of economic activity, to compare the economic performance of various nations. But GDP does not take into account non-monetary transactions such as social capital, voluntary work or donations or the distribution of wealth and income. Many economists⁴⁴ have drawn attention to the shortcomings of GDP even to measure its intended economic topics, and have proposed modifications.

In contrast, the GNH Index takes into consideration non-economic elements, including social connectedness, environmental preservation, cultural diversity, psychological wellbeing, and good governance, among others. It is a comprehensive strategy for development that aims to strike a balance between environmental and societal wellbeing and economic progress.

While GDP evaluates a nation's economic production, the GNH Index places a greater emphasis on inclusive growth and sustainable development that benefits all parties involved rather than just a select few. Since a country's success goes beyond its economic performance, the Index tries to present a more complete and balanced view of such progress. This is accomplished through a domain-based framework that addresses key wellbeing themes. In doing so, the GNH Index promotes policies and programmes that can have equal impacts on all of these aspects of wellbeing.

The methodologies used to calculate the GNH Index and GDP are also dissimilar. GDP measures the monetary value of all final goods and services produced within a country's borders over a given period of time,

⁴³ J.S. Landefeld, E.P. Seskin, and B.M. Fraumeni (2008)

⁴⁴ <https://www.bu.edu/pardee/files/documents/PP-004-GDP.pdf>

typically a year. By adding up the value of consumption, investment, government spending, and net exports, the formula reflects the total demand for goods and services in the economy.⁴⁵ It is important to note that there are many ways of calculating GDP, and there are other methods that can be used depending on the availability of data and the context.

The GNH Index is based on the Alkire-Foster method, which is a multidimensional poverty measurement approach aimed to provide a comprehensive and robust way of measuring poverty that goes beyond income-based measures. The method combines different indicators of GNH into a single index that reflects the extent of happiness in a given population. The approach takes into account the intensity and depth of happiness, as well as the overlap and interaction between different GNH domains and indicators. The Alkire-Foster method has been widely used by international organisations, governments, and researchers to monitor and evaluate poverty reduction policies and programmes.

Table 22 provides some comparisons between the GNH Index and GDP.

⁴⁵ The formula for GDP (Gross Domestic Product) is: $C + I + G + (X - M)$ where:

C represents private consumption, which includes all spending by households on goods and services.

I represents gross investment, which includes spending by businesses on capital equipment, structures, and inventories.

G represents government spending, which includes all government expenditures on goods and services.

X represents exports, which are goods and services produced domestically and sold to foreign countries.

M represents imports, which are goods and services produced in foreign countries and consumed domestically.

Table 22: Comparisons between GNH Index and GDP

	GNH Index	GDP
What does it measure?	It is a quantitative measure of citizen's wellbeing and happiness in a country by focusing on wide range of economic and non-economic factors contributing to people's happiness during a certain period.	It is a standard quantitative measure of total market value created through the production of goods and services in a country during a certain period.
Who developed the underlying concept?	The concept was introduced by the Fourth King of Bhutan, Jigme Singye Wangchuck, in the 1970s.	The concept was first developed by the economist Simon Kuznets in the 1930s.
How did the concept emerge?	The concept emerged from the Fourth King's belief that economic development alone is not enough to bring happiness to his people and that the sole pursuit of material wealth could lead to environmental degradation, cultural erosion, and social disintegration.	Simon Kuznets an economist was commissioned to develop a national accounting system to measure a country's (USA) economic activity during the Great Depression.
What thematic areas does it measure?	It measures progress through nine thematic areas; psychological wellbeing, health, education, time use, cultural diversity and resilience, good governance, community vitality, ecological diversity and resilience, and living standards.	It measures progress through a single thematic area of economy by aggregating expenditures that is the amount spent or consumed by households on goods and services, through investments, government spending and net exports, among others.
What computational method/formula does the measure use?	It is computed using the Alkire-Foster method which is a multidimensional approach to measuring poverty and wellbeing.	It is computed using either expenditure or income approach. The expenditure approach is based on the amount spend on consumption, government expenditures and investments. The income approach takes into account

	GNH Index	GDP
		the total income generated by the goods and services produced.
What kind of data does the measure rely on?	GNH Index uses data from nationwide GNH surveys, using personal interviews and a standardised survey instrument (questionnaire).	The specific sources of data used to compute GDP can vary by country and depend on the availability and quality of data. They rely on data from surveys of households and businesses, administrative records including government spending, investments, taxation, and transfers.
How frequently is it measured?	The nationwide GNH survey is carried out every three to five years.	GDP is computed annually by nations.
What is the measure mostly used for?	It is mostly used to monitor and track holistic progress in GNH terms in Bhutan.	It is mostly used to monitor and track economic progress in a country

What is in the GNH Index but missing in GDP and monetary income measures?

The GNH Index values quality of life

GDP is often used as a proxy for the overall health and wellbeing of a society. However, GDP does not measure the quality of life of people in a country. For example, a country with a high GDP may still have high levels of poverty, inequality, and social unrest. Similarly, a country with a low GDP may have a high quality of life, with good access to education, healthcare, and social support. GDP also does not capture the full range of human activities and contributions to overall quality of life.

The GNH Index, on the other hand, measures the quality of life in a country. The Index helps inform and influence policies needed to improve life quality by taking into account the nine domains that are designed to capture a wide range of factors contributing to societal wellbeing. For instance, the psychological wellbeing domain includes measures of life satisfaction and positive emotions, while the health domain includes measures of physical health and mental health. The time use domain includes measures of work-life balance and leisure time, and the cultural diversity and resilience domain includes measures of cultural heritage, diversity, and social cohesion. By measuring these and other factors, the GNH Index provides a more comprehensive and holistic picture of the quality of life in a country than GDP.

The GNH Index values sustainability

One of the drawbacks of using GDP as a measure of economic progress is that it does not indicate whether the country's rate of growth is sustainable. GDP does not consider whether this economic growth is being achieved in a way that is socially, economically, and environmentally sustainable over the long term. For example, a country that achieves high GDP growth by depleting its natural resources, contributing to green gas emissions or exploiting its workers may be unsustainable in the long run, even if its GDP growth rate is high in the

short term. Similarly, a country that achieves high GDP growth but where societal physical and mental health is deteriorating over time may be unsustainable in the long run, even if its GDP growth rate is high in the short term.

In contrast, the GNH Index values sustainability as one of its key principles. It is based on the principle that sustainable development and the wellbeing of people and the planet should be valued over economic growth. The nine domains of the GNH Index are designed to reflect a balance between material, social, and environmental wellbeing, all of which are considered important for achieving sustainable development. The ecological diversity and resilience and cultural diversity and resilience domains, for example, focus on environmental sustainability and the ability of communities to adapt to change. The community vitality domain focuses on social sustainability and the importance of social capital and community resilience. In addition, the GNH Index also recognises the importance of intergenerational equity and the need to balance the needs of current and future generations. The Index helps to identify areas where policies and investments may be needed to promote wellbeing in a more sustainable way.

The GNH Index takes into account non-market transactions

Another limitation of GDP is that it does not account for non-market transactions. Non-market transactions are activities that are not exchanged for money in the formal market, such as household chores, childcare, elderly care, and volunteer work. Since these activities are not recorded in the official economic statistics, they are not included in GDP. They can, nevertheless, make significant contributions to a nation's prosperity and standard of living. For instance, home activities like cooking, cleaning, and childrearing, can have a large positive impact on individuals and families.

Moreover, certain non-market transactions might take the place of some market transactions, which could cause an overestimation of economic activity. The amount of money spent on food might decrease, for instance, if a person started a vegetable garden and growing their own food rather than buying it from the market, but this would not be

reflected in GDP. Additionally, some activities that are not included in GDP may have significant economic spill over effects. For instance, volunteering can increase a community's social capital, which over time can have favourable consequences on economic growth and development.

The GNH Index incorporates non-market transactions in the form of community vitality, time use and culture domains. In the time use domain, the work hours indicator typically includes all the time spent on activities related to employment or income-generating work, as well as time spent on unpaid household chores such as cooking, cleaning, and childcare. This is because household chores are considered essential work that contribute to the functioning of society and the economy, even though they are often not recognised as such or compensated monetarily. Therefore, the work hours indicator in the time use domain takes into account both formal work (e.g., paid employment) and informal work (e.g., household chores) to account for the total time spent on productive activities.

In the community vitality domain, the donation indicators, which comprise voluntary time and cash and in-kind donation, incorporate the concept of social capital as they reflect the willingness of individuals to contribute time, resources, and effort to support others in their community. Volunteering for a local charity or donating money to a community project can be seen as acts of social capital because they demonstrate a willingness to work together and support common goals.

By incorporating social capital into the indicator structure, we can gain a better understanding of the strength of community ties and the potential for collective action. This information can be useful for policy makers in promoting community development and building resilient, sustainable communities. It can also help to identify areas where social capital may be lacking and where targeted interventions may be needed to strengthen community connections and support social cohesion.

The GNH Index considers negative externalities on human health and the environment

One of the main criticisms of using GDP as a measure of economic progress is that it fails to account for the costs imposed on human health and the environment by negative externalities arising from the production or consumption of the nation's output. Negative externalities refer to costs that are not reflected in the market price of a good or service but are instead borne by society as a whole, such as pollution, resource depletion, and public health impacts. Because GDP only measures the value of goods and services produced and exchanged in the market, it does not account for these externalities and may therefore give a misleading picture of economic progress. For example, a country that experiences high levels of pollution from industrial activity may have a high GDP due to the value of the goods produced, but this economic growth may come at a high cost to public health and the environment.

GNH Index attempts to track pollution and ecological disasters, including air and river pollution, landslides, flooding and soil erosion. These indicators are important measures under the environment domain as they help to assess the negative externalities associated with economic activity. By tracking pollution and ecological issues indicators, we can gain insight into the extent and severity of these negative externalities and inform policies aimed at promoting sustainable development and reducing negative externalities. This can also help to raise awareness among the public about the importance of environmental protection and the need to address the negative impacts of economic activity on the environment.

The GNH Index and GDP can be used as complementary policy tools

Despite the limitations of monetary measures, GDP is one of the most widely used indicators of societal progress. By comparing GDP per person over time, policy makers can assess whether the economy is growing, shrinking, or stagnant. It is also used to track the performance of different sectors within the economy, such as manufacturing, services,

and agriculture. By looking at the contribution of each sector to overall GDP, policy makers can identify areas that are growing or declining and make decisions about where to allocate resources.

GDP is further used to assess the vulnerability of an economy to external shocks, such as a recession or a natural disaster. Countries with a high proportion of their GDP coming from a single sector or dependent on a single export commodity may be more vulnerable to economic shocks than countries with a more diversified economy.

The GNH Index helps establish an alternative development framework which is distinctively holistic in comparison to GDP. If certain dimensions contract or are pushed out by material progress, the GNH Index will explicitly convey this information as imbalances emerge, in order to catalyse public debate and, if appropriate, action. The GNH indicators help track outputs, and the GNH Index incentivises ministries to deliver services by demonstrating how their efforts will contribute to higher GNH the next time the Index is updated. Methodologically, this necessitates an index that can be disaggregated into its component indicators, which is exactly what the Index offers.

GNH Index also helps in directing resources depending on the indicator achievements and shortfalls over time. In terms of targeting, the GNH Index can show which *Dzongkhags* are lacking in which indicators, as well as identify and target the least happy people by age, district, gender, and so on. In terms of screening tools, the GNH indicators can be used as a checklist to convey the types of activities and achievements that constitute GNH in concrete terms.

The GNH component indicators are sensitive to changes over time. Some indicators must be directly responsive to policy changes. Holistic progress can be observed over time and across different sections of populations. Similarly, inequalities between groups can be identified, as can populations that require special attention.

The GNH Index and GDP can be complementary because they offer different perspectives on development and wellbeing. Using both measures as complementary policy tools can help policymakers make

more informed decisions that prioritize the overall welfare of the population and promote sustainable and inclusive development.

Are richer people happier?

To answer this, we investigate the relationships between happiness levels and income per capita. In the absence of disaggregated GDP data, we use the quintile of household per capita income in this analysis. An income quintile divides the population into five income groups (from poorest to richest income earners). Quintiles are numbers in statistics that divide a dataset into five categories of equal frequency. The first quintile denoted by 'poorest' here is the point at which 20% of all data values fall. The second quintile ('next poorest') represents the point at which 40% of all data values fall below it, and so on. To generate these income groups, household per capita income values were sorted and divided into five as follows:

1. 'poorest' refers to the 20% of the population who are earning the lowest 20% of the household per capita income.
2. 'next poorest' refers to the next 20 percentage of the population who are earning from 20% to 40% of the household per capita income.
3. 'middle quintile' refers to 20% of the population who are earning from 40% to 60% of the household per capita income.
4. 'next richest' refers to 20% of the population who are earning from 60% to 80% of the household per capita income.
5. 'richest' refers to the 20% of the population who are earning from 80% to 100% of the household per capita income.

Table 23 provides descriptive information on the sample sizes of each of the five income categories. Note that sampling weights have been applied to the results shared in this section, and when these are applied each quintile has 20% of the population even though the number of observations is slightly higher in the poorest quintiles.

Table 23: *Sample sizes in each of the household per capita income quintiles*

	2015 (n)	2022 (n)	Proportion of population
Poorest quintile	1,468	2,535	20%
Next poorest quintile	1,418	2,321	20%
Middle quintile	1,386	2,039	20%
Next richest quintile	1,384	2,084	20%
Richest quintile	1,365	2,008	20%

Source: Author's computations from 2015 and 2022 GNH Surveys

The GNH Index is made up of 33 indicators that are aggregated using an overall happiness cutoff of 66%, which means that a person must be sufficient in 66% of the 33 weighted indicators or nine weighted domains. This divides the population into two groups: happy and not-yet-happy.

Figure 31 shows the cross-tabulation between the incidence of happy and the household per capita income quintile over time. Comparisons across income quintiles show that the incidence of happy people is lowest in among the poorest group for both time periods (22.1% in 2015 and 29.2% in 2022) – so there is some relationship. But is it as strong as many imagine?

In 2015, the top-two income quintiles had the highest share of happy people (57.2% and 62.2%). In 2022, all three higher quintiles had roughly the same share of happy people (there is no significant difference between them), which was higher than the bottom two quintiles. But the richest quintile was not 'happier' than the third or even the middle quintile. People in the top 60% of incomes have similar shares of happy people – the richer segments do not have more.

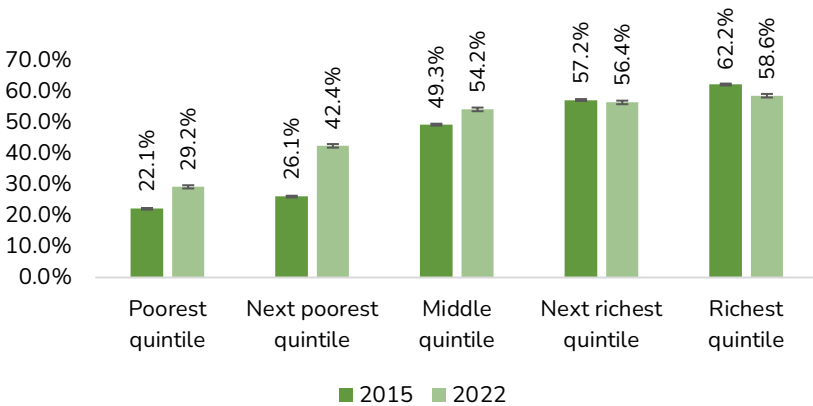
An additional finding is that, compared to 2015 data, GNH diverges further from income in 2022 than previously. In 2015, the richest income quintile had a higher proportion of happy people than in 2022 (62.2% vs. 58.6% were happy people). Yet even in 2015, despite being in the

highest income quintile, over one-third of the richest group (37.8%) was not-yet-happy.

At the other end of the income spectrum, in the poorest income quintile, in 2022 over one-quarter of people (29.2%) are categorised as happy, while in the second poorest quintile more than two in five people (42.4%) are happy. By the third quintile this is over half of people (54.2%). So among the poorer 40% of society many more are in the happy group in 2022. In 2015, only 22.1% of the poorest quintile people were classified as happy and 26.1% of the next poorest quintile were happy.

Still, in 2022, roughly 30% of the happy population in Bhutan belong to the two poorest quintiles and over half (52.2%) to the poorest three quintiles. So over half of the people classified as ‘happy’ have incomes in the bottom 60% of the population – a clear and thought-provoking finding, especially given the income focus of present policy discourse.

Figure 31: Percentage of happy people across household per capita income quintile, 2015- 22



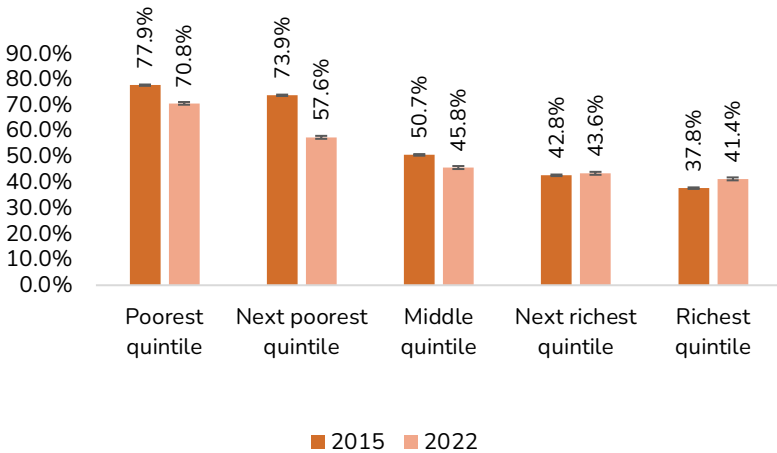
Source: Author’s computations from 2015 and 2022 GNH Surveys

Furthermore, the trend depicted in Figure 32 also indicates that that the not-yet-happy category includes a sizable proportion of the bottom-two income quintiles. Remember that incidence of happy people is a mirror image of the incidence of not-yet-happy people. This means that in

2022, 41.4% (100% - 58.6%) of richest income quintile are in the not-yet-happy group. In 2022, 43.6% of the 'next richest' quintile were not-yet-happy. Despite being in the top-two income quintiles, there are still considerable proportions of people who are not-yet-happy. Similar insights emerge from 2015, with 37.8% of the richest quintile classified as not-yet-happy.

Analysis of both the incidence of happy and not-yet-happy groups illustrates that there are people who earn less but are happy. And similarly there are people who are wealthy and yet are categorised as not-yet-happy. This is what distinguishes the GNH Index from income, and relatedly, from GDP. Income is not proportionate to the GNH Index. Both measures are needed as they provide interestingly different measures.

Figure 32: *Percentage of not-yet-happy people across household per capita income quintile, 2015- 2022*



Source: Author’s computations from 2015 and 2022 GNH Surveys

Next, we examine the distribution of happiness among the four happiness groups. People are classified into four groups based on their level of sufficiency across the 33 indicators: deeply happy, extensively happy, narrowly happy, and unhappy. Deeply happy people have adequacy in 77% to 100% of the 33 indicators; extensively happy

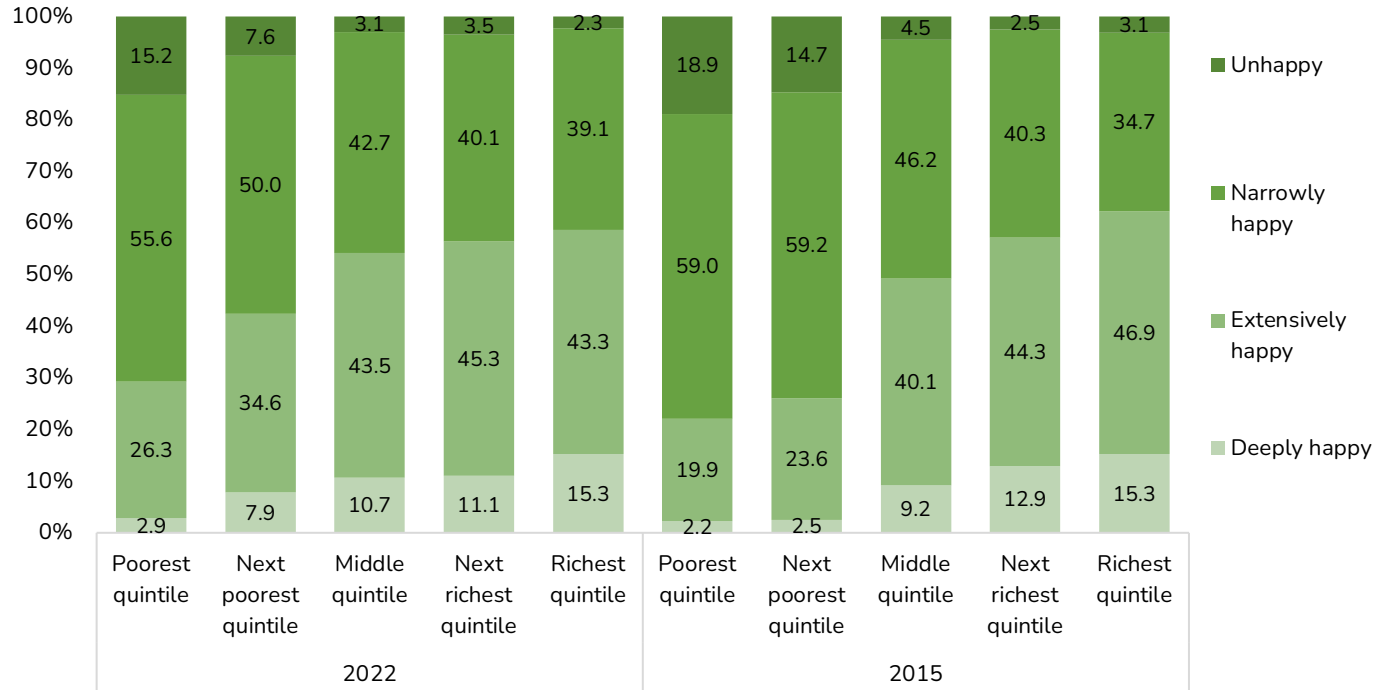
people have sufficiency in 66% to 76%; narrowly happy people have sufficient in 50% to 65%; and unhappy people have the least sufficiency level (0% to 49%).

We find that the poorest people, or the bottom 20% of the income quintile, have the largest proportions of unhappy people and the lowest proportions of deeply happy people – showing a clear relationship of extreme values. In 2022, the richest (top 20% of income quintile) had the highest share of deeply happy people (15.3%) and the lowest proportion of unhappy people (2.3%) (Figure 33).

Yet in 2022, the richest group of people (top quintile) do not have the highest percentage of people who are extensively happy: 43.3% of the top income quintile are extensively happy, then 45.3% in the second-richest income quintile, and 43.5% in the middle quintile.

In 2022, 39.1% of the richest group are narrowly happy, which indicates they have sufficiency in only 50% to 65.9% of the GNH indicators. As shared earlier, despite belonging to the richest segment, 41.4% (39.1+2.3) of the population is still in the not-yet-happy group (narrowly happy plus unhappy). So despite having some relationship in extreme values of GNH, income is not highly correlated with GNH.

Figure 33: Percentage of people across happiness gradients and household per capita income quintile, 2015–22



Source: Author's computations from 2015 and 2022 GNH Surveys

A look at the 2015 survey data also depicts similar trends.

But has the distribution changed? Have the rich people become happier, and have the poorest people's sufficiency decreased further?

If we look at top income quintile (richest), the proportion of deeply happy people has remained the same (15.3% in 2015 and 2022) but the proportion of extensively happy people has decreased (46.9% in 2015 to 43.3% in 2022). This finding reiterates that the GNH Index goes beyond income and that it considers many factors that equally contribute to happiness, such as relationships, health, environment, and culture. Money can certainly provide a certain level of comfort and security, but it does not guarantee sufficiency in the other GNH conditions that make a vital contribution to overall wellbeing and happiness.

If we shift our focus on the second-top income quintile, the 'next richest', the proportion of deeply happy people has deteriorated over time. However, share of extensively happy people has increased (44.3% in 2015 to 45.3% in 2022).

There has been the most progress among the poorest section in the extensively happy category, which has improved from 19.9% in 2015 to 26.3% in 2022.

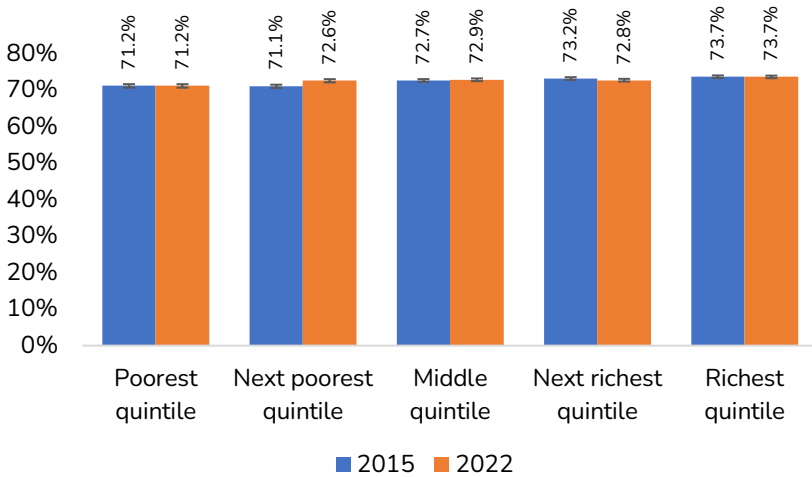
Overall, we see that progress in income does not mirror progress in GNH. Thus, there is a weaker relationship between income quintile and GNH in 2022, compared to 2015. These findings demonstrate a weakly favourable association between income and the GNH Index. A favourable association is expected considering that the GNH Index includes living standards as one of its domains.

Yet, it is worth noting that the GNH Index and income are not the same thing. If we rated people solely based on their GNH Index and income, we would get different results. What would be interesting to see further is if this association strengthens or weakens as people become wealthier. Does having more money lead to increased happiness or life satisfaction over time?

Let us now examine the average sufficiency and insufficiency among various income quintiles in the happy (deeply plus extensively happy) and not-yet-happy (narrowly plus unhappy) categories.

The average degree of sufficiency in the happy group did not differ significantly across the five household per capita income levels (Figure 34). The poorest happy people have an average sufficiency score of 71.2% during both years, whereas the richest happy people have an average sufficiency score of around 73.7%. The difference though marginal is found to be significant.

Figure 34: Average sufficiency in the 33 indicators across household per capita income quintile among happy people, 2015–22

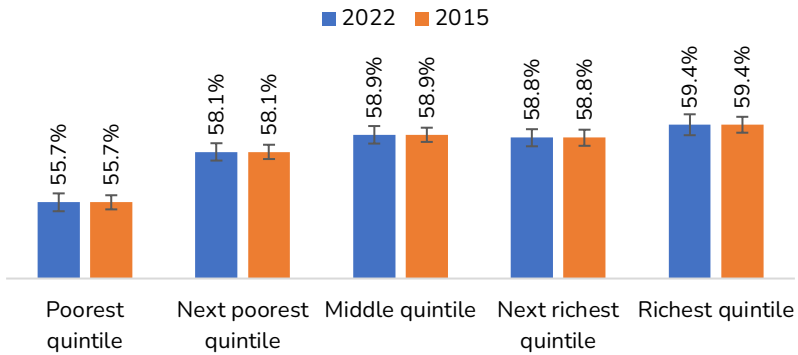


Note: Error bars represent 95% confidence intervals.

Source: Author’s computations from 2015 and 2022 GNH Surveys

Looking at the sufficiency levels across the not-yet-happy group, across time, average sufficiency appears to be slightly higher in the richer groups than in the poorer ones. In 2022, the top income earners have sufficiency in 59.4% of the GNH indicators, while the bottom income earners have sufficiency in 55.7% (Figure 35). However, there is no statistically significant difference between people in the middle and two richer quintiles.

Figure 35: Average sufficiency in the 33 indicators among not-yet-happy people, 2015–22



Note: Error bars represent 95% confidence intervals.

Source: Author’s computations from 2015 and 2022 GNH Surveys

Let us delve deeper into the deprivations because these are critical for policy considerations. Figure 36 compares deprivations (uncensored deprivation headcount ratios) in each indicator between the richest and poorest quintiles for 2022. The height of the bar shows the percentage of people in each quintile who lack sufficiency in each of the 33 indicators. So, are there any distinctions? Are the wealthiest always better off?

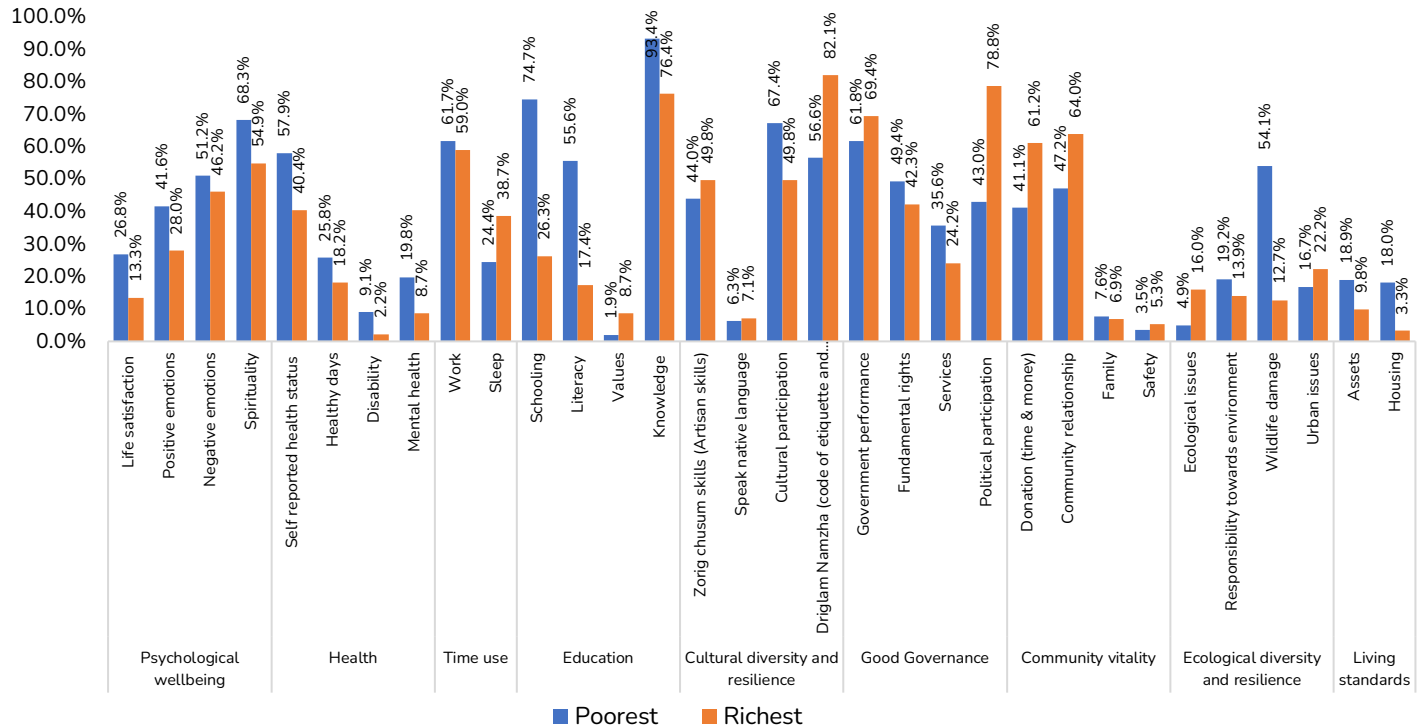
Looking first at indicators under psychological wellbeing and health indicators, deprivations are higher for the poorest. Monetary poor people have more challenges in health and psychological wellbeing than wealthy people. Similarly, the poorest quintile have higher deprivations in three education indicators (knowledge, literacy and schooling). When it comes to the value indicator, however, the richest people have a higher level of deprivations. 8.7% of the richest people are value deprived, compared to 1.9% of the poorest people.

The wealthiest people have greater problems with sleep since their level of sleep deprivations is higher. In terms of cultural participation, the poorest people are doing better, possibly because they socialise more at community festivals and gatherings. More of the richest group believe that *Driglam Namzha* is less important or is declining than the

poorest group. The richest group has larger deprivations in political engagement, meaning that they participate less proactively in *zomdues* and may possibly plan not to vote.

The richest people have worse community relationships since higher levels of deprivation are reported (64% of the richest people compared to 47.2% of the poorest). The richest people also donate less (61.2% are insufficient compared to 41.4 % of the poorest). This implies that people with higher incomes tend to donate a smaller percentage of their income or volunteer fewer days than people with far lower incomes.

Figure 36: Level of deprivation in the 33 indicators (raw/uncensored deprivation headcount ratios) across richest and poorest household per capita income quintile, 2022



Source: Author's computations from 2015 and 2022 GNH Surveys

So how do these patterns play out over time for the richest and poorest quintiles? Let us look at some absolute changes in censored deprivation headcount ratios across the 33 indicators (Figure 37).

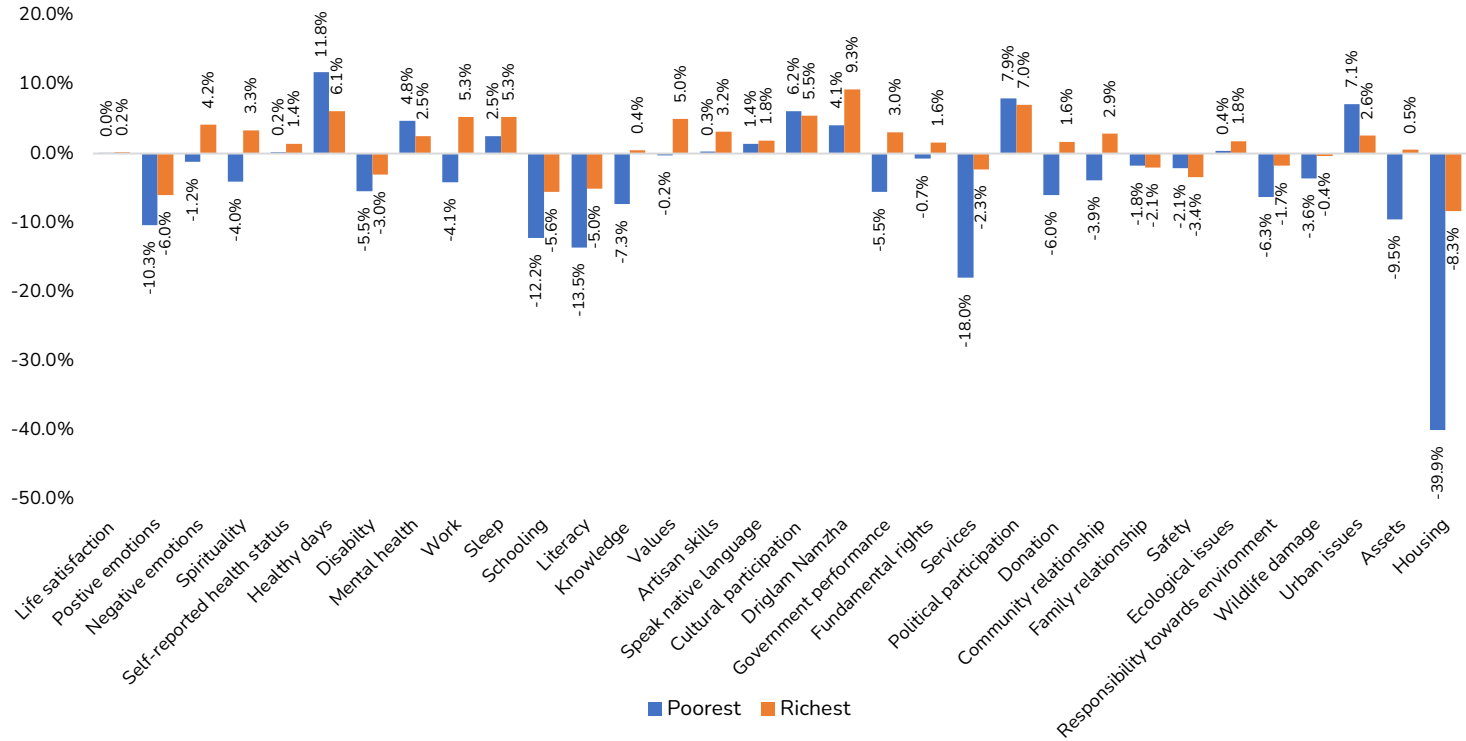
The highest decrease in the share of deprivation and not-yet-happy among the poorest people is in the housing indicator under the domain of living standards (-39.9 percentage points). The next highest decrease is in the services indicator. There is an improvement in almost all the indicators of the poorest group. Censored deprivations have also increased for healthy days (+11.8 percentage points) and political participation (+7.9 percentage points). Deprivation in healthy days has increased for both the richest and poorest people. Yet, the deterioration in health is more pronounced among the poorest people.

Since 2015, the richest group has seen little improvement in the indicators. The highest increase has been observed in the positive emotions indicator. However, there is a decrease in the proportion of people in the richest quintile who are happy and have achieved sufficiency in the culture indicators. There is also a decrease in the share of censored deprivation headcount in political participation among the richest quintile (+7 percentage points).

Both income quintiles (poorest and richest) improved the family and safety indicators under the community vitality domain, meaning that their family relationships are better and the communities in which they live are safer. Since 2015, deprivations in environmental threats, which include pollution and disasters, have decreased for both rich and poor people. Mental health has also improved for both groups (richest and poorest).

Work and sleep hours have deteriorated within the top income quintile group as the level of deprivation for both measures has increased significantly since 2015. As previously noted, the wealthiest also lag behind in the value indicator. The poorest quintile's lack of political participation has also grown over time. This suggests that, compared to 2015, the poorest elements of society are less interested in *zomdues* and are less likely to vote in 2022 – although more than the richest quintile. The richest and poorest quintiles therefore clearly have different kinds of GNH challenges.

Figure 37: Absolute changes in censored deprivation headcount ratios (share of people who are deprived and not-yet-happy) across poorest and richest quintile, 2022



Source: Author's computations from 2015 and 2022 GNH Surveys

Another way of understanding the difference between GNH Index and income is by looking at each of the three indicators in living standards which includes asset ownership, housing, and household per capita income. As discussed previously, each of the 33 GNH indicators has a specific sufficiency cutoff that determines whether a person is sufficient or insufficient in the indicator.

For this particular analysis, we apply these indicator sufficiency cutoffs to get an overall indicator representing the count of sufficiency in the living standards domain.

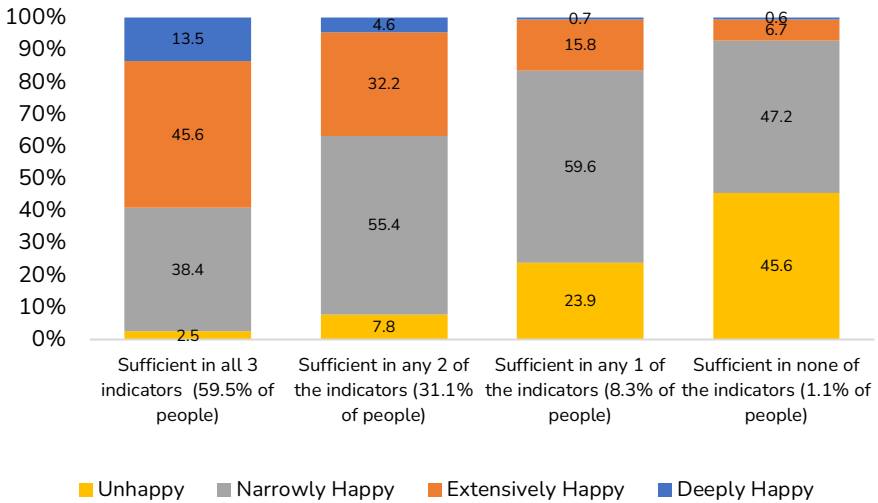
For example, people are classified as '0' if they are deprived in none of the three living standards indicators, '1' if they are sufficient in one but deprived in the other two indicators, '2' if they are sufficient in any two but deprived in one, and '3' if they are not sufficient in any of the three indicators.⁴⁶

We observe that nearly 60% of people are not deprived in any of the three living standards indicators (59.5%); while 31.1% are deprived in one, 8.3% in two, and only 1.1% in all three indicators. We then compare the happy groups based on the number of sufficiency indicators in the three living standards indicators.

Figure 38 shows a positive connection, that is, when people achieve sufficiency in more of the living standard indicators, there are bigger proportions in the happy group (deeply happy and extensively happy). Nonetheless, approximately 6.7% of people who enjoy sufficiency in none of the living standards indicators are extensively happy, and one in six ($15.8+0.7=16.5\%$) of those who are deprived in two of the three living standard indicators are deeply or extensively happy.

⁴⁶ The 2022 GNH survey data estimations using sampling weights indicate that 59.5% have sufficiency in 3 living standards indicators (sample size (n) is 6,160), 31.1% have sufficiency in 2 (n is 3,600), 8.3% in any 1 indicator (n is 1,069), and finally 1.1% in none of the indicators (n is 158). Sample sizes given are actual, that is without the application of sampling weights.

Figure 38: *Percentage of people across happiness gradients and sufficiency level in living standards, 2022*



Source: Author’s computations from 2015 and 2022 GNH Surveys

Next, we analyse the perception on wealth status variable. This question, which is part of the GNH survey questionnaire, asks respondents how they feel in terms of their wealth status in their community. There are five response categories for this indicator; extremely poorer than most households, a little poorer than most households, about the same as most households, a little wealthier than most households and much wealthier than most households.⁴⁷

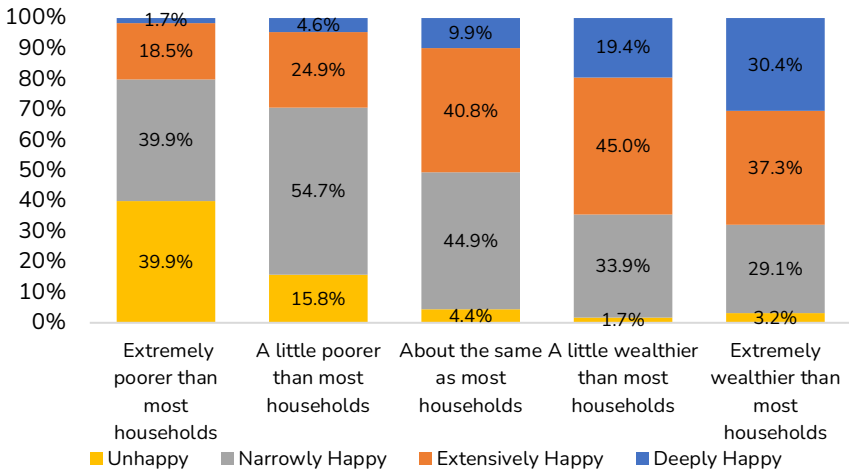
This statistic represents the qualitative counterpart to the income quintile. It addresses people's perceptions of where they fall on the income scale. Slightly sharper trends to the objective income measure can be seen (Figure 39). Over 20% of people who feel extremely poor in the community are extensively happy (18.5%) or deeply happy (1.7%). Nearly 30% of those who believe they are a little poorer than

⁴⁷ The 2022 GNH survey data found that around 1.2% said they feel extremely poorer than most households (sample size (n) is 154), 13% said they feel a little poorer (n is 1,515), 79% said about the same as most households (n is 8,729), 4.6% feel a little wealthier (n is 483), 0.2% said extremely wealthier than most households (n is 18). The sample sizes are actual, that is, before sampling weights are applied.

most households are classified as extensively happy (24.9%) or deeply happy (4.6%). So again, GNH and income often diverge.

When we zoom in on the group that feels considerably wealthier than most households, we discover that 29.1% are narrowly happy and 3.2% are unhappy, despite their self-assessment that they are richer than others. All these findings indicate that the GNH Index is somewhat related to wealth, but is a more precise and comprehensive measure. It takes into account other areas of life that are frequently overlooked in the pursuit of economic prosperity.

Figure 39: Percentage of people across happiness gradients and perception of wealth status, 2022

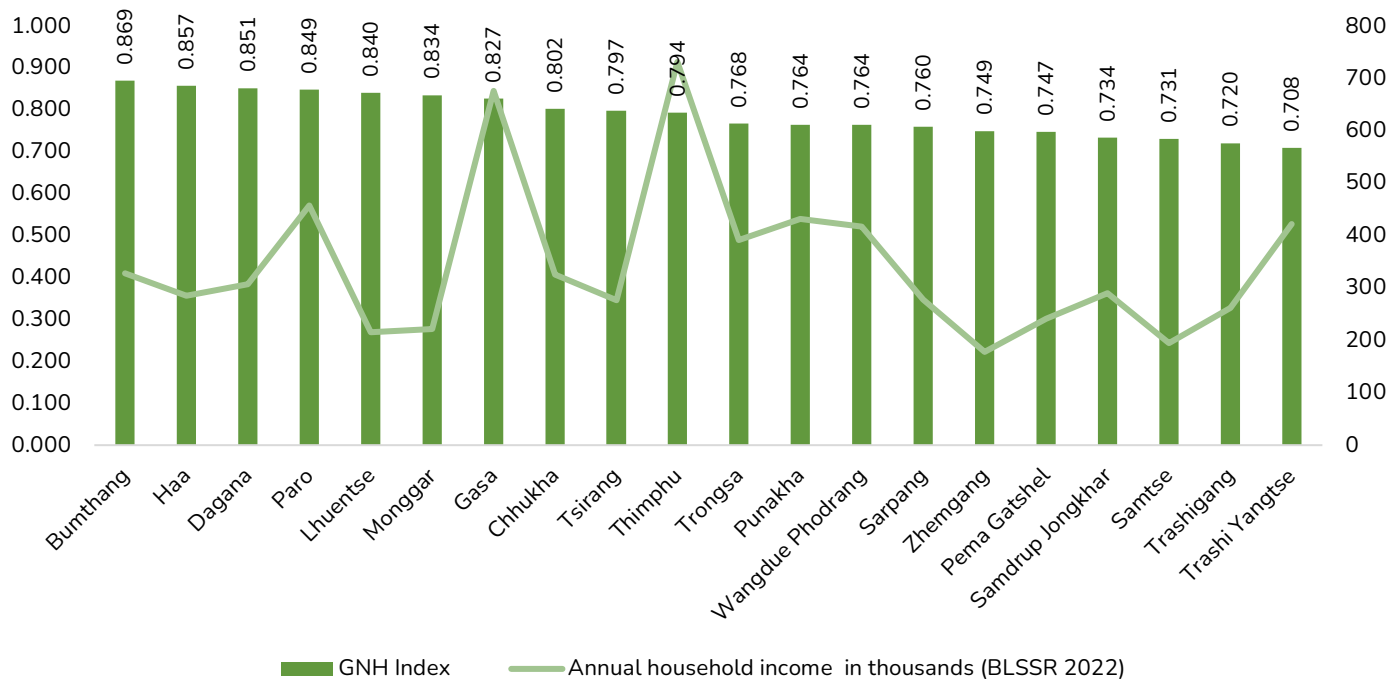


Source: Author’s computations from 2015 and 2022 GNH Surveys

Looking at the GNH rankings of districts using data sources from the Bhutan Living Standard Survey Report (BLSSR) 2022, we might expect a correlation that is with high income districts tending to have high level of GNH. Strikingly, this relationship is not evident. Rather, Thimphu, which has the highest yearly family income per capita, falls in the middle when evaluated by the GNH Index (it ranks 10 out of 20). Bumthang ranks highest on the GNH Index in 2022, yet it is not a wealthy district. Tashi Yangtse, which ranks the lowest in terms of the GNH Index, is not the poorest district (Figure 40).

Similarly, districts with high levels of happiness and wellbeing may not have more money. A district with high levels of community engagement and environmental sustainability, for example, may have lower income levels but rank highly on the GNH Index. A district with high income but low levels of social cohesiveness and environmental sustainability, on the other hand, may rank lower on the GNH Index.

Figure 40: National GNH Index and annual household income per capita by districts, 2022 (sorted by GNH Index value)



The results discussed in this chapter provide a definitive conclusion to our study that is the GNH Index and the monetary measures of income measure very different phenomena. Income measures cover one facet of wellbeing, namely economic prosperity, whereas GNH captures nine domains that contribute to total wellbeing. And they are not even highly correlated. This is vital to keep in mind when comparing income measures with the GNH Index. For instance, a nation with high income levels may experience difficulties in other GNH measures, which may have a detrimental impact on the welfare of its population. In contrast, a nation with a high GNH takes into account both income levels and living standards through its domain of living standards, as well as other equally important factors that support a high quality of life for its population.

Chapter 4: Exploring Happy Profiles in the GNH Index

This chapter presents a range of profiles that GNH happy people experience. The GNH profiles show the different and various paths to flourishing that people are already pursuing. As per the GNH Index, happy Bhutanese have pursued a wide variety of different vivid and creative ways of flourishing. There is no ‘one size fits all’ – and each person can shape and advance their own fulfilment and joy in life. Those who are happy according to the GNH Index will usually lack, or have chosen not to pursue, sufficiency in some indicators according to their circumstances or values.

The chapter provides anecdotes and narratives on people's lives. In particular, it highlights personas depicting various flourishing patterns in GNH, typical of certain groups. Personas, in this context, are fictional characters that represent common behaviours, motivations, and challenges people face across the 33 GNH indicators. By creating personas of happy people with different GNH profiles, policy makers can gain a deeper understanding of the diverse paths to happy lives in a pluralistic GNH society, which in turn can help recommend policies and programmatic action plans that affirm diverse life plans.

Methodology

To create profiles, three levels of analysis were performed on 2022 GNH survey data, mainly involving the status of the GNH Index and 33 indicators. The aim was to examine the data for patterns that could help uncover common features and behaviours among happy Bhutanese people. Note that the happy people here refer to those who have achieved sufficiency in at least 66% of the weighted domains or indicators. In an attempt to develop more focused personalities and life conditions, profile clustering was carried out on common indicators that happy people enjoyed sufficiency in.

Redundancy tests were carried out, and then censored sufficiency headcount ratios for a range of common demographic clusters of GNH

happy people were investigated. Narratives were developed for the various settings and conditions for the 33 indicators by integrating the patterns and trends that emerged from the investigation. Our profiles include sketches of the environmental conditions, attitudes, and behaviours across the nine GNH domains, and were further informed by a subsample of qualitative field interviews carried out during the GNH survey period.

Lets look at the process in greater depth. Redundancy coefficients were first generated to assess the strengths of association across GNH indicators. Using the redundancy coefficient we generate the proportion of happy people who are sufficient in any of the two indicators.

Proportion of happy people who are sufficient in two indicators

Proportion of happy people who are sufficient in two indicators=
(Redundancy coefficient*minimum value from the two censored sufficiency headcount ratios)/Share of happy people

Example: Redundancy coefficient is 52% between positive and negative emotions. Positive emotions' censored sufficiency headcount ratio is 25% of the population and for negative emotion, it's 27.5%. So the minimum of both numbers (which by definition is the denominator) is 25%. What this means is that 52% of 25% - so $.52 \times 25\% = 13\%$ of the population. We know that 48.1% of the population have been classified 'deeply' or 'extensively' happy people in 2022, hence this means that $13\%/48.1\% = 27\%$ of all 'deeply' or 'extensively' happy people have sufficiency in both the indicators (positive emotion and negative emotion)

The estimate explained in the box show the percentage of the population that are both happy but have achieved sufficiency in both indicators. So, if the estimate is 100%, it means happy people who could have had sufficiency in both indicators actually have both. If the estimate is 0%, then none of the happy people are sufficient in both indicators at the same time. The redundancy tests thus make visible the interactions and overlaps between indicators. and help us in understanding traits that are related. This helps us to identify indicators that appear to trend in the same direction. These observations are eventually integrated in the profile narratives.

Second, subsamples were created based on the insights drawn from the redundancy analysis and using seven demographic features including gender (male and female); occupational status (farmers, public/private/self-employed/freelance working in non-farming sector, homemaker, student, monk/nun and pensioner); age (young referring to those aged 15 to 29, middle-aged for those from 30 to 59 and elderly for those who are 60 and above); educational level; region (urban and rural); marital status (never married or married); and household size (single household, small household of two to five members). Demographic clusters with an unweighted sample size with at least 50 people were selected. Table 25 depicts the 11 demographic combinations organised based on sex and occupation, which are further divided based on age, region, and education level.

Third, to enhance the construction of the profiles, we examine censored sufficiency headcount ratios (the share of population who are happy and sufficient in each indicator) of the subsamples. This is further animated by qualitative interviews that were carried out by CBS researchers.

Redundancy analysis across GNH indicators

The redundancy table for the censored sufficiency matrix for 2022 is shown in Table 24. Remember that the censored sufficiency headcount ratios represent the proportion of people who are happy and experience sufficiency in each indicator. The redundancy coefficient is the percentage of the population that experience censored sufficiency in both indicators divided by lower of the two censored sufficiency headcount ratios (which are presented in the lowest row).

Through the assessment of redundancy coefficients, we find common clusters and patterns of sufficiency levels that individuals experience. While analysis can be carried in multiple ways, we start by concentrating on the highest and lowest redundancy coefficients between indicators.

Let us start by explaining the redundancy results by explaining with more examples. The life satisfaction trends well with the mental health indicator (96.7%) and native language indicator (96.2%). If we compute

the joint distributions then we get that around 2.5% (0.967×2.62 where 2.6% is the lower censored sufficiency headcount ratio, in this case it belongs to mental health indicator). So, 2.5% of the population are sufficient in life satisfaction and mental health indicator and of the happy people, 5.3% ($2.5/48.1$) have achieved sufficiency in both life satisfaction and mental health indicator.

Overall, we may deduce that if a profile has high levels of life satisfaction, they may also have high levels of value and native language fluency. Similarly, a profile that has high life satisfaction may also have good mental health. The profile may be expanded to add a story on how they have a high number of healthy days. This profile may also include aspects such as a high safety index and good ecological conditions. Since life satisfaction has a high level of redundancy with all the indicators, this profile would enjoy high level of sufficiency in the GNH indicators.

Looking at some more indicators, compared to the other indicators, positive emotions do not have a high redundancy with negative emotions. For example, we observe a redundancy coefficient of 52% which would mean that 13% of the population (have sufficiency in both indicator and 27% of all happy people have sufficiency in both. This suggests that happy people who express strong positive feelings may express strong negative emotions. Happy people who are sufficient in positive emotions does not imply that they will be sufficient in negative emotions and vice versa.

The spirituality measure has the least overlap with schooling (49.7%). This suggests that among the population (0.497×22.6 (22.6% is the lower censored sufficiency headcount ratio. Here it belongs to spirituality) 11.2% have sufficiency in both spirituality and schooling. 23% ($11.2/48.1$) are happy and sufficient in both the indicators.

Let look at mental health and work. Redundancy coefficient is 57.5%. The lower censored sufficiency headcount ratio belongs to work (25.5%), hence 14.7% (0.575×25.5) of the population are sufficient in both mental health and work, and among happy people the percentage

is (14.7/48.1) 30.6%. This indicates the presence of happy people who have rated low on mental health and low on work.

In terms of the knowledge indicator under the education domain, the redundancy coefficients indicate that people who have sufficiency in the knowledge indicator may not have sufficiency in the *Driglam Namzha* indicator since their joint distribution is the lowest. This means that people who have an understanding of the Constitution, local legends, local festivals and HIV/AIDs, perceive the practice of *Driglam Namzha* to be deteriorating.

Table 24 shows low redundancy coefficients in red (indicating low redundancy), medium in yellow, and high redundancy coefficients in green. The censored sufficiency headcount ratios are on the bottom line of the table. Note that to incur a conclusion, share of joint distributions need to be estimated based on the formula provided in the box above.

Table 24: Redundancy coefficients using censored sufficiency matrix, 2022

	Ind 1	Ind 2	Ind 3	Ind 4	Ind 5	Ind 6	Ind 7	Ind 8	Ind 9	Ind 10	Ind 11	Ind 12	Ind 13	Ind 14	Ind 15	Ind 16	Ind 17	Ind 18	Ind 19	Ind 20	Ind 21	Ind 22	Ind 23	Ind 24	Ind 25	Ind 26	Ind 27	Ind 28	Ind 29	Ind 30	Ind 31	Ind 32	Ind 33						
Ind 1																																							
Ind 2	0.925																																						
Ind 3	0.948	0.520																																					
Ind 4	0.927	0.662	0.604																																				
Ind 5	0.959	0.581	0.664	0.557																																			
Ind 6	0.945	0.930	0.955	0.931	0.960																																		
Ind 7	0.947	0.937	0.941	0.918	0.987	0.953																																	
Ind 8	0.967	0.959	0.981	0.955	0.974	0.969	0.965																																
Ind 9	0.917	0.594	0.603	0.562	0.577	0.937	0.933	0.955																															
Ind 10	0.929	0.806	0.805	0.767	0.819	0.938	0.941	0.959	0.853																														
Ind 11	0.927	0.591	0.584	0.497	0.628	0.942	0.958	0.963	0.602	0.800																													
Ind 12	0.931	0.711	0.687	0.679	0.730	0.942	0.955	0.963	0.705	0.811	0.988																												
Ind 13	0.987	0.987	0.988	0.987	0.986	0.987	0.987	0.987	0.987	0.987	0.987	0.984																											
Ind 14	0.927	0.682	0.574	0.631	0.673	0.941	0.949	0.955	0.546	0.748	0.772	0.893	0.968																										
Ind 15	0.928	0.692	0.685	0.687	0.668	0.933	0.937	0.958	0.649	0.817	0.634	0.690	0.989	0.669																									
Ind 16	0.962	0.960	0.967	0.967	0.958	0.961	0.961	0.962	0.951	0.958	0.944	0.954	0.987	0.962	0.959																								
Ind 17	0.927	0.588	0.633	0.595	0.577	0.933	0.933	0.955	0.555	0.799	0.497	0.668	0.987	0.565	0.698	0.967																							
Ind 18	0.941	0.574	0.645	0.555	0.586	0.934	0.931	0.955	0.545	0.810	0.377	0.585	0.989	0.312	0.716	0.966	0.582																						
Ind 19	0.950	0.611	0.606	0.526	0.636	0.931	0.928	0.963	0.570	0.807	0.495	0.681	0.987	0.420	0.683	0.950	0.547	0.483																					
Ind 20	0.938	0.570	0.629	0.556	0.626	0.954	0.953	0.966	0.575	0.819	0.560	0.705	0.984	0.586	0.652	0.960	0.567	0.531	0.632																				
Ind 21	0.932	0.751	0.756	0.729	0.758	0.941	0.945	0.957	0.745	0.812	0.797	0.777	0.987	0.773	0.748	0.961	0.727	0.722	0.747	0.759																			
Ind 22	0.935	0.565	0.672	0.556	0.591	0.934	0.930	0.960	0.512	0.804	0.352	0.596	0.990	0.444	0.721	0.971	0.674	0.599	0.514	0.558	0.680																		
Ind 23	0.923	0.618	0.638	0.590	0.581	0.930	0.939	0.957	0.527	0.798	0.472	0.674	0.986	0.622	0.737	0.960	0.657	0.582	0.532	0.524	0.700	0.694																	
Ind 24	0.934	0.556	0.671	0.568	0.610	0.942	0.934	0.962	0.543	0.807	0.437	0.637	0.986	0.552	0.694	0.969	0.607	0.584	0.520	0.571	0.718	0.628	0.609																
Ind 25	0.953	0.943	0.957	0.952	0.953	0.952	0.950	0.963	0.946	0.949	0.942	0.948	0.989	0.933	0.950	0.961	0.944	0.964	0.954	0.956	0.950	0.958	0.948	0.956															
Ind 26	0.947	0.939	0.954	0.949	0.950	0.949	0.948	0.966	0.939	0.944	0.926	0.934	0.986	0.900	0.939	0.962	0.939	0.960	0.952	0.957	0.945	0.951	0.931	0.958	0.955														
Ind 27	0.939	0.835	0.889	0.861	0.872	0.942	0.942	0.963	0.865	0.876	0.833	0.851	0.989	0.802	0.882	0.963	0.875	0.907	0.894	0.865	0.862	0.927	0.878	0.905	0.950	0.953													
Ind 28	0.936	0.864	0.863	0.893	0.860	0.942	0.940	0.961	0.839	0.853	0.870	0.862	0.988	0.920	0.861	0.964	0.851	0.852	0.864	0.863	0.857	0.860	0.861	0.882	0.957	0.946	0.874												
Ind 29	0.935	0.735	0.757	0.693	0.775	0.946	0.955	0.962	0.763	0.818	0.840	0.804	0.987	0.736	0.740	0.957	0.705	0.702	0.731	0.739	0.802	0.578	0.672	0.659	0.948	0.944	0.851	0.847											
Ind 30	0.937	0.880	0.906	0.886	0.896	0.941	0.943	0.962	0.890	0.900	0.866	0.881	0.988	0.815	0.900	0.963	0.891	0.928	0.916	0.892	0.895	0.933	0.897	0.922	0.952	0.951	0.943	0.899	0.883										
Ind 31	0.933	0.894	0.896	0.895	0.890	0.940	0.943	0.960	0.894	0.893	0.935	0.920	0.986	0.930	0.885	0.960	0.891	0.868	0.890	0.898	0.905	0.871	0.876	0.880	0.955	0.945	0.891	0.901	0.913	0.896									
Ind 32	0.933	0.774	0.766	0.745	0.781	0.942	0.951	0.965	0.774	0.811	0.855	0.816	0.986	0.837	0.738	0.964	0.742	0.708	0.750	0.784	0.787	0.640	0.696	0.710	0.947	0.939	0.853	0.864	0.821	0.886	0.915								
Ind 33	0.930	0.763	0.753	0.753	0.750	0.944	0.939	0.961	0.755	0.812	0.805	0.770	0.987	0.780	0.723	0.961	0.717	0.713	0.760	0.783	0.779	0.688	0.697	0.713	0.950	0.950	0.856	0.864	0.773	0.888	0.916	0.816							
Censored sufficiency headcount ratio	0.405	0.250	0.275	0.226	0.262	0.409	0.410	0.418	0.255	0.358	0.231	0.308	0.428	0.064	0.298	0.417	0.250	0.191	0.166	0.242	0.331	0.220	0.234	0.220	0.413	0.411	0.380	0.373	0.328	0.391	0.391	0.335	0.329						

GNH 2022

Note: Ind 1 (Life satisfaction), Ind 2 (Positive emotions), Ind 3 (Negative emotions), Ind 4 (Spirituality), Ind 5 (Mental health), Ind 6 (Self-reported health status), Ind 7 (Healthy days), Ind 8 (Disability), Ind 9 (Work), Ind 10 (Sleep), Ind 11 (Literacy), Ind 12 (Schooling), Ind 13 (Knowledge), Ind 14 (Values), Ind 15 (Speak native language), Ind 16 (Cultural participation), Ind 17 (*Zorig chusum* skills), Ind 18 (*Driglam Namzha*), Ind 19 (Government performance), Ind 20 (Fundamental rights), Ind 21 (Services), Ind 22 (Political participation), Ind 23 (Donation (time & money)), Ind 24 (Community relationship), Ind 25 (Family), Ind 26 (Safety), Ind 27 (Ecological issues), Ind 28 (Urban issues), Ind 29 (Responsibility towards environment), Ind 30 (Wildlife damage), Ind 31 (Assets), Ind 32 (Housing) and Ind 33 (Household per capita income).

GNH profiles

We now turn to expressing the variety of paths of GNH profiles using typologies based on combinations of different demographical characteristics. Table 25 presents 11 broad profile clusters, each of which have an adequate sample size. Further subgroups are probed to create diverse profiles. Each of these profiles are built using the censored sufficiency headcount ratios for indicators. A list of indicators with greater, medium, and low sufficiency headcounts are recorded to be incorporated into the profile narratives. Additional insights were also drawn from redundancy test results to verify that the narratives capture GNH conditions that are associated with one another.

Table 25: Demographic features of the profiles, 2022

Sl no.	Key demographic features	Subgroups
1	Literate female farmers	<ul style="list-style-type: none"> • Young literate female farmers in rural areas • Middle-aged literate female farmers in rural areas • Middle-aged female farmers with middle secondary education in rural areas
2	Illiterate female farmers	<ul style="list-style-type: none"> • Young illiterate female farmers in rural areas • Middle-aged literate female farmers in rural areas • Elderly female farmers with middle secondary education in rural areas
3	Literate male farmers	<ul style="list-style-type: none"> • Young literate male farmers in rural areas • Middle-aged literate male farmers in rural areas • Elderly literate male farmers in rural areas • Middle-aged male farmers with middle secondary education in rural areas
4	Illiterate male farmers	<ul style="list-style-type: none"> • Middle-aged illiterate male farmers in rural areas • Elderly male farmers in rural areas
5	Female public/private/self-employed/freelance	<ul style="list-style-type: none"> • Young married female with at least higher secondary education in urban areas • Middle-aged married female with at least higher secondary education in urban areas

Sl no.	Key demographic features	Subgroups
6	Male public/private/self-employed/freelance	<ul style="list-style-type: none"> • Young male with at least higher secondary education in urban areas • Middle-aged married male with at least higher secondary education in urban areas • Elderly male
7	Literate homemaker (taking care of household, family)	<ul style="list-style-type: none"> • Young married homemaker with higher secondary education in urban areas • Middle-aged married homemaker with higher secondary education in urban areas
8	Illiterate homemaker (taking care of household, family)	<ul style="list-style-type: none"> • Young married illiterate homemaker in urban areas • Middle-aged married illiterate homemaker in urban areas • Elderly illiterate homemaker
9	Monk/nun/ <i>gomchen</i>	<ul style="list-style-type: none"> • All monks/nuns/<i>gomchens</i> grouped together
10	Student	<ul style="list-style-type: none"> • Students aged 15 to 19 in urban areas from small households • Students aged 20 to 30
11	Pensioner/retiree	<ul style="list-style-type: none"> • Pensioners in urban areas

The following demographic profiles of happy people were created based on the redundancy test results and the analysis of censored sufficiency headcount ratios. As cited earlier, each profile has been chosen so that the sample size is at least 50 observations. The profiles were generated by assessing happy people's life circumstances across the GNH 33 indicators. It should be noted that the characterisations were based on the censored sufficiency headcount ratios, which means that if the ratios were high, the narratives would provide a good spin to the story, and if the ratio was low (deprivation), the narratives would offer a negative spin. Similarly, insights from redundancy coefficients, that is sensing indicators that are associated (high joint distributions) were kept in mind so that they were well portrayed in the narratives. Table 26 shows the unweighted sample sizes of the profiles identified and Table 27 presents the censored sufficiency headcount ratios across the nine profiles.

Table 26: *The unweighted sample sizes of the profiles*

Demographic features	Demographic traits								
	Sex	Female	Female	Male	Female	Male	Female	All	All
Literacy	Literate	Illiterate	Literate	Literate	Literate	Illiterate	All	Literate	All
Age group	Young: 15 to 29	Elderly: 60 and above	Middle-aged: 30-59	Young: 15-29	Middle-aged: 30-59	Middle-aged: 30-59	All	Young: 15-29	All
Marital status	All	All	All	Never married	Married	Married	All	Never married	All
Occupation	Farmers	Farmers	Farmers	Private/business/public service/self-employment	Private/business/public service/self-employment	Home-maker (taking care of household or family)	Monk	Student	Pensioner
Education level	None	None	None	At least high secondary education	Middle-aged: 30-59	None	All	All	All
Stratum	Rural	Rural	Rural	Urban	Urban	Urban	All	All	All
Household size	1-5 members	All	1-5 members	All	All	All	All	All	All
	Profile 1	Profile 2	Profile 3	Profile 4	Profile 5	Profile 6	Profile 7	Profile 8	Profile 9
Total unweighted GNH survey sample size	10987	10987	10987	10987	10987	10987	10987	10987	10987

GNH 2022

Demographic features	Demographic traits								
Unweighted sample size of the profile	200	531	448	101	193	222	136	70	66
Total weighted population size	141596	141596	141596	141596	141596	141596	141596	141596	141596
Weighted population size of the profile	2040.9	5365.9	4730.9	2326.6	3840.5	3438.3	1688.5	1426.4	1227.3
Share of happy people (deeply + extensively happy people)	54.7	31.5	58.9	39.1	64.9	35.8	55.9	54.3	50.4
Count for share of happy people from unweighted sample size	109.4	167.2	263.7	39.5	125.2	79.5	76.1	38.0	33.3

We outline a range of profiles below. Note again that the names, occupational statuses, sexes, age and locations are all fictional

1. A 28-year-old educated female farmer from rural Lhuentse

In the 2022 GNH survey, there were approximately 200 young females aged less than 30 years, literate farmers from small households, that is households with at least three to five members and living in rural areas.

Pema Choden, 28 years old, had finished lower-middle school but had to drop out to help her parents on the farm. She had two younger siblings to look after and has experience working on her family's farm since she was 8 years old. She enjoyed working on the farm and had become an expert in vegetable gardening. She has been classified deeply happy as she has achieved sufficiency in 79% of the weighted GNH indicators.

Psychological wellbeing: Generally, she is content with her existence in the village. She adores her village and experiences strong social connections. She feels content and joy when she is weaving. She also enjoys farming activities, but at times she is also worried as a result of farming obstacles such as wildlife damage and rising issues with irrigation sources. She fears that if these challenges worsen, her family's livelihood may suffer. She considers herself a Buddhist and as spiritual person visits locations of spiritual significance during holy days, but she has never meditated or recited prayers on a regular basis.

Health: Pema is in good health overall, but she does get fatigued when tasks get out of hand.

Time use: She frequently needs to travel to the village labour exchange because she is the eldest in the family and her parents are aging. That can be especially stressful for households like hers, where the majority of the members are females. Because they are perceived to have less strength, they frequently obtain fewer offers for labour exchange. She works an average of 14 hours every day. She gets up at 5.30 a.m. and goes to bed between 8 and 9 p.m. She is either weaving, working in the field or cooking, cleaning, and performing other domestic duties. She also at times engages in paid labour to earn extra cash. In her village, she often needs to trade her labour for the labour of others, rather than relying on cash payments. For example, one farmer may need help with

planting or harvesting crops, while another may need help repairing a fence or building a house. Farmers in her village often exchange their labour, with each providing the other with the assistance they need. She can, however, sleep undisturbed.

Education: She has completed middle school and is frequently depended on by locals to assist them in communicating with people via social media. While she learned most of her farming skills through informal channels such as family and neighbourhood networks, she attempts to learn more about farming through social media. She knows little about the Constitution or historical stories.

Cultural diversity and resilience: *Kurtop*, her mother tongue, is spoken by everyone in her household and in the neighbourhood. She also does a lot of weaving, which she acquired from her mother. She enjoys cultural activities such as festivals and rituals, which are frequently held at the community Lhakhang. However, due to pandemic-related restrictions, such gatherings have been drastically reduced in recent years. She believes that, as a result of modernisation, *Driglam Namzha* has deteriorated with time and is becoming weaker, as most adolescents are not interested in practicing it.

Good governance: She is often expected to attend most village-level meetings because she is one of the few educated members of the community. She also represents her family. Most of the time, she observes and listens in order to help those who are having difficulty comprehending developmental jargon. She voiced her suggestion on a wildlife issue once during a meeting. She believes that government performance has not improved significantly, it has remained consistent throughout time. She is aware of her fundamental rights, but she frequently believes that individuals with more power and money have more say and benefits. In terms of services, the distance to the nearest BHU is minimal, but she believes that the health service BHU should be upgraded. She is pleased with the gewog's energy connection and the quality of drinking water.

Community vitality: She was born and raised in the village and hence has a strong sense of belonging to it. She adores her family, especially

her parents and siblings, with whom she has a wonderful bond. Her neighbourhood is likewise quite safe; there is no crime in the hamlet. She could leave her house without locking it, and no one would steal anything. Members routinely donate one other's time during times of need due to the community's cohesiveness. For example, upon her neighbour's funeral, she volunteered for the rites for up to 14 days.

Ecological diversity and resilience: She has had a fascination with the forest since she was a child. She would frequently join her father to the forest in search of non-wood resources, which her father had trained her to collect in a sustainable manner. She is deeply grateful for the local environment and natural resources, which has helped bring in extra cash, and aims to use these resources responsibly for their livelihoods. She appreciates the pure air and water in the village and compares it to those in the capital, which are contaminated. She believes that everyone is accountable for environmental conservation. Her sole grievance is with the wildlife that has become a menace to the crops.

Living standards: Pema is satisfied with the dwelling quality in which she now resides. While her weaving and farm produce provide a good living, she believes the community has restricted access to resources and market prospects, which may limit the village's export opportunities. Her family owns approximately three acres of property, which is plenty for the time being. She believes that if she had easy access to markets, she could earn better prices for her textiles and crops.

2. A 70-year-old illiterate female farmer from rural Pema Gatshel

The 2022 GNH survey included 531 elderly (60 and older) illiterate female farmers. The persona here was created by evaluating the conditions across the 33 indicators for this particular demographic profile.

Categorised under the extensively happy group, Karma Lhadon, a 70-year-old Pema Gatshel woman, lives in a rural area. She enjoys sufficiency in at least 66% of the 33 GNH indicators. She has spent her entire life as a farmer. Pema is illiterate, having never had the opportunity to attend formal school. She is the mother of six children,

three sons and three daughters. Her husband passed away a few years ago. Her youngest child is 18 years old, just finished grade 12, and is in the capital looking for work. Others work for the government in surrounding districts. The household is now headed by the eldest daughter and her husband.

Psychological wellbeing: Karma's life is marked by a strong sense of positivity. She enjoys and is satisfied with her career, and she takes pride in providing for her family. Her relationship with nature also gives her a sense of tranquillity and calm. Karma, on the other hand, has negative emotions, especially when her crops are devastated by wildlife. Despite the difficulties, being a highly spiritual person, she feels resilient. She believes in the power of the local deities to keep her and her family safe, and her harvests prosperous.

Health: Despite facing some challenges due to her age, such as joint pain, difficulty in walking and deteriorating eyesight, Karma remains optimistic and happy. Her active lifestyle and diet, which includes locally grown produce and free-range cattle, she credits for her otherwise good health. She has access to basic healthcare facilities in her community.

Time use: Karma devotes the most of her time to farming and caring for her family. She spends the majority of her days in her fields assisting her daughter and her son in law in growing a range of crops such as maize, and vegetables. She often spends the night in the field to protect her crops from wild animals. Monkeys stole more than half of their harvest last year.

Education: Karma feels that she has limited access to opportunities since she never went to school. She is unfamiliar with HIV/AIDs and the Constitution, but she is familiar with tales of local legends. She has, nonetheless, obtained practical farming knowledge and skills. She does not have access to contemporary technology such as smartphones, so she must rely on word-of-mouth communication to keep up with current events. She cherishes education, though, and encourages her children and grandkids to pursue it. She believes that education can provide them with more options and improve their overall quality of life.

Cultural diversity and resilience: Like most Bhutanese, she is proud of her Bhutanese ancestry and culture. She speaks *tshanglakha* and is never seen in any other dress but *kira*. She believes that it is critical to preserve Bhutanese culture for future generations. She used to weave, but her eyesight no longer allows this. Likewise, she is not able to participate in cultural activities as she did when young. She also feels the traditional code of etiquette is deteriorating overall.

Good governance: She is aware of Bhutan's democratic system, but she does not actively participate in *zomdues* due to a lack of exposure. She also feels she has limited knowledge on how government is performing overall and whether services are being delivered effectively. However, she is aware of the government's agricultural programmes in the village and feels that they benefit farmers like herself.

Community vitality: Karma's community is small but supportive. She has numerous friends and family who come to see her and assist her with her farming operations. She also takes part in community events like festivals and religious ceremonies, which give her a sense of belonging and connection.

Ecological diversity and resilience: Karma has a deep awareness of the environment around her, despite her lack of formal schooling. In the past the community encountered difficulties such as forest fires, but they banded together to assist one another. Karma believes that overcoming misfortune requires community resilience.

Living standards: Karma and her family at times struggle to make ends meet despite working hard every day to tend to their crops and livestock. One of the most serious problems they confront is the loss of crops and animals due to wildlife. Karma lives in a region where wild animals such as monkeys and boars frequently assault their property, destroying crops and killing cattle. The dwelling also requires minor repairs.

3. *A 45-year-old educated male farmer from Paro*

The 2022 GNH survey included 83 middle-aged (30 to 59) educated farmers from rural regions.

Tenzin Dendup has been classified in the deeply happy group as he enjoys sufficiency in at least 77% of the nine domains of GNH. He has three children, all of whom are in school.

Psychological well-being: Tenzin is typically happy with his life, but is frequently concerned about the education of his children. One of them is not doing well in school. He is frequently frustrated when his children do not listen to him when it comes to studying. However, he finds peace due to his strong sense of spirituality, but he is unable to keep up with the practices, including prayer recitation and meditation. He tries to be as kind and forgiving as possible.

Health: Tenzin puts a great deal of importance on his health. His busy farm life keeps him fit, and while he often feels agitated when his farm product does not fetch the right price, he relies on rental income to make ends meet. He rents out one room in his traditional house to a teacher.

Time use: Tenzin gets up early and spends the majority of his day working on his farm. He also has a Facebook page where he promotes agricultural products. He wished he could spend more time with his family, but farm labour keeps him busy and work typically finishes only by 8 p.m., leaving him little time for leisure. He also attends community meetings and events. He can, however, sleep well.

Education: Tenzin studied until middle secondary school in Paro. He often browses the internet to explore innovative farming methods and to learn more about seed varieties.

Cultural diversity and resilience: Tenzin is proud of his native tongue, but he is concerned that his children prefer to communicate in English rather than Dzongkha. He has some artisan talents, such as masonry, carpentry, and painting. He tries to attend as many community events

as possible, although he is sometimes too busy. He believes that the younger generation is less interested in culture and *Driglam Namzha*.

Good governance: He is concerned about the performance of the government in providing services. He believes that health and education services may be improved further. He is completely informed of his rights and frequently attends village or town-level meetings. During such discussions, he expresses his thoughts. He also advocates for policies that support small-scale farmers and sustainable farming practices.

Community vitality: No crime has been reported in his village. He trusts almost all his community members and at times donates to initiatives for community development, such as the repair of village *lhakhangs*. He has a solid bond with his siblings and a happy marriage.

Ecological diversity and resilience: His village has not witnessed ecological disasters for a long time. Tenzin is dedicated to any environmental conservation efforts, no matter how minor. Despite the fact that there are fewer wild animals in his village compared to other villages in Bhutan, wild boars occasionally destroy his rice.

Living standards: Tenzin's income is largely dependent on his farm's productivity, which can be variable. He also owns an apple orchard and earns a rental income. He and his family live comfortably and have access to basic amenities, such as clean water and electricity.

4. *A 38-year-old educated male working in corporate sector in Thimphu*

In the 2022 survey, 193 educated married males aged 30 to 59 working in public/corporate/self-employed/freelance are captured.

Dorji Gyeltshen is a Bachelor of Business Management graduate who has worked for the Bank of Bhutan for 14 years. He is married and has two children. He has been classed as deeply happy since he has sufficiency in almost 80% of the 33 weighted indicators.

Psychological wellbeing: Dorji is thankful for everything he has in life. Nonetheless, as a senior officer, he frequently suffers from stress as a result of the demands of his position. He can occasionally get frustrated when he is not able to motivate his subordinates to work effectively. Dorji makes it a point to pray almost every day, but finds it difficult to meditate. Even during stressful times, he finds that reciting prayers in the morning helps him stay focused and calm. He also believes in the value of compassion for oneself and others, while he admits that it can be difficult at times to handle every issue at work with love and empathy. Generally, he is content with his life.

Health: He is not particularly health-conscious, but he does go for walks on occasion. He also tries to avoid processed foods and sugary drinks, preferring to consume fresh foods and vegetables. He is in good physical and mental health. He recognises the need of getting treatment or counselling when he requires mental assistance. He considers mental health to be just as vital as physical health.

Time use: He often feels overworked. While he understands the importance of a work-life balance as a corporate sector employee, work demands do not allow him to make time for leisure activities and personal fulfilment outside of work. At times he ends up working 12 hours a day, which also disturbs his sleep routines.

Education: Dorji believes in the value of lifelong learning and is constantly looking for methods to increase his knowledge and skills. If given the chance, he would like to pursue his master's degree. He reads largely about things related to his job and hence has been rated poor in knowledge indicator which covers the Constitution, local legends, and so on.

Cultural diversity and resilience: Dorji's rigorous job schedule has hampered his ability to participate in Bhutanese cultural activities such as traditional dances, festivals, and ceremonies. While he is familiar with the basic principles of *Driglam Namzha* he has not had the opportunity to practice it extensively in his daily life. He also believes that it is rapidly deteriorating in cities. He has also not had the opportunity to develop artisan skills such as weaving, painting, and woodwork, but he is

proficient in his mother tongue and communicates with family and friends in it on a regular basis.

Good governance: He has had negative experiences with government service delivery, such as delays and inefficiency in acquiring permissions and licenses. He is also dissatisfied with the health-care system. He believes that the political parties at times have failed to keep their promises and have been ineffective in meeting the demands of the population. He is concerned about the rising number of young competent Bhutanese emigrating to Australia. Dorji understands his fundamental rights as a citizen. Due to his hectic work schedule, he has not been actively participating in meetings or civic engagement.

Community vitality: Considering that he was born and brought up in Zhemgang, he does not feel a strong feeling of belonging to Thimphu. He may also be unable to trust everyone in Thimphu or the Pamtsho community where he is now residing. He has a close relationship with his family and appreciates their support and connection. Despite his lack of community connections, Dorji feels safe in his community and has had no safety concerns. Dorji also donates to various causes on occasion, but does not have a set donation schedule.

Ecological diversity and resilience: He believes that every citizen should be driven to defend the environment. The main source of concern in Thimphu is river pollution. He is concerned about the design of pedestrian streets in his neighbourhood and the town area, believing that they are poorly planned and constructed. He is particularly concerned about a lack of appropriate waste disposal practices, which can impact the environment and public health.

Living standards: He lives in a comfortable house for which he pays rent in a good Thimphu area. His family also owns a car, which allows him to be more mobile and convenient in his daily life. He was able to purchase a plot of land from Paro last year, which he intends to develop in the future. Overall, he earns a decent salary that allows him to live comfortably for the time being.

5. *A single 27-year-old female owning a retail shop in Phuntsholing*

The survey includes 101 young single girls who work either in the public, business, corporate, or self-employment sectors. The persona presented here represents the life circumstances of a young single, extensively happy female who has sufficiency in 66% to 76% of the 33 weighted indicators.

Dechen Wangmo is a single woman who runs a modest retail clothing store in Phuntsholing. She moved from Chukha, where our parents are currently residing. She finished grade 12 and worked on her parents' farm for a while before leaving to start her own business.

Psychological wellbeing: Dechen considers herself a Buddhist, but she is not a devout follower. She neither prays nor meditates. She frequently experiences negative feelings such as worry, anxiety, and annoyance, owing to the difficulties of running her retail business. Her retail shop has seen fewer clients as a result of the pandemic. She also experiences positive emotions, including contentment at times, but when her business is struggling, she becomes overwhelmed. Dechen is content with her life, yet she suffers from stress and worry relating to her business and personal life.

Health: In terms of health, she is in usually decent physical condition. But owning a business may be stressful at times, and she does face stress on occasion, particularly when she is unable to sell her products. She sometimes has to rely on her parents and siblings to pay her rent.

Time use: Though she has set her work hours to be acceptable, from 10 a.m. to 8 p.m., she occasionally opens the business till 11 p.m. She would not describe herself as overworked because she simply has to interact with consumers. But, there are occasions when the stress of financial demands interferes with her ability to sleep. As the owner of a small business, she is responsible for paying rent, merchandise, and other expenses that can quickly add up. When business is slow or unforeseen expenses occur, this can cause a great deal of tension and anxiety.

Education: She finished high school but knows little about the Constitution or local tales. She spends the most of her leisure time on social media.

Cultural diversity and resilience: She is fluent in her native tongue, Dzongkha. She says that cultural participation is minimal because Phuntsholing towns have few cultural activities or gatherings. in my own language and background. In addition, after she opens her shop, she has limited time to actively participate in cultural events and activities. She has also witnessed a decline in the practice of *Driglam Namzha*.

Good governance: She admits that she is not very well informed about developmental activities. Her focus is primarily on running her business. She feels at a general level, government performance could be further improved, especially in supporting businesses. She has never participated in a *zomdues*.

Community vitality: She believes she lives in a relatively safe neighbourhood, but she must ensure that her shop is properly locked before she leaves. While she trusts people in her neighbourhood, she does not trust the town because it is huge and new people are moving in and out. She has never donated or volunteered before because she is just starting her business.

Ecological diversity and resilience: She believes that air pollution in Phuntsholing is worsening, endangering the community's health. In general, she supports environmental protection and believes that we all have the responsibility of protecting the earth for future generations. She also believes the town has a litter problem.

Living standards: While her shop is running smoothly, she is grateful for the decent income. Nonetheless, the pandemic has had a significant impact on her business, and she has had to rely on my family for financial assistance. In regards to property, she does not directly own any land, but her parents do. She lives a one room, rented apartment. If circumstances do not improve, she intends to travel to Australia.

6. A 59-year-old illiterate homemaker in Thimphu

The survey includes 222 middle-aged (30 to 59-year-old) homemakers in the sample. Tshiltrim's storyline explains her settings across the nine domains. She is classified as extensively happy, having achieved sufficiency in 68% of the 33 indicators. She has five children, and all are grown up. Three are in Australia pursuing further studies. Currently she lives with her daughter and her grandchildren.

Psychological wellbeing: She is content with her life. She likes spending time with her grandchildren. She tries to be compassionate and generous. Despite her illiteracy, she has taught herself to read prayer scriptures and does it religiously. She considers herself to be highly spiritual, considers karma a fundamental way to life but struggles to meditate.

Health: She has arthritis as a result of being overweight. She considers herself to be physically average. Her self-reported health condition is poor, although she has had a lot of healthy days in the last month. She often worries about her children in Australia, despite the fact that they are all doing well for the time being.

Time use: She gets up at 6.30 a.m. to make breakfast for the family and pack lunches for her grandchildren. She then performs prayer recitation for almost an hour. She does some housework, such as laundry and cleaning, and she also prepares lunch for her husband. She hasn't been able to sleep properly lately due to her arthritis.

Education: She never had the opportunity to attend formal school and hence rates low in almost all the education indicators.

Cultural diversity and resilience: She attends community *tshechus* and community gatherings whenever her daughter is able to accompany her. She speaks fluent *bumthapkha* (Bumthang dialect), her mother tongue, but has not been able to pass it on to her children. Her children and grandchildren primarily communicate in English. She has been weaving *kira* (Bhutanese women's national clothing) since she was 12 years old. She also believes that the practice of *Driglam Namzha* is worsening.

Ecological diversity and resilience: She feels that, compared to the past, the air and river quality has deteriorated in the community. Forest fires are also common during winters in her community. She feels everyone should conserve the environment.

Living standards: Her husband is retired, and her daughter works for the government. While she has no source of income, she depends on her husband and daughter for everything for now. Her other children occasionally send money from Australia. She and her spouse own the flat in which they presently reside. She also owns some land in Samtse and Phuntholing.

7. A 60-year-old monk in rural Bumthang

The 2022 GNH survey sample recorded 136 nuns, monks, and *gomchens*. The aim here is to share how an individual from monastic community is performing across the nine GNH categories, offering insights on their life circumstances.

Jurmey Kuenkhen is 60-year-old monk residing in rural Bumthang. He joined the monastic community when he was 8 years old. He is categorised as deeply happy since he enjoys sufficiency in around 80% of the 33 weighted indicators.

Psychological wellbeing: Jurmey has devoted his life to spiritual practice, and his daily regimen consists of meditation, prayer, and rimdros (rituals for households and communities). High levels of positive emotions like compassion, forgiveness, and generosity define his existence. He tries to extend his kind outlook to everyone he encounters and sees the world through this prism. He holds that cultivating pleasant emotions and letting go of bad ones, like as jealousy and wrath, are the keys to happiness and inner peace.

Health: He credits his spiritual practices, such as meditation and prostrations, which are a part of his daily routine, for his good physical and mental health.

Time use: Jurmey enjoys a great work-life balance, which allows him to balance his spiritual practices with rest and relaxation. He devotes a substantial portion of his day to prayer, prostration, meditation, and rituals, which helps him feel connected to and at peace with himself. He is also able to get a good night's sleep.

Education: He has monastic education but never attended formal education. He scores average on the knowledge indicator as he has adequate knowledge about local legends and the Constitution.

Cultural diversity and resilience: Given that they are based on Buddhist values, he frequently takes part in cultural festivals. He is fluent in his native tongue and skilled in a variety of crafts, such as painting, carpentry, and masonry. *Driglam Namzha* is strictly observed in the monastic community, but he senses a general decline in society.

Good governance: Compared to the past, he observes significant development. He recollects how he had to travel on foot without shoes, but now he can reach anywhere by car. So, he rates government performance highly. He is aware of his rights. As a monk he is forbidden to participate in *zomdues* or any political gatherings.

Community vitality: He donates whenever he can, and he often offers to provide rituals for free for low-income families. He feels safe in his neighbourhood because he trusts everyone there. His relationships with his siblings are good.

Ecological diversity and resilience: He believes he lives in one of Bhutan's cleanest districts. Ecological problems have not yet arisen, although he hears residents of the neighbourhood talking about littering more frequently. He believes that because nature is interconnected with us, we should all struggle to preserve it.

Living standards: He lives in a two-room semi-permanent wood house, but he is satisfied with it. He does not have any assets. His only source of money is from the rituals he performs, and his siblings occasionally provide him with rations. He is happy with what he has got.

8. A 17-year-old student in Mongar

The persona here draws from the results of the 70 happy 15 to 19-year-old students in the survey sample. Tshering Dendup is a 17-year-old Mongar High School student. He has two siblings, both are working as teachers. His mother is a homemaker, while his father owns an automobile business in town.

Psychological wellbeing: Tshering has a strong network of friends and a supportive family, but is struggling academically. He has feelings of generosity and forgiveness, but he also has strong negative emotions such as anger, stress, and anxiety due to his education. Based on his observations of students' social media feeds, he often believes that students in the capital have more opportunities. These emotions can be difficult to manage at times. In terms of spirituality, he has yet to establish a strong practice.

Health: He has no significant health issues or chronic diseases, and his physical condition is excellent. But he frequently feels anxious and stressed out before exams. The pressure to perform has him feeling overwhelmed.

Time use: He has adequate time to connect with friends and family. After school he frequently engages in sports. But, due to his addiction to social media, he occasionally has trouble sleeping. Even late at night when he ought to be settling down for sleep, he has had trouble turning off his devices. These practices make him tired and less focused during the day.

Education: He is currently studying in grade 12.

Cultural diversity and resilience: He has not attended to any neighbourhood celebrations or get-togethers. Also, he does not possess any of the 13 Bhutanese traditional arts and crafts (*Zorig Chusum*). He believes that in today's globalised society, it is important to be a global citizen. Perhaps as a result, he does not see the need to adhere to the principles of *Driglam Namzha*. He is aware of its significance, but feels

that its relevance is deteriorating as well as its practice. With his family, he speaks in his native dialect (*tshanglakha*).

Good governance: Tshering has never been to *zomdues*, but he is very curious about how the government functions and how it affects his day-to-day life. He only gives average ratings since he is not particularly pleased with the way services are provided in Mongar. He is resolved to gain a better understanding of his civic rights and responsibilities.

Community vitality: Although he is not financially independent and so able to contribute money for charitable causes, he often volunteers to participate in community cleanliness initiatives. He cherishes his sense of community and belonging, but he can be a little hesitant to put his trust in other people. He considers the community safe.

Ecological diversity and resilience: He claims that the community's air and water quality is fine and that there aren't any serious ecological concerns here. As a result, he is satisfied with the condition of the environment and thinks that everyone, no matter where they reside, has a duty to conserve.

Living standards: He lives in a three-bedroom rented apartment with his parents. His father earns a decent income from the workshop, while his mother weaves and sells her products in the local market. His family also owns a car.

9. *A 75-year-old retiree in Samtse*

The survey sample includes 66 pensioners/retirees. Kesang Dorji was a driver for one of the government agencies. He is married and has five children. He is classified as deeply happy since he has sufficiency in 85% of the 33 weighted indicators.

Psychological wellbeing: Kesang has gained a strong spiritual sense throughout the years. Meditation, prayer, and other spiritual practices bring him comfort and peace. In general, he keeps a good attitude toward life and focuses on nurturing positive feelings like compassion. At the same time, he believes he is less prone to negative emotions such

as anger or jealousy. While he is not immune to stress or frustration, he tries to maintain perspective when confronted with challenging situations. He is content with his life as long as he is spiritually active.

Health: He considers himself to be generally healthy physically, but suffers from diabetes. This condition has been challenging to manage over the years and has led to some related health issues. He has been able to modify his diet and exercise routine over the years to accommodate his illness, and he has discovered strategies to control his stress levels to avoid triggering symptoms.

Time use: He has retreated to a quiet and serene life. He spends most of his time at the alter room. He is also thankful for the good sleep, which he attributes to his spiritual activities. He is able to settle his thoughts by spending time in prayer and contemplation. He values the slower pace of life that retirement has provided for him and considers himself fortunate to have the time and space to pursue spiritual interests.

Education: He finished grade 4 and now spends much of his retiree time reading Buddhist scriptures, doing carpentry works and watching TV with his family.

Cultural diversity and resilience: He is not interested in attending community events. He believes that *Driglam Namzha* practice has declined significantly in recent years. He has good recollections of observing these practices and traditions when he was younger, but he realises that times have altered and that the new generation is no longer interested in culture. While he admires the beauty and craftsmanship of traditional Bhutanese crafts and art, he has never felt inclined to learn these skills. He does some carpentry, though.

Good governance: He believes that Bhutan has come a long way, and that while there are many things to celebrate, there are still many concerns and challenges that our community and country face, but that progress has been slow and often inadequate. He believes that work opportunities have not increased and that this is why people are leaving Bhutan. While he is aware of his basic rights as a citizen, he has not

participated in local meetings. He used to participate in the past, but has taken a back seat lately.

Community vitality: He donates to temples and volunteers his carpentry skills to help repair and maintain a local *lhakhang*. He trusts some of his neighbours and considers himself fortunate to live in a safe and supportive environment.

Ecological diversity and resilience: The air and water in the community are both clean. He spends the most of his time outside, especially in the winter. His son grows vegetables on a little area of land he owns, and there are no significant wildlife problems.

Living standards: With the amount of pension he receives, he lives a happy life. While it is not much, it is sufficient to meet basic needs. His children pitch in to help in times of need, which is a great source of comfort and support for him. He is proud to have raised such caring and supporting children who remain a part of his life even as he grows older. He lives in a one-story house with his wife and his eldest son and family.

Table 27: Censored sufficiency headcount ratios across 33 GNH indicators, 2022

		LITERATE FEMALE FARMERS			ILLITERATE FEMALE FARMERS			LITERATE MALE FARMERS				ILLITERATE MALE FARMERS		FEMALE PRIVATE/BUSINESS/CORPORATE/PUBLIC SERVICE/SELF EMPLOYMENT	
		200	478	74	68	1621	531	105	448	150	83	478	339	101	145
Age group		Young: 15 to 29	Middle-aged: 30 to 59	Middle-aged: 30 to 59	Young: 15 to 29	Middle-aged: 30 to 59	Elderly: 60 and above	Young: 15 to 29	Middle-aged: 30 to 59	Elderly: 60 and above	Middle-aged: 30 to 59	Middle-aged: 30 to 59	Elderly: 60 and above	Young: 15 to 29	Middle-aged: 30 to 59
Marital status		All	All	All	All	All	All	All	All	All	All	All	All	Never married	Married
Education level		Literate	Literate	At least middle secondary education	Illiterate	Illiterate	Illiterate	Literate	Literate	Literate	At least middle secondary education	Illiterate	Illiterate	At least high secondary education	At least high secondary education
Stratum Household size		Rural 1-5 members	Rural 1-5 members	Rural All	Rural All	Rural All	Rural All	Rural 1-5 members	Rural 1-5 members	All	Rural All	Rural All	Rural All	Urban All	Urban All
Psychological wellbeing	Life satisfaction	0.500	0.501	0.539	0.238	0.281	0.301	0.657	0.553	0.543	0.607	0.354	0.324	0.381	0.591
	Positive emotions	0.384	0.378	0.374	0.117	0.203	0.230	0.516	0.405	0.326	0.531	0.255	0.257	0.312	0.470
	Negative emotions	0.245	0.274	0.277	0.121	0.167	0.196	0.372	0.328	0.326	0.249	0.211	0.246	0.221	0.289
	Spirituality	0.155	0.257	0.129	0.081	0.129	0.199	0.151	0.262	0.347	0.160	0.147	0.190	0.215	0.343
Health	Self-reported health status	0.385	0.345	0.335	0.191	0.165	0.121	0.432	0.381	0.315	0.437	0.231	0.158	0.310	0.398
	Healthy days	0.484	0.489	0.464	0.225	0.256	0.274	0.637	0.557	0.505	0.572	0.350	0.311	0.320	0.520
	Disability	0.547	0.540	0.516	0.238	0.294	0.299	0.680	0.588	0.538	0.617	0.361	0.347	0.391	0.610
Time use	Mental health	0.526	0.534	0.528	0.221	0.293	0.297	0.679	0.573	0.494	0.609	0.361	0.343	0.388	0.597
	Work	0.151	0.194	0.199	0.112	0.091	0.179	0.337	0.251	0.343	0.283	0.140	0.172	0.213	0.230
	Sleep	0.443	0.405	0.311	0.238	0.262	0.277	0.624	0.460	0.452	0.412	0.331	0.288	0.287	0.502
Education	Schooling	0.418	0.185	0.539	0.000	0.002	0.000	0.583	0.267	0.202	0.617	0.004	0.001	0.391	0.619
	Literacy	0.547	0.545	0.539	0.000	0.000	0.000	0.695	0.589	0.573	0.617	0.000	0.000	0.391	0.619
	Value	0.543	0.545	0.539	0.238	0.297	0.315	0.690	0.581	0.573	0.598	0.356	0.347	0.347	0.594
	Knowledge	0.105	0.061	0.129	0.000	0.010	0.022	0.240	0.154	0.168	0.305	0.042	0.034	0.082	0.275
Cultural diversity and resilience	Artisan skills	0.387	0.373	0.264	0.203	0.171	0.200	0.543	0.442	0.300	0.417	0.265	0.216	0.267	0.443
	Speak native language	0.543	0.539	0.521	0.236	0.290	0.313	0.623	0.577	0.568	0.612	0.350	0.343	0.334	0.613
	Cultural participation	0.272	0.265	0.215	0.169	0.178	0.151	0.305	0.246	0.226	0.270	0.201	0.157	0.152	0.275

GNH 2022

		LITERATE FEMALE FARMERS			ILLITERATE FEMALE FARMERS			LITERATE MALE FARMERS				ILLITERATE MALE FARMERS		FEMALE PRIVATE/BUSINESS/CORPORATE/PUBLIC SERVICE/SELF EMPLOYMENT	
Good Governance	Driglam Namzha	0.208	0.214	0.115	0.135	0.163	0.140	0.305	0.285	0.272	0.227	0.192	0.203	0.019	0.166
	Government performance	0.304	0.257	0.275	0.138	0.151	0.168	0.351	0.269	0.252	0.249	0.169	0.160	0.145	0.197
	Fundamental rights	0.359	0.362	0.468	0.147	0.189	0.209	0.437	0.380	0.348	0.451	0.230	0.171	0.272	0.325
Community vitality	Service	0.467	0.458	0.389	0.165	0.249	0.253	0.488	0.467	0.388	0.462	0.266	0.268	0.379	0.554
	Political participation	0.504	0.434	0.436	0.238	0.258	0.253	0.550	0.520	0.408	0.487	0.305	0.276	0.028	0.069
	Donations	0.462	0.390	0.327	0.174	0.230	0.174	0.559	0.449	0.378	0.453	0.286	0.255	0.153	0.243
	Community relationship	0.355	0.403	0.365	0.219	0.231	0.235	0.460	0.466	0.419	0.461	0.305	0.280	0.090	0.289
	Family Safety	0.535	0.532	0.536	0.222	0.291	0.306	0.680	0.585	0.557	0.617	0.360	0.330	0.385	0.616
Ecological diversity and resilience	Safety	0.543	0.534	0.539	0.238	0.294	0.307	0.654	0.581	0.562	0.580	0.359	0.347	0.357	0.615
	Ecological issues	0.547	0.538	0.533	0.238	0.294	0.310	0.673	0.575	0.559	0.568	0.361	0.347	0.317	0.510
	Responsibility towards environment	0.494	0.489	0.443	0.235	0.258	0.275	0.645	0.537	0.529	0.586	0.326	0.304	0.344	0.603
	Wildlife damage	0.250	0.275	0.261	0.116	0.156	0.175	0.282	0.253	0.333	0.290	0.183	0.183	0.374	0.608
Living standards	Urbanisation issues	0.468	0.497	0.498	0.228	0.273	0.296	0.562	0.525	0.538	0.567	0.326	0.310	0.353	0.527
	Assets	0.463	0.499	0.516	0.195	0.271	0.288	0.570	0.560	0.530	0.611	0.331	0.303	0.328	0.619
	Household per capita income	0.346	0.380	0.334	0.170	0.203	0.202	0.480	0.377	0.407	0.354	0.233	0.205	0.374	0.607
	Housing	0.480	0.501	0.487	0.194	0.276	0.301	0.595	0.556	0.557	0.526	0.332	0.335	0.391	0.608
	Share of happy	14.99	12.3	7.66	2.57	1.88	3.05	18.63	20.98	19.7	18.67	4.76	2.71	6.75	22.14
Share of happy	Deeply Happy	39.69	42.2	46.21	21.24	27.87	28.43	50.88	37.89	37.62	43.01	31.37	31.99	32.38	39.75
	Extensively Happy	41.12	40.45	40.43	61.73	56.95	52.16	26.17	37.93	40.12	36.04	57.7	52.96	52.36	35.07
	Narrowly Happy	4.2	5.06	5.71	14.46	13.31	16.35	4.32	3.2	2.56	2.28	6.16	12.34	8.51	3.04

Chapter 5: Policy Implications of the GNH Index

The GNH Index has become a well-established measure of wellbeing and holistic progress that goes beyond typical GDP and economic growth. The GNH Index measures human flourishing through nine domains and 33 indicators. So far, this book has looked at the 2022 GNH Index and changes over time, the GNH Index's relationship with income, and introduced multiple GNH profiles. What is most essential, however, is that all findings from the preceding chapters culminate in what it implies for policymaking. After all, the GNH Index was created to help guide policy decisions. It was designed to assist policymakers and programme administrators in not just tracking GNH but also in setting targets and centralising and reinforcing GNH evidence across various stages of policymaking, planning, and programming.

While it is interesting to learn about the trends among those who are happy, policy wise it is more beneficial to study the not-yet-happy group. The ultimate objective of the GNH Index measure is to create a society in which not-yet-happy people are not left behind, and where there is a continual improvement of their GNH circumstances, whether that be a good living standard or a vibrant community relationship or being able to get enough sleep. The 33 indicators provide a range of conditions that needs to be fulfilled for a person to be happy. Hence, to increase GNH in the country, we dive deeper into the circumstances of the not-yet-happy group. In other words, we analyse deprivations among the not-yet-happy since it is only by improving these conditions that we can enhance GNH in the country.

Therefore, the present chapter aims to provide us with insights on how deprivations among not-yet-happy people have changed over time. It has two parts. Part 1 uses two measures; the censored deprivation headcount ratios (share of population who are not-yet-happy and deprived in each indicator) and uncensored deprivation headcount ratios (share of population who is deprived in each indicator, regardless of whether they belong to the happy or not-yet-happy category). Based on this information, we identify areas and indicators that have not

improved over time, directing us towards potential intervention ideas that may help improve it.

Part 2 of provides some insight on past initiatives and their association to the GNH indicators. It maps policy initiatives outlined in the Annual Performance Agreements (APAs) signed at the ministerial level across the 33 GNH indicators. This is done by assessing if any of the policy initiatives highlighted in the 2021-22 APAs are related to the GNH indicators. Note that here, we are using policy initiatives and interventions outlined in ministerial-level APAs as a substitute for programmatic interventions.

Key highlights

- Psychological wellbeing: Spirituality and negative emotions have deteriorated among the not-yet-happy group. In terms of interventions to improve the domain, perhaps the role of individuals takes precedence over the role of government. For instance, either individual-led or community led initiatives on mindfulness may help to encourage meditation.
- Health: Healthy days and mental health has deteriorated. Interventions might include promoting mental health awareness and strengthening mental health services in the nation.
- Education: Values indicator is the only indicator under education domain that has deteriorated slightly. For instance, in 2015 only 0.9% of the not-yet-happy group were deprived but in 2022, this rose to 3%.
- Cultural diversity and resilience: From 2015 to 2022, censored deprivation headcount ratios grew for all four cultural indicators. For example, the censored deprivations in native language has increased slightly with time (3.4% in 2015 to 4.1% in 2022). Given these results, all four indicators would necessitate interventions.
- Good governance: Deprivations have fallen for services, fundamental rights and government performance, indicating progress in these three indicators over time. However, for the political participation indicator, deprivation has worsened. In 2015, 30.6% were deprived in political participation and in the not-yet-happy group, while in 2022 this increased to 35.6%.
- Ecological diversity and resilience: The censored deprivations have decreased for wildlife damage and environmental conservation attitude. But for the urban issue and ecological issue indicators, deprivation has worsened.

Part 1: Insights from the GNH Index for policy and practice

Current applications of the GNH Index

The GNH Index is a useful instrument for policy making and planning because it provides a more comprehensive framework for assessing societal wellbeing and happiness. In the past, the erstwhile Gross National Happiness Commission (GNHC)⁴⁸ played a pivotal role in integrating the GNH framework into planning and policy making. There are five technically specific ways in which GNH indicators are being applied in the administration of the country.

Firstly, the GNH index and some of domain indicators and sub-indicators are directly used as a benchmark in the FYP on which to make further progress. At the overall national level, the FYP is guided by national targets and key results. In the current plan, 17 baselines or targets are drawn from GNH indicators such as sufficiency level in mental health, safety, community vitality, skills, political participation, fundamental rights, values, assets, income, housing, etc. The composite GNH index is used as an overall national baseline.

Secondly, GNH index is also used as weighted criterion in the allocation of budget among the local governments composed of 20 districts and four urban municipalities at the level of middle tier of administration, and 205 counties or gewogs at the lowest tier in the vertical organization of the country. Among these local governments' weights of GNH index is 10% for gewogs and 15% for municipalities and districts. Some may wonder why the weights for GNH index of a local government is low when it comes to budget allocation. Eight of the 14 criteria are already included among the 277 variables that are aggregated in the GNH Index but the eight criteria are given prominence in the resource allocation formula to fund and mitigate deficient

⁴⁸ The GNHC is a former central coordination agency tasked with the overall planning of the country's policies and programmes, including the facilitation and evaluation of Five-Year Plans (FYP). As part of the ongoing civil service reform, the commission was dissolved in 2022, with some of its divisions merged with the Cabinet Secretariat under the Office of the Prime Minister (OPMC) and others with the Ministry of Finance (MoF).

conditions in a particular local government jurisdiction like water and sanitation, or costly freight transport.

Thirdly, policies in the central government are formulated by subjecting them to vetting with GNH screening tools, which consists of 22 criteria drawn from GNH and implemented according to a well-defined process. So far, 15 out of 22 draft policies has been approved, with majority of them getting modified to some degree by the process of screening.

Fourthly, GNH index has been used to evaluate a large rural horticultural project after it was implemented. The project's aim was to grow 40 different varieties of fruits and vegetables over 2,166 acres among 64 beneficiary households. The impact study used Propensity Score Matching method to evaluate the impact of the project on beneficiaries versus non-beneficiaries on all nine domains of GNH.

There is a fifth instance where GNH application is underway. A GNH certification for business has been designed as an assessment framework for business corporations. Furthermore, the national law institute of Bhutan is also grappling for the first time with a novel question: what consequences there is in the legal principles if happiness is its main premise and what else they can do in the administration of justice if happiness is its cornerstone.

Some other ways in which the GNH Index was utilised by the government were to:

- i. *Complement existing measures of development:* The GNH index complements GDP by providing a more comprehensive and holistic perspective of progress that considers aspects other than economic growth. While GDP provides information on economic growth and development, it does not capture the full picture of a country's wellbeing. The GNH index helps to fill this gap by providing a more comprehensive and holistic view of development that considers both material and non-material domains.

- ii. *Prioritise policy areas in GNH:* The GNH Index enables policy makers and planners to identify and prioritise domains and indicators that are lagging behind. For example, if the Index shows that the population has a low level of psychological wellbeing domain, policy makers can prioritise policies and activities to address this issue, and therefore direct investments to improve the domain circumstances.
- iii. *Track and monitor national progress in GNH terms:* The GNH Index is a valuable instrument for tracking GNH progress. It has been used by policy makers to track holistic progress and changes across various GNH domains over time.
- iv. *Align planning/policies/programmes/projects with GNH:* The GNH Index can assist in ensuring that programmes and projects are aligned with general aims of increasing happiness and wellbeing. For instance, to help ensure that there is a seamless inclusion of GNH domains and indicators, planners incorporated the GNH indicators into the results-based approach framework of the 12th Five-Year Plan (FYP) in the form of the National Key Result Areas (NKRAs).
- v. *Set GNH targets and goals for sectors:* The GNH Index has also paved its way as an alternative framework for setting sectoral targets and goals to help design GNH indicator relevant programmes. By setting goals that address many domains of the GNH Index, sectors can help enhance GNH in the country.

Despite these initiatives, there is a need to better integrate GNH Index into the policy making, planning and programming landscape. Such innovations are however largely beyond the scope of this book. Nonetheless, this chapter focuses on some of the recommended policy action areas based on the insights drawn from changes among the not-yet-happy across time.

Changes among the not-yet-happy over time

Initiatives aimed only at improving the conditions of happy people may also overlook the needs of the unhappy group, worsening existing disparities and leaving some people further behind. Therefore, the analysis here draws attention to the findings from those in the not-yet-happy category. Policy makers would prefer to invest already scarce resources in reducing the deprivations or, in other words, improving the 33 GNH conditions among not-yet-happy people. Unhappy people are more likely to be experiencing deprivation and suffering, and hence are in more need of policy support.

Recall that the identification of happy people was done using a 66% overall happiness threshold, where those who have attained sufficiency in at least 66% of the 33 weighted GNH indicators were categorised as happy, and those remaining were not-yet-happy people. The preceding chapters also looked at the raw or uncensored sufficiency headcount ratio, which shows the share of population who have gained sufficiency in an indicator regardless of whether they were in the happy or not-yet-happy category. It is worth noting that the uncensored sufficiency headcount ratios mirror the uncensored deprivation headcount ratios. We also examined the happy censored sufficiency headcount ratio, which shows the proportion of the population that are both happy and sufficient in an indicator.

Overall, we have so far considered the sufficiency stories, that is we focused on who made it into the happy group. But we need to assess who is in the not-yet-happy category and, more importantly, what they are lacking. This section therefore looks at censored deprivation headcount ratios, which is the share of population who are not-yet-happy and deprived in an indicator. We will also look at the raw or uncensored deprivation headcount ratios.

Censored deprivation headcount ratio: Share of people who are not-yet-happy and deprived in the indicator. This shows the percentage of the population who are not-yet-happy and are deprived in the indicator.

Raw/uncensored deprivation headcount ratio: Share of the population who are deprived in the indicator. This represents the percentage of population who are deprived in that indicator, irrespective of whether they are happy or not-yet-happy.

In 2022, 45.5% are categorised as narrowly happy and 6.4% as unhappy, so together 51.9% are in the not-yet-happy group (Table 28). In 2015, 56.6% of people were classified in the not-yet-happy group.

Table 28: Changes in percentage of happy people across happiness gradients, 2015–22

	Happiness threshold	2010	2015	2022
Deeply happy	77-100%	8.3%	8.4%	9.5%
Extensively happy	66-76.9%	32.6%	35.0%	38.6%
Narrowly happy	50-65.9%	48.7%	47.9%	45.5%
Unhappy	0-49.9%	10.4%	8.8%	6.4%

Source: Authors’ computations based on 2015 and 2022 GNH Survey

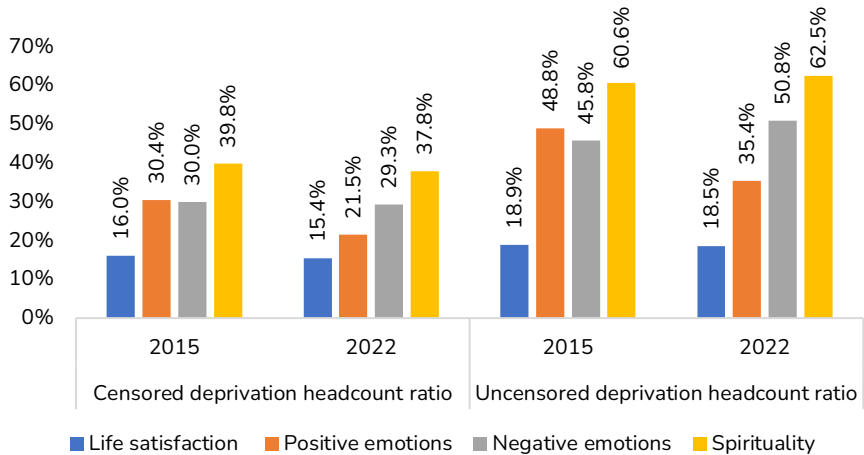
Let us now examine the censored and uncensored deprivation headcount ratios by domain. Based on the findings, we propose some intervention ideas to enhance the domains or indicators that are lagging behind.

Psychological wellbeing

Figure 41 shows that deprivations among the not-yet-happy population have decreased for all four indicators. For example, the censored deprivations for the spirituality indicator dropped from 39.8% in 2015 to 37.8% in 2022. The positive emotions index also saw a significant drop in censored deprivations (30.4% in 2015 to 21.5% in 2022). This is noteworthy as deprivations in all these indicators increased between 2010–15.

However, an examination of the overall raw headcount ratios shows that deprivations have increased for the negative emotions (45.8% in 2015 and 50.8% in 2022) and spirituality indicators (60.6% in 2015 and 63.5% in 2022). This means that the proportion of happy Bhutanese people experiencing negative emotions increased in 2022. Likewise, the share of people reporting lower levels of spirituality has also risen. The findings call for interventions to improve the negative emotions and spirituality indicators.

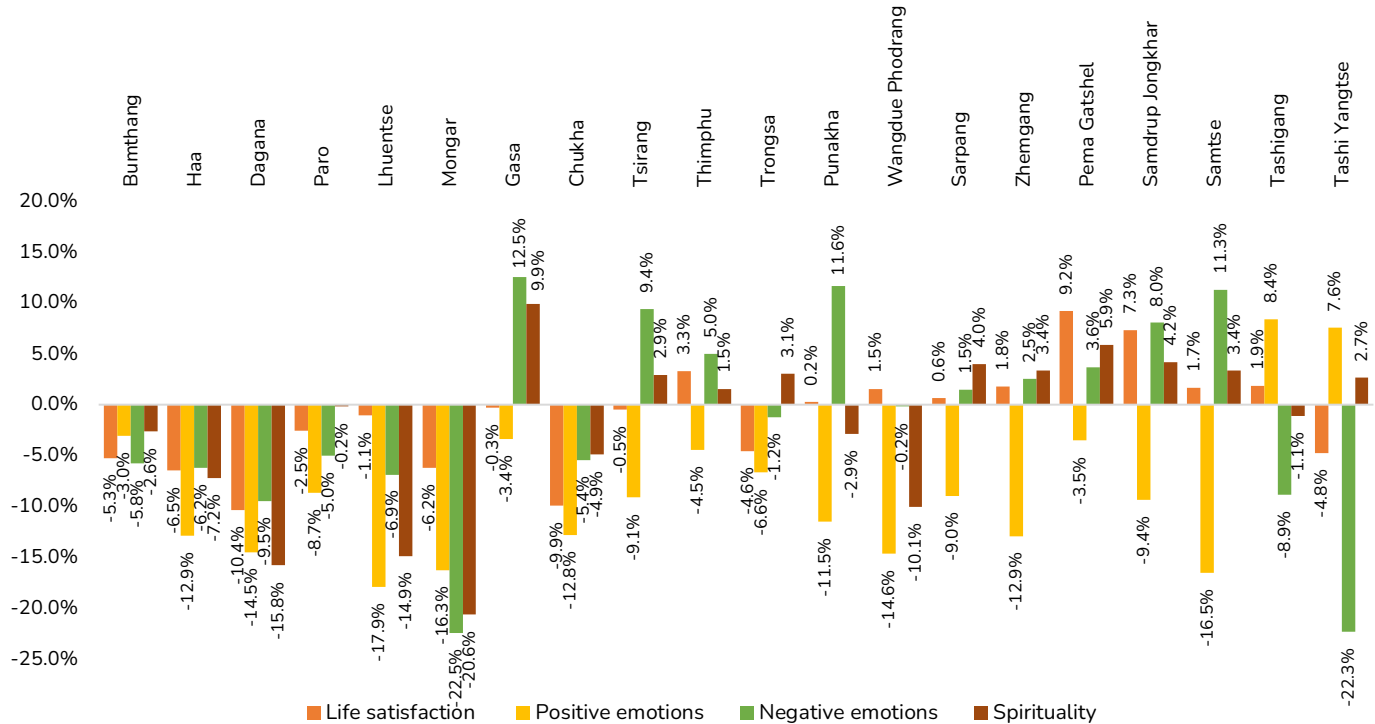
Figure 41: Censored and uncensored deprivation headcount ratios, 2015–22



Source: Authors’ computations based on 2015 and 2022 GNH Survey

Figure 42 depicts the trends in censored deprivation headcount ratios across the 20 districts. Changes in the censored deprivation headcount ratios vary by district. Focusing on areas where deprivation has worsened, in Gasa, for example, we see a 12.5 percentage point rise in negative emotions and a 9.9 percentage point increase in deprivations in spirituality. Similarly, censored deprivations for negative emotions and spirituality indicators increased by 9.4 percentage points and 2.4 percentage points, respectively, in Tsirang. Tashi Yangtse also saw a 7.6 percentage point spike in positive emotion deprivations and a 2.7 percentage point increase in spirituality deprivations.

Figure 42: Absolute changes across censored deprivation headcount ratios by districts, 2015–22 (in percentage points)



Source: Authors' computations based on 2015 and 2022 GNH Survey

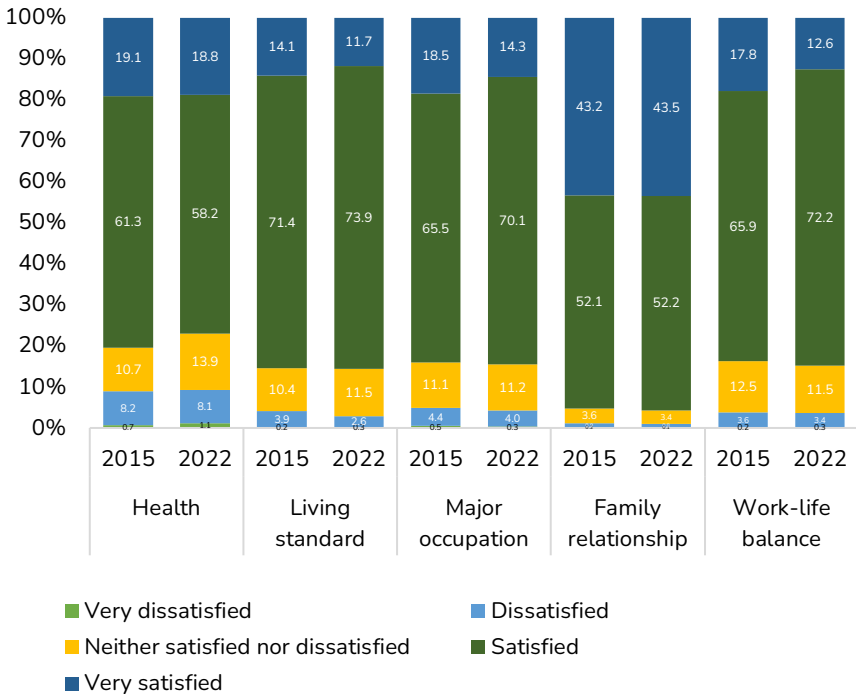
Let us delve more into the indicators.

Life satisfaction

The life satisfaction indicator is composed of five variables that assess satisfaction in aspects of one's life: health, standard of living, major occupation, family relationship, and work-life balance. Censored deprivations are higher for females (17.4%, compared to 12% for males) and rural residents (16.3% in rural and 14.1% in urban regions), as depicted in Figure 43.

Let's take a closer look at the five components. Bhutanese people appear to be mainly content with their family ties. For both years, about 43% said they were 'very satisfied' with their family relationships. However, for the rest of variables, percentage of people reporting 'very satisfied' decreased. For example, in 2015, 18.5% said they were 'very satisfied' with their major occupation, but by 2022, this had dropped to 14.3%. The work-life balance statistic fell significantly as well. People's satisfaction with health fell in 2022 (61.3% in 2015 to 58.2% in 2022). This decline could have been caused by the COVID-19 pandemic.

Figure 43: Percentage of people satisfied across the five variables of the life satisfaction indicator, 2015–22



Source: Authors’ computations based on 2015 and 2022 GNH Survey

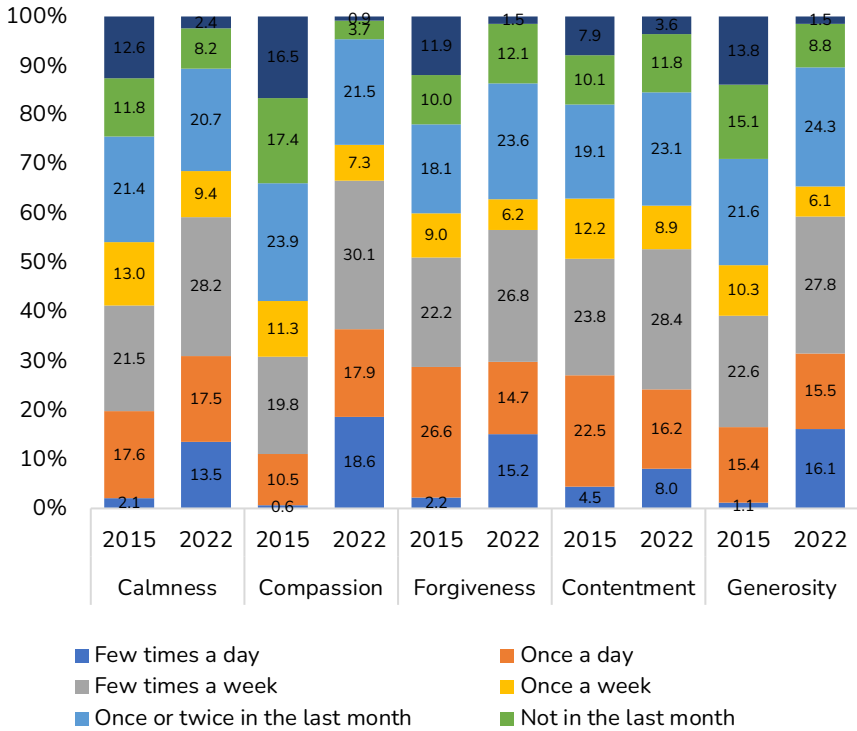
Positive emotions

The positive emotion indicator measures the frequency of five positive emotion variables; calmness, compassion, forgiveness, contentment, and generosity. Positive emotion measures, though subjective, can provide useful insights into happiness and wellbeing. They can help develop interventions and policies by identifying the situations, activities, and experiences that are most likely to elicit positive emotions.

As can be seen from Figure 44, females report higher censored deprivations than males (17.4% of males and 24% of females), while 24.1% of those who are deprived and in the not-yet-happy group live in rural areas and 17.7% are in urban regions.

The share of people reporting at least ‘few times a week’ has increased for all five variables. The most drastic improvement is seen in compassion (0.6% reporting ‘few times a day’ in 2015 to 18.6% in 2022).

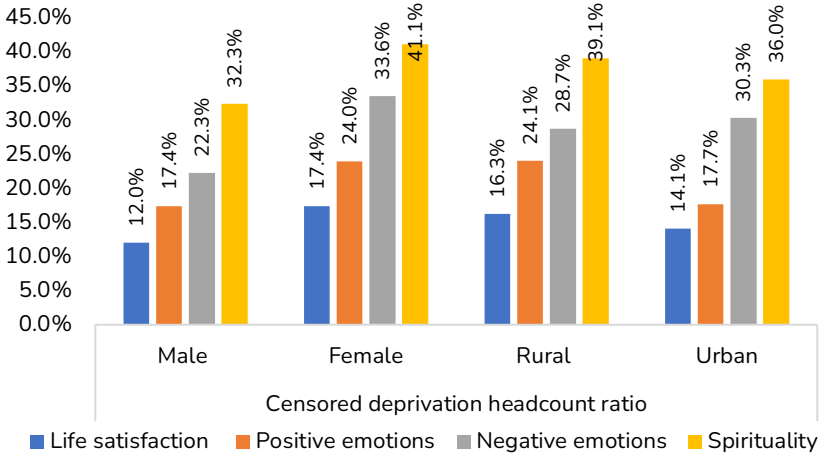
Figure 44: Percentage of people stating the frequency of positive emotions, 2015–22



Source: Authors’ computations based on 2015 and 2022 GNH Survey

Positive emotions are subjective experiences that may vary considerably from person to person. What one person thinks to be ‘calmness’ may not be the same as what another person considers to be ‘calmness’. Due of this subjectivity, we must be cautious while adopting such standardised measurements. It can also introduce response bias. Hence, new techniques of measuring positive emotions may need to be explored.

Figure 45: Censored deprivation headcount ratios by sex and region, 2022



Source: Authors’ computations based on 2015 and 2022 GNH Survey

Negative emotions

The negative emotion indicator comprises of anger, fear, worry, selfishness and jealousy. A high level of negative emotions acts as a proxy indicator of low wellbeing in GNH. High frequency of negative emotions can be a sign of larger social and economic issues, such as poverty, inequality, and social isolation.

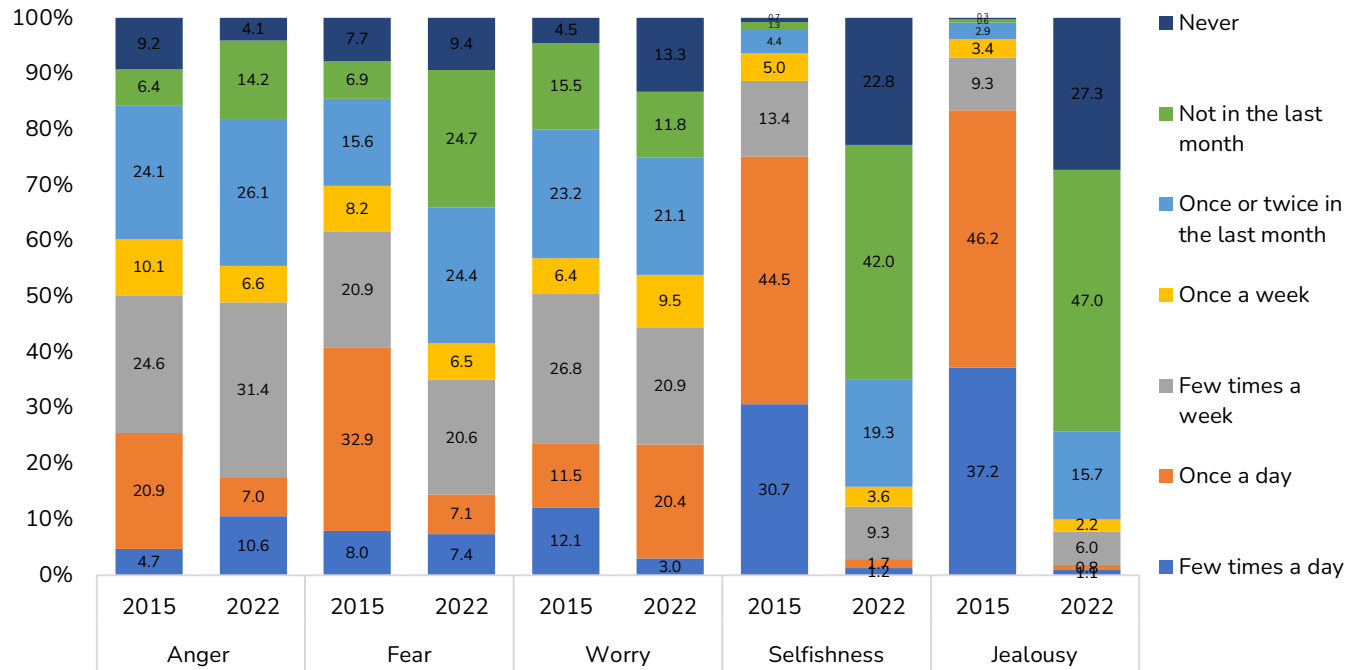
As Figure 46 shows, females report higher censored deprivations than males (22.3% in males and 33.6% in females); 30.3% of the urban residents are deprived in negative emotion (high frequency of negative emotion) and not yet happy, higher than rural dwellers (28.7%).

Looking at each of the five variables independently, the number of people who are angry once a day has declined, but the proportion of people who are angry few times a day has risen from 4.7% in 2015 to 10.6% in 2022 (Figure 46). We also see a considerable decrease in the frequency of fear, selfishness, and jealousy, but in terms of worry, the proportion of people reporting 'once a day' has risen from 11.5% in 2015 to 20.4% in 2022. Certain emotions have increased while others

have decreased, making it difficult to predict where the trend in negative emotions is heading.

The negative emotion indicator can be impacted by a variety of factors, such as individual characteristics, environmental influences, and cultural standards. Due to this variability, we must exercise caution while working with this data. Nevertheless, gathering data on negative emotions can assist policy makers in identifying vulnerable populations experiencing high levels of negative emotions, and help devise tailored initiatives aimed at reducing these negative emotions.

Figure 46: Percentage of people reporting negative emotions, 2015–22



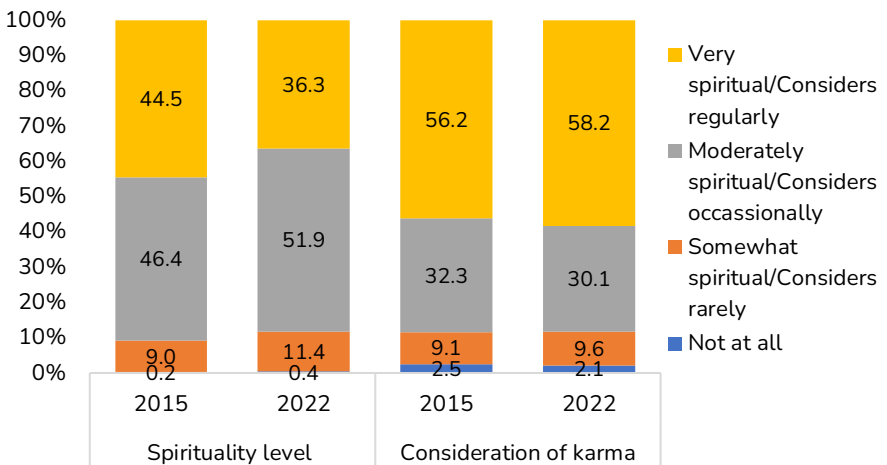
Source: Authors' computations based on 2015 and 2022 GNH Survey

Spirituality

The spirituality indicator comprises of four variables; level of spirituality, consideration of karma, prayer recitation and frequency of meditation. As cited earlier, deprivation in the spirituality indicator (raw deprivation headcount ratio) has increased from 60.6% in 2015 to 62.5% in 2022. Assessment of the four variables reveals that the share of people who reported being ‘very spiritual’ decreased, but on the other hand those who stated they were moderately spiritual increased (46.4% in 2015 to 51.9% in 2022) (Figure 47). The proportion of people considering karma on a regular basis increased by 2%. Frequency of prayer recitation has also improved significantly. In 2015, 10.2% prayed several times a day but in 2022 this increased to 26.9%.

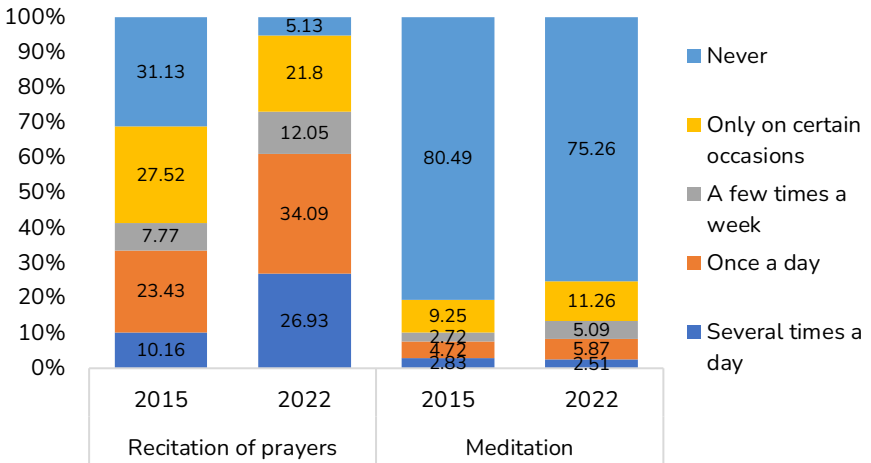
However, given the influences of the modern era, there is a risk that such indicators will deteriorate in the future. Furthermore, living in a social media world raises the risk of such indicators degrading. For instance, stress has become a prevalent and persistent concern in modern culture. Meditation has been proved to be an effective tool for stress and anxiety reduction, which can improve general health and wellbeing. As a result, all four variables appear to be important for the time being.

Figure 47: Percentage of people reporting level of spirituality and consideration of karma, 2015–22



Source: Authors’ computations based on 2015 and 2022 GNH Survey.

Figure 48: Percentage of people reporting prayer recitation and meditation, 2015–22



Source: Authors' computations based on 2015 and 2022 GNH Survey

Intervention ideas for the psychological wellbeing domain

In terms of interventions to improve the domain, perhaps the role of individuals takes precedence over the role of government. Either individual-led or community led initiatives such as having gratitude journals, which involves frequently practicing gratitude by writing down things for which you are grateful each day, could help develop positive emotions. Likewise, mindfulness-based strategies entailing practicing mindfulness may help increase positive feelings while decreasing negative emotions like stress and anxiety. Here, activities such as organisation of advocacy and awareness on meditation, gratitude circles, or community art projects that generate pleasant feelings and develop a sense of connection and social support among participants can be organised by local organisations, community centres, and social groups. Government programmes can provide financing and resources for such community-based interventions.

Table 29 summarises the censored deprivation headcount ratio findings of the domain indicators and offers intervention target areas.

Table 29: Domain indicators and their status in the GNH Index, 2015–22

Indicator	National censored deprivation headcount ratios	Intervention focus areas	
		Region where censored deprivation headcount ratio is high	Districts where censored deprivation headcount ratios have increased over time
Life satisfaction	Decreased	Rural	Thimphu, Wangdi Phodrang, Sarpang, Zemgang, Pema Gatshel, Samtse, Tashigang, Tashi Yangtse
Positive emotions	Decreased	Rural	Tashigang, Tashi Yangtse
Negative emotions	No change	Urban	Gasa, Tsirang, Punakha, Sarpang, Zhemgang, Pema Gatshel, Samdrup Jongkhar, Samtse, Thimphu
Spirituality	Increased	Urban	Gasa, Tsirang, Thimphu, Trongsa, Sarpang, Zhemgang, Pema Gatshel, Samdrup Jongkhar, Samtse, Tashi Yangtse

Source: Authors’ computations based on 2015 and 2022 GNH Survey

Table 30 recommends some strategies for reducing deprivation in the psychological domain indicators.

Table 30: Proposed intervention ideas to improve psychological wellbeing domain

GNH indicator	Nature of intervention	Title of intervention	Intervention objective	Timeline	Lead agency	Partners	Intervention ideas
Spirituality	Capacity building	A Mindfulness Class for Students	To educate and expose children with mindfulness methods in order to increase positive emotions, reduce stress and anxiety,	Short term	Ministry of Education and Skills Development	Schools, Royal University of Bhutan	<p>1. Develop curriculum: Provide a complete curriculum that emphasises mindfulness activities such as breathing exercises, body scan meditation, and mindful movement. The curriculum is age-appropriate for students in kindergarten through grade 12 and can be customised to meet the needs of individual classrooms or schools.</p> <p>2. Piloting a mindfulness class: Depending on the needs of individual schools or districts, the mindfulness can be implemented in a variety of ways. Some schools may choose to implement the curriculum across the board, while others may focus on specific classrooms or grade levels. The programme can also be used after school or as part of a summer school curriculum.</p> <p>3. Mindfulness class evaluation: The Mindfulness class will need to be evaluated on an ongoing basis to verify that it is effective in meeting its objectives. This includes gathering feedback from students, instructors, and administrators, as well as tracking academic performance and other student wellbeing outcomes.</p>
Spirituality	Infrastructure	A Path to Mindfulness via Community Meditation Centres	To pilot a community mindfulness centre and advocate and implement meditational practice in the community	Short term	Ministry of Home Affairs	District administrations, LGs	<p>1. Pilot a community meditation centres (in community Lhakhang's): A room dedicated for scheduled meditation classes for the community members, as well as a small library with mindfulness and meditation resources.</p> <p>2. Develop programme for the community meditation centre: Determine the focal spiritual leaders that would be identifying the sorts of meditation and mindfulness practices that will be taught, as well as the frequency and duration of sessions. Workshops, classes, and</p>

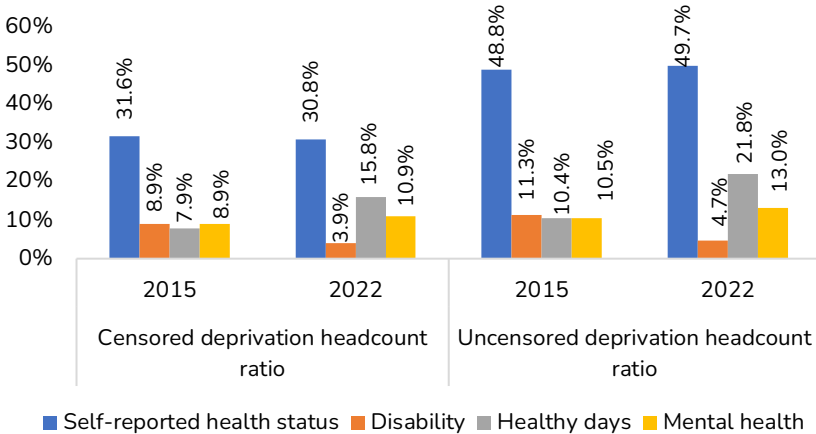
GNH 2022

GNH indicator	Nature of intervention	Title of intervention	Intervention objective	Timeline	Lead agency	Partners	Intervention ideas
							<p>guest speakers may also be included in the schedule to provide extra learning opportunities.</p> <p>3. Pilot outreach programmes: Outreach initiatives would be vital to the programme's success. This could involve using social media to promote the community meditation centre programme, as well as hosting community events and sensitise on the benefits of meditation.</p>
Negative emotions	Capacity building	Workplace Anger Management: A Training Programme for Employees	To help build the anger management skills of workers through the introduction of various tools and techniques	Short term	Royal Civil Service Commission	All the government agencies	<p>1. Needs assessment: Doing a needs assessment is the first step in establishing an anger management programme. This entails determining the programme's scope and recognising the specific needs of the business or individuals. Learn the causes and consequences of workplace anger. This could include conducting employee surveys or focus groups to identify areas of concern.</p> <p>2. Programme design and piloting: Develop a training programme to handle anger triggers, improve communication skills to prevent and handle disagreements, manage emotions, use relaxation and mindfulness techniques. Once the programme design is complete, the programme must be implemented. This includes selecting and training facilitators, arranging training sessions, and informing employees about the programme.</p>

Health

The health domain comprises four indicators; the assessment of self-reported health status (whether its 'excellent' or 'very good'), number of healthy days in the previous month (at least 26), disability that restricts their daily activities ('all the time' or 'occasionally'), and mental health (score of at least 15 indicating normal mental wellbeing). As per the censored deprivation headcount ratio, deprivation has decreased for self-reported health status and disability indicators between 2015 and 2022. For example, in 2015, 31.6% claimed at least 'very good' self-reported health status and were in the not-yet-happy group; by 2022, this had dropped to 30.8%. In 2015, 8.9% of people said their disability limited their everyday activities at least 'sometimes', and were not in the not-yet-happy group. Censored deprivation counts increased for both healthy days and mental health over time. The uncensored deprivation headcount (raw insufficiency headcount) revealed the same trends (Figure 49).

Figure 49: Censored and uncensored deprivation headcount ratios, 2015–22



Source: Authors' computations based on 2015 and 2022 GNH Survey

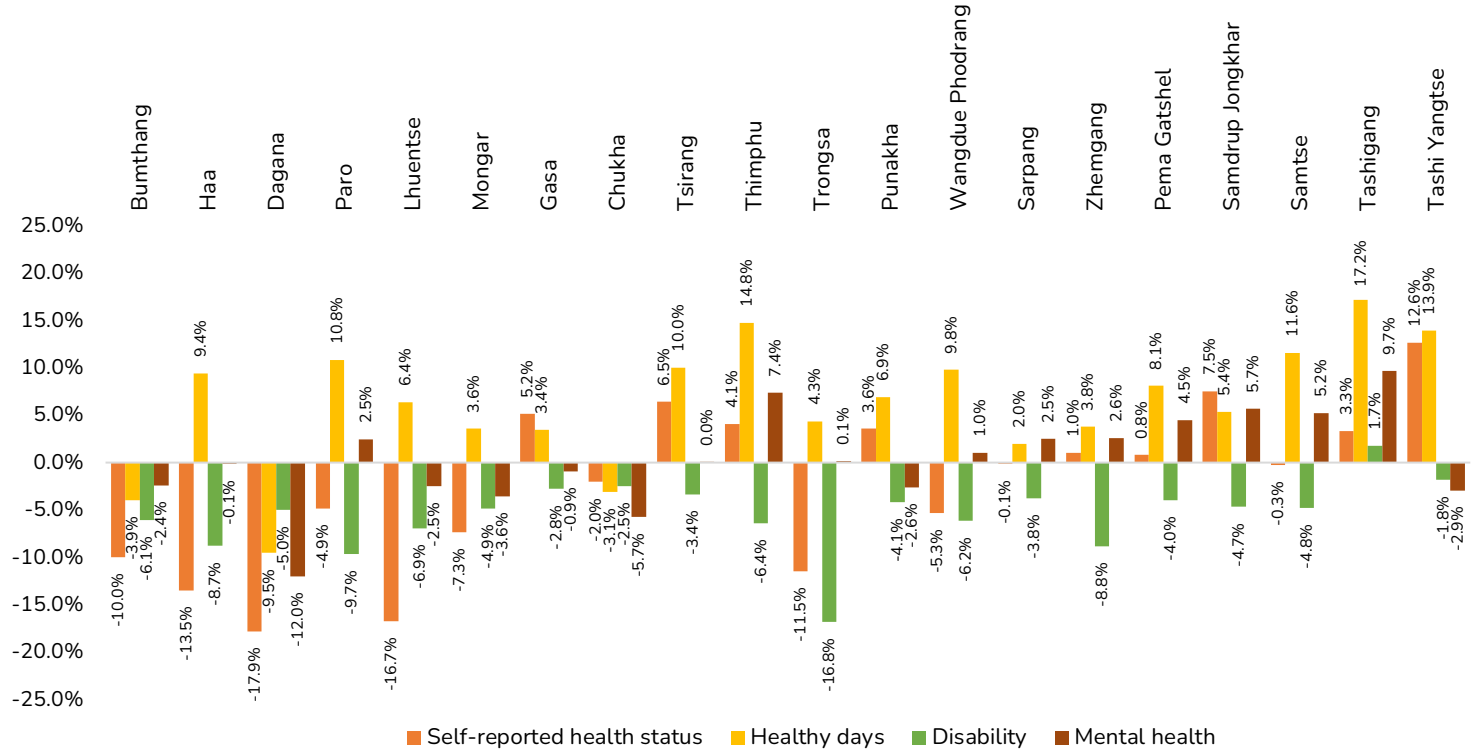
Looking at the absolute changes in the censored deprivation headcount ratios reveals that in some districts deprivations in healthy days have

worsened. Despite being in the top-performing districts, deprivations in healthy days in Haa, Paro and Lhuentse worsened. Deprivations also increased in Mongar, Gasa and Tsirang. Thimphu also saw an increase in healthy days deprivation by 14.8%. Tashigang and Tashi Yangtse also saw an increase in censored deprivations in healthy days, by 17.2% and 13.9%, respectively (Figure 50).

The percentage of the population who are not-yet-happy and deprived in disability shows progress in all districts except for Tashigang (censored deprivations increased by 1.7%). It is worth noting that Tashigang is the only district where censored deprivations for all the health indicators worsened.

Mental health has deteriorated in Paro, Wangdi Phodrang, Sarpang, Zhemgang, Pema Gatshel, Samdrup Jongkhar, Samtse, Tashigang and Thimphu.

Figure 50: Absolute changes in the censored deprivation headcount ratios by districts, 2015–22



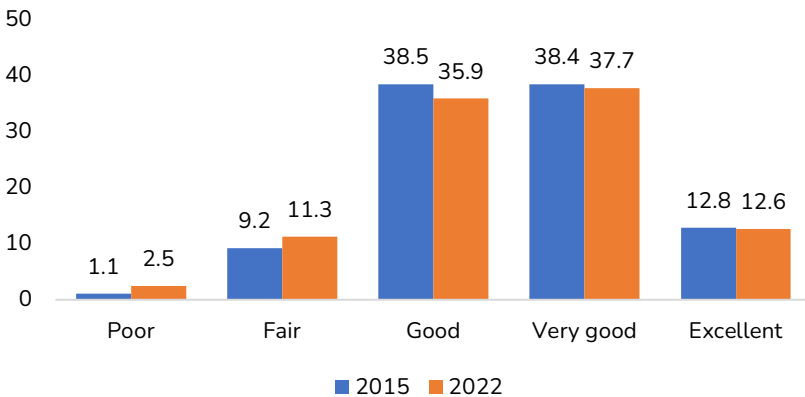
Source: Authors' computations based on 2015 and 2022 GNH Survey

Self-reported health status

Females have a greater deprivation rate, according to the censored deprivation headcount (Figure 51). In comparison to 24.3% of the male population, 34.7% of the female population is deprived and lacks overall sufficiency in at least 66% of the weighted GNH indicator (not-yet-happy category). Similarly, rural areas have a higher percentage of deprived and unhappy people than urban areas. Although self-reported health status can be a useful indicator of overall health, it is not always the most accurate or reliable indicator. Self-reported health status is based on an individual's subjective evaluation of their own health and can be impacted by factors such as mood, social desirability bias, and cultural standards. On the other hand, self-reported health status can be a significant tool for academics and healthcare professionals to study how people perceive their health and how that perception connects to other factors such as access to healthcare, lifestyle factors, and demographic features.

Overall, since the health domain comprises additional indicators of physical and mental health, this indicator may need to be revisited in the future, especially in terms of its usefulness given its subjective nature.

Figure 51: *Percentage of people reporting their health status, 2015–22*



Source: Authors' computations based on 2015 and 2022 GNH Survey

Disability

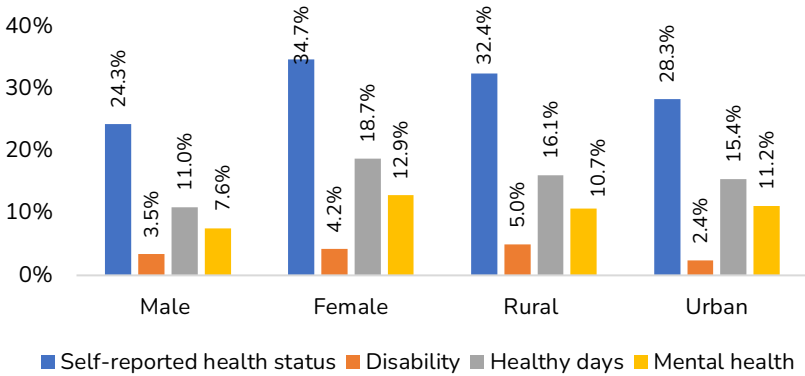
The GNH survey assesses several types of disability, including those with vision, hearing, walking/climbing steps, remembering/concentrating, washing/dressing, communication, cardiovascular, respiratory, mental, and other impairments. In 2022, approximately 4.7% (raw deprivation headcount) face at least one of the difficulties, finding it 'sometimes' or 'all the time' difficult to carry out their everyday functions (Figure 52). We can see from the censored deprivation headcount ratios in Figure 53 that females have greater deprivation rates, and the frequency is higher in rural areas: 5% of rural residents are disabled and not-yet-happy, compared to 2.4% in urban areas. Not-yet-happy people are those who lack sufficiency in at least 66% of the weighted variables.

According to the 2017 Population and Housing Census of Bhutan, 2.1% or approximately 16,567 Bhutanese people are living with disabilities (PLWDs), with 70% of these people living in rural areas. Rural areas lack the necessary facilities and services for PLWDs and children living with disabilities, and stigma is far more prevalent.

Bhutan, like many other countries, still has work to do to make its environment more accessible to people with disabilities. While Bhutan has made strides in recent years, particularly with the approval of the National Policy for People with Disabilities in 2019, people with disabilities continue to encounter several obstacles in accessing education, employment, healthcare, and public services.

To address these problems, the Bhutanese government and numerous civil society organisations have taken steps to increase disability inclusion and accessibility, such as developing accessible tourist programmes, establishing disability-focused NGOs, and advocating for inclusive education policy. Nonetheless, more work must be done to guarantee that people with disabilities in Bhutan have equitable access to all sectors of society. Given this, this indicator will be important both now and in the future.

Figure 52: Censored deprivation headcount ratios by sex and region, 2022



Source: Authors' computations based on 2015 and 2022 GNH Survey

Healthy days

Healthy days is a vital health indicator because it attempts to quantify the picture of a person's general health and functional capacity. The indicator shows how frequently a person has felt both mentally and physically healthy throughout the last month. Based on self-reported information, this measurement considers both the existence of physical, mental symptoms and the capacity to perform everyday tasks. The average number of healthy days was reported to be 28.3 in 2015 and 26.7 in 2022. More males exhibit lower censored deprivation headcount than females (Figure 52). Rural areas have slightly higher censored deprivation headcount (proportion of people deprived in healthy days and are classified as not-yet-happy) than urban areas.

By keeping track of their healthy days, people and populations can be evaluated for their health status. This data can be used to assess the success of activities for health promotion, spot health disparities, and focus actions to improve health outcomes.

Mental health

The mental health indicator collects data on mental health through the 12-item General Health Questionnaire (GHQ-12).⁴⁹ The GHQ-12 is a

⁴⁹ The GHQ-12 includes the following 12 questions: (1) Have you recently been able to concentrate on whatever you are doing? (2) Have you recently lost much sleep

shorter version of the GHQ that includes 12 Likert-scale items that assess the individual's level of psychological discomfort over the last few weeks. The 12 items are rated on a four-point Likert scale, with 'less than usual' being the lowest and 'far more than usual' being the highest. According to the World Health Organization (WHO) international standards, the GHQ-12 score (ranging from 0 to 36) can be effectively divided into three responses: normal mental wellbeing (0-15), some mental distress (15-20) and severe mental distress (above 20).

The percentage of Bhutanese people who reported experiencing severe psychological distress grew from 3% in 2015 to 4.3 % in 2022 (Table 31). Those who are severely distressed are more prevalent in rural than urban locations.

Table 31: Percentage of people reporting their mental health, 2015–22

Mental health indicator	2022			2015		
	Rural	Urban	National	Rural	Urban	National
Severe psychological distress	4.7	3.2	4.3	3.4	1.9	3
Some distress	7	7.6	7.2	8.1	6	7.5
Normal mental wellbeing	88.3	89.2	88.5	88.5	92.1	89.5
Pearson chi2(2) 11.5576 Pr = 0.003				Pearson chi2(2) 21.6753 Pr = 0.000		

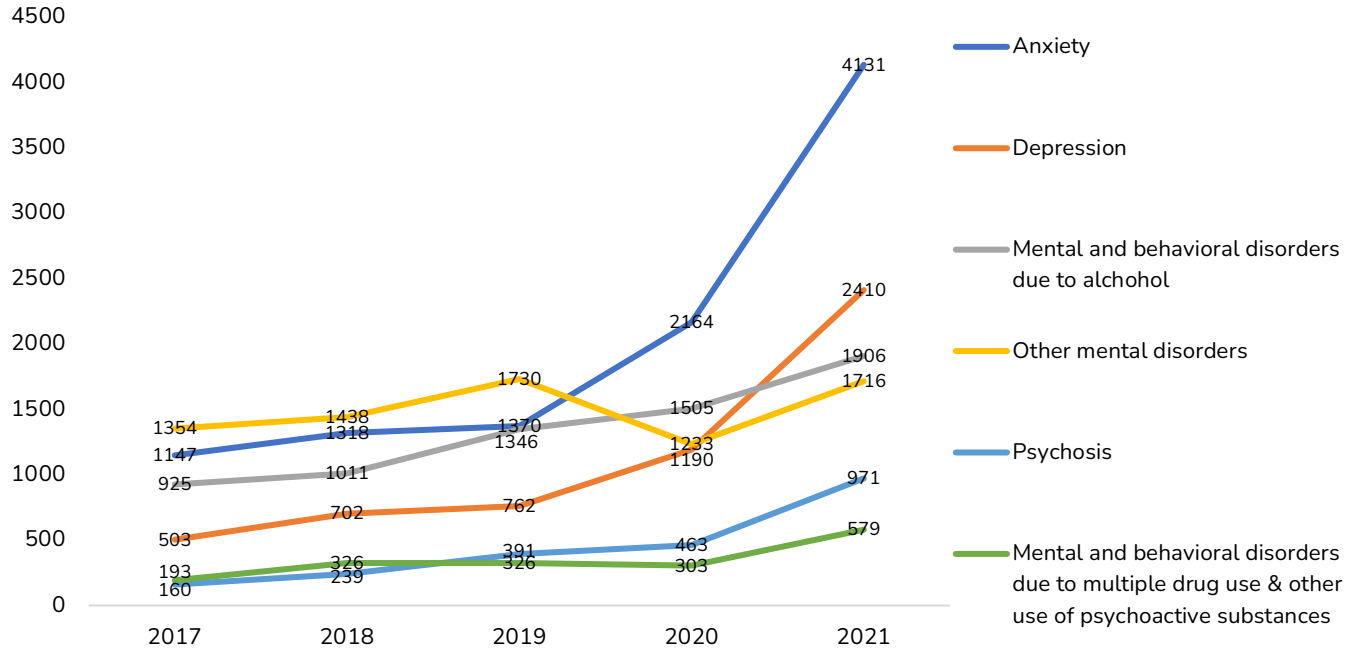
Source: Authors' computations based on 2015 and 2022 GNH Survey

The National Mental Health Strategy and Multi-sectoral Suicide Prevention Strategy serve as the foundation for all mental health interventions. All healthcare professionals are trained in the recognition

due to some worry? (3) Have you recently felt constantly under strain? (4) Have you recently felt that you could not overcome your difficulties? (5) Have you recently been feeling unhappy and depressed? (6) Have you recently been losing confidence in yourself? (7) Have you recently been thinking of yourself as a worthless person? (8) Have you recently felt that you are playing a useful role in life? (9) Have you recently felt capable of making decisions about things? (10) Have you recently been able to enjoy your normal day-to-day activities? (11) Have you recently been able to face up to your problems? (12) Have you recently been feeling reasonably happy, all things considered?

and treatment of common mental disorders, and mental health treatments are integrated into primary healthcare services. Nonetheless, the JDWNRH's Psychiatry Department offers specialist mental healthcare. Anxiety, depression, and mental and behavioural disorders brought on by alcohol and drug misuse are common and prevalent mental health diseases in the nation. According to the 2022 Annual Health Bulletin, mental disorders have steadily increased over the years. The number of anxiety patients has increased the most, from 1,354 cases in 2017 to 4,131 cases reported in 2021. Depression follows, with 2,410 cases documented in 2021.

Figure 53: Number of reported mental disorders in the 2022 Annual Health Bulletin, 2017–21



Source: Authors' computations based on Annual Health Bulletin 2022 (Ministry of Health)

Intervention ideas for the domain of health

Table 32 summarises findings from the analysis of the censored deprivation headcount ratios. Improving health indicators demands a system-wide plan that addresses individual and cultural concerns that affect both physical and mental health, while also making Bhutan more accessible to people with disabilities. Such interventions should emphasise prevention and early diagnosis of physical and mental health problems, as well as targeted interventions to improve the life conditions of people with disabilities.

For instance, education initiatives can assist in raising awareness about the importance of mental health while also reducing stigma associated with mental health concerns. This can include spreading positive mental health messages through various media sources. It is also vital to establish infrastructure for mental health services. In 2022, The Pema Centre Secretariat was established to spearhead Bhutan’s national response to mental health. The centre will be creating and upgrading mental health services to provide critical assistance to people suffering from mental illnesses. This can include increasing mental health programme financing, enhancing access to mental healthcare, and increasing the number of mental health specialists.

Table 32: Domain indicators and their status in GNH Index, 2015–22

Indicator	National censored deprivation headcount ratios	Intervention focus areas	
		Region where censored deprivation has increased	Districts where censored deprivation headcount ratios have increased
Self-reported health status	Decreased	Rural	Gasa, Thimphu, Punakha, Zhemgang, Pema Gatshel, Samdrup Jongkhar, Tashigang, Tashi Yangtse
Healthy days	Increased	Rural	Haa, Paro, Lhuentse, Mongar, Gasa, Tsirang, Thimphu, Trongsa, Punakha, Wangdue Phodrang, Zhemgang, Pema Gatshel, Samdrup Jongkhar, Samtse, Tashigang, Tashi Yangtse
Mental health	Increased	Urban	Thimphu, Paro, Wangdue Phodrang, Sarpang, Zhemgang, Pema Gatshel, Samdrup Jongkhar, Samtse, Tashigang
Disability	Decreased	Rural	Tashigang

Source: Authors’ computations based on 2015 and 2022 GNH Survey

Other interventions could also include workplace stress management. Workplace stress can have a substantial impact on a person's mental health. Workplace policies and programmes that assist mental health, such as stress management and flexible work arrangements, might be developed as interventions.

Table 33 provide a summary of the ideas for programmatic interventions to improve physical and mental health as well as to make Bhutan a better place for those with disabilities.

Table 33: Proposed intervention ideas to improve health domain

GNH Indicator	Nature of intervention	Title of intervention	Intervention objective	Implementation period	Lead agency	Partners	Programmes/Experiments
Disability	Infrastructure	Breaking Barriers: Fostering Accessibility for People with Disability	To ensure that communication, technology, and physical spaces are all accessible to people with disabilities.	Medium term	Ministry of health		<p>1. Perform accessibility audits of public areas, structures, and facilities to identify impediments and create removal plans for them. This can entail building accessibility improvements such as enlarging doorways, installing ramps, adding accessible lavatories, and more.</p> <p>2. Technology Accessibility: Make ensuring that digital information, websites, and technology are all accessible to people with impairments. This could entail testing the accessibility of websites, educating developers on accessible technology, and adding accessibility features to software and hardware.</p> <p>3. Communication Accessibility: Promoting accessibility in communication is important for people with impairments. This could entail creating standards and recommended practices for accessible communication, training staff and service providers on accessible communication, and utilising accessible formats like captioning and sign language interpretation.</p>

Policy Implications of the GNH Index

GNH Indicator	Nature of intervention	Title of intervention	Intervention objective	Implementation period	Lead agency	Partners	Programmes/Experiments
Disability	Advocacy and awareness	Disability awareness and advocacy programmes	To increase the public understanding of disability issues and promoting inclusion and accessibility, and reducing stigma and discrimination towards people with disabilities	Short term	Ministry of health		<p>1. Develop a Social Media Campaign: To share the stories and experiences of people with disabilities, recognise their accomplishments, and encourage inclusion and accessibility, a social media campaign will be launched on a variety of social media platforms (including Facebook, Twitter, Instagram, and TikTok).</p> <p>2. Organise Webinars and Workshops: Several webinars and workshops will be held to enlighten the public on the rights of people with disabilities and to offer guidance on how to build a more inclusive and accessible society. These webinars and workshops may cover subjects including inclusive education, accessible travel, and workplace accessibility.</p> <p>3. Community Events: To encourage inclusion and highlight the capabilities of people with disabilities, community activities like art exhibits, sporting competitions, and cultural festivals will be arranged. The accessibility and inclusivity of these activities will be prioritised.</p>
Disability	Policy	Breaking Employment Barriers: Increasing Opportunities for Individuals	To increase employment opportunities for people with disabilities and to increase	Medium term	Ministry of health		<p>1. Employer Outreach: Work with employers to raise awareness of the advantages of hiring people with disabilities and to instruct them on how to create more inclusive and accessible work environments. This can entail building toolkits on disability inclusion</p>

GNH Indicator	Nature of intervention	Title of intervention	Intervention objective	Implementation period	Lead agency	Partners	Programmes/Experiments
		with Disabilities	awareness and understanding of disability employment issues among employers and stakeholders.				<p>and training programmes for employers.</p> <p>2. Job Training and Support: Help people with disabilities acquire the skills necessary to be successful in the workforce by providing them with employment training and support. This can entail collaborating with neighbourhood organisations to offer employment counselling, mentorship, and skill development.</p> <p>3. Technology Access: Guarantee that people with impairments can use assistive technology to carry out their employment obligations. This can entail giving out assistive technology tools and instruction on how to utilise them.</p> <p>4. Career counselling: Offer career advice to people with disabilities so they can discover their interests and skills and discover opportunities for employment that are a good fit. This could entail developing online professional resources and offering individualised advice.</p> <p>5. Disability-Inclusive Workplace Policies: Promote disability-inclusive workplace policies and practices that support people with disabilities having equal access to employment, such as flexible work schedules and accommodations.</p>

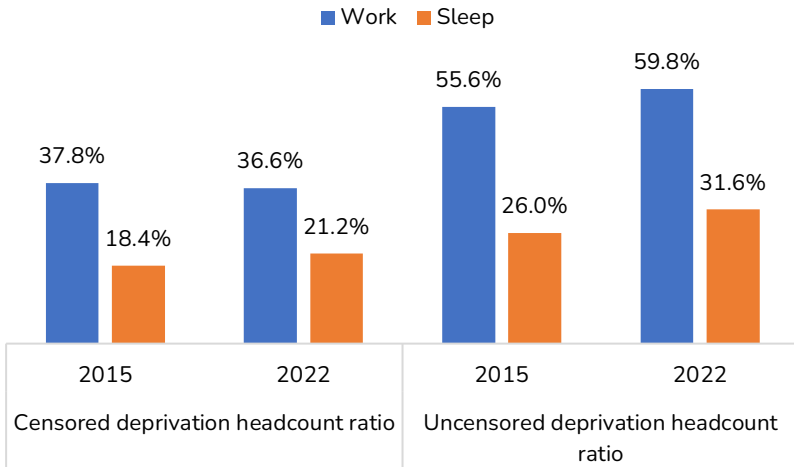
Policy Implications of the GNH Index

GNH Indicator	Nature of intervention	Title of intervention	Intervention objective	Implementation period	Lead agency	Partners	Programmes/Experiments
Healthy days	Advocacy and awareness	Health Check: Your Six-Monthly Reminder	To improve health outcomes due to early identification and treatment of health concerns, and improve preventative health measures among people, leading to better overall health and wellbeing.	Short term	Ministry of health		<p>Health Education: Give people with health education materials and resources, such as details on the value of routine health examinations and the kinds of tests and screenings that are advised.</p> <p>Deliver reminders to people every six months by email or SMS to remind them to make an appointment with their doctor for a health check up.</p>
Mental health	Policy	Thriving Minds: Creating Successful Workplace Mental Health Programmes	To create effective mental health programmes in the workplace that promote employee wellbeing and productivity	Short term	Ministry of health		<p>Develop programmes for workplace mental health: Many people spend a lot of time at work. As a result, implementing mental health programmes at work can significantly affect people's mental health. This entails encouraging work-life balance, offering assistance and tools for mental health, and lowering stress from the job.</p>

Time use

Based on the raw headcount ratios, deprivation has increased for both time-use domain indicators. Figure 54 shows that the proportion of people working more than eight hours per day (sufficiency threshold) has risen from 55.6% in 2015 to 59.8% in 2022. The proportion of people who are sleep deprived (get less than eight hours of sleep each night) has also risen (from 26% in 2015 to 31.6% in 2022). Approximately 36.6% were deprived and not yet happy in 2022, a reduction from 37.8% in 2015. But with regards to the sleep indicator, things were not positive: 18.4% of sleep deprived were unhappy in 2015, which further increased to 21.2% in 2022.

Figure 54: Censored and uncensored deprivation headcount ratios, 2015–22



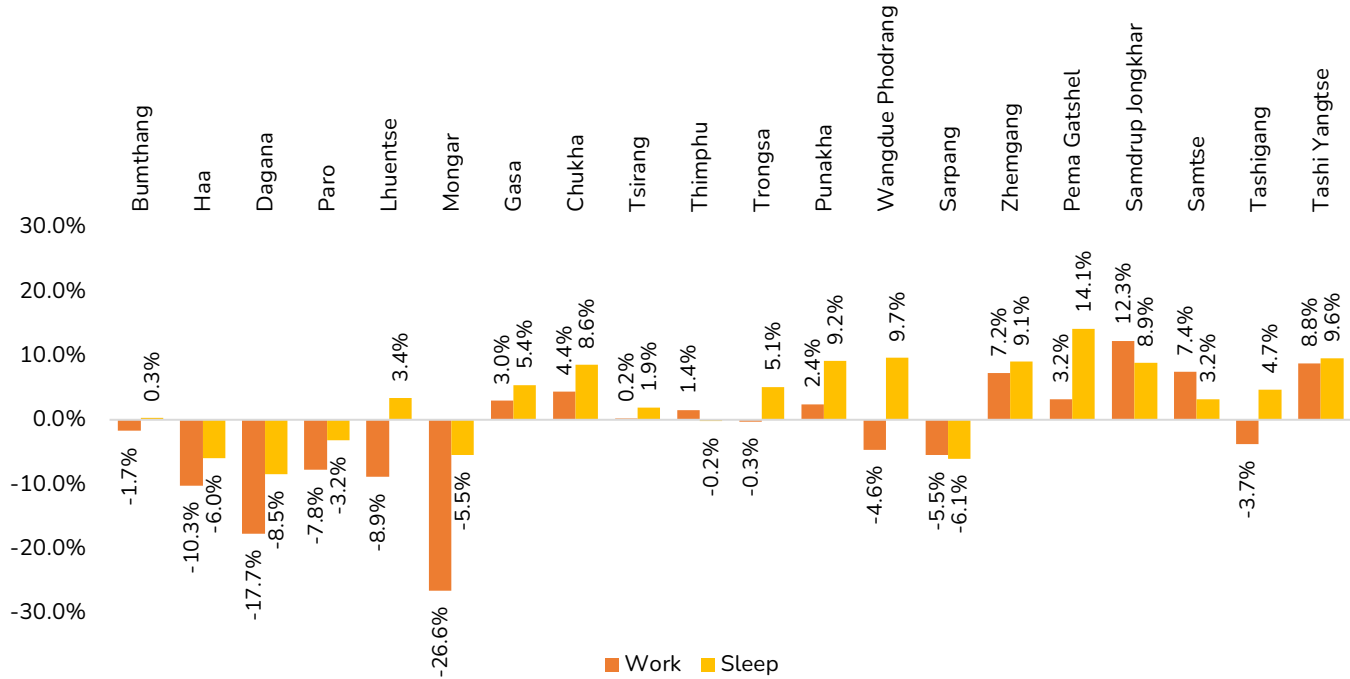
Source: Authors’ computations based on 2015 and 2022 GNH Survey

The percentage of population who are not-yet-happy and deprived in time use indicators have decreased among the top-performing districts (Bumthang, Haa, Dagana and Paro), indicating progress. In Lhuentse, the sleep deprived and not-yet-happy population has increased by 3.4 percentage points since 2015. In some districts, such as Gasa, Chukha, Tsirang, Thimphu, Punakha, Zhemgang, Pema Gatshel, Samdrup

Jongkhar, Samtse and Tashi Yangtse, censored deprivations for both work and sleep have increased, indicating deterioration.

In Tashi Yangtse, we see an increase of 8.8 percentage points in people who are work deprived and not-yet-happy. The percentage of the population in Thimphu who are sleep deprived and not-yet-happy has also increased by 9.6 percentage points.

Figure 55: Absolute changes in the censored deprivation headcount ratios by districts, 2015–22



Source: Authors' computations based on 2015 and 2022 GNH Survey

Looking at some more key measures can provide a clearer sense of the country's current situation.

Work hours

The indicator measures the daily work hours of individuals. Work hours unless the traditional definition, also incorporated hours dedicated to household chores involving a variety of tasks such as cleaning, cooking, laundry, grocery shopping, and caring for children, elderly people and pets. These tasks require time, effort, and skill, and they contribute to the smooth functioning of a household. From GNH point of view, household chores, though unpaid, are still work. In many cases, household chores are performed primarily by women, and the fact that they are not recognised as work can contribute to gender inequality. If household chores were recognised as work, it could help to raise awareness about the important role they play in maintaining a household and encourage a more equitable distribution of this work within families.

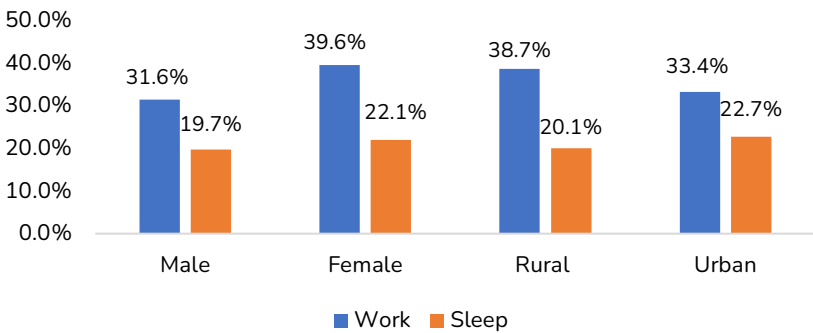
For work hours, a sufficiency threshold of 8 hours has been set, meaning that a person is classified as sufficient if they have worked less than 8 hours. The 2022 GNH Index findings show significant differences in the censored deprivations across sex and regional subgroups. As Figure 56 shows, 31.6% of the work deprived not-yet-happy group are males while 39.6% are females. Rural residents are more work deprived than those living in urban areas (38.7% of rural dwellers are sleep deprived and in the not-yet-happy group, while 33.4% of urban residents who are sleep deprived are in the not-yet-happy group).

The 2022 Labour Force Survey (LFS) report estimates that only 10.1% of working Bhutanese work less than 39 hours per week. This roughly translates to 7.8 hours daily for five workdays. This threshold may be the closest to the GNH work sufficiency threshold. However, this statistic is not directly comparable since the LFS questionnaire does not consider household work as work. Overall, 29.8% of employed people worked 40-49 hours per week (translating to 8 to 9.8 daily work hours for five days), 28.0% worked 50-59 hours per week (10 to 11.8 daily work hours for five days) , 11.4% worked 60-69 hours per week (12 to

13.8 daily work hours for five days) and 20.7% worked at least 70 hours per week (at least 14 daily work hours for five days).

More males (11.0%) than females (8.2%) work more than 80 hours a week. The proportion of those working 40-49 hours per week is higher in cities (37.9%) than in rural areas (25.5%). Yet, the proportion of people working 50-59 hours per week is larger in rural (30.5%) than in urban (23.1%) areas.

Figure 56: Censored deprivation headcount ratios by sex and region, 2022



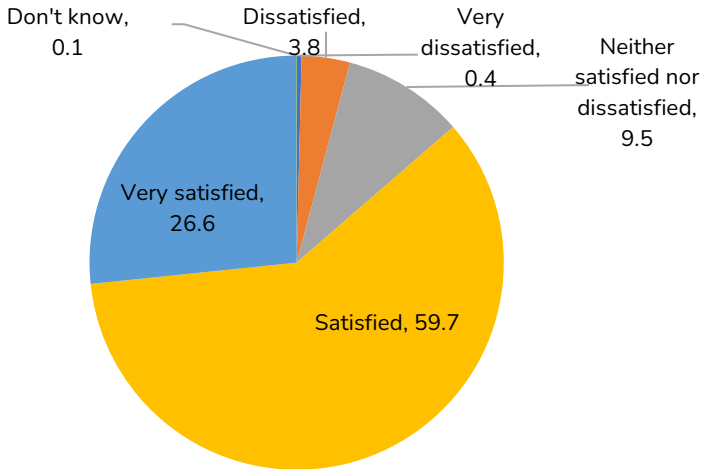
Source: Authors' computations based on 2015 and 2022 GNH Survey

Sleep hours

Females also have higher sleep deprivation (19.7% of males are sleep deprived and not-yet-happy and 22.1% are females). Work deprivations are higher for rural regions while sleep deprivations are higher for urban areas (for example, 20.1% of people living in rural areas are in the sleep deprived, not-yet-happy group and 22.7% of urban residents are in the sleep deprived, not-yet-happy group).

The 2022 GNH survey found that around 3.8% of people are dissatisfied with their sleep quality (Figure 57). This may be due to a variety of factors, including increasing stress levels, and usage of electronic devices before bedtime disrupting the body's natural sleep-wake cycle.

Figure 57: Percentage of people satisfied with their sleep, 2022



Source: Authors' computations based on 2015 and 2022 GNH Survey

Data collection on sleep patterns can provide useful insights into a population's general health. Inadequate or poor-quality sleep can have a detrimental influence on physical and mental health. Data on sleep patterns could be used by the health ministry, for instance, to identify regions where sleep health education and intervention programmes are needed. Likewise, if data shows that a specific demographic group frequently sleeps less than the recommended amount of time, focused education and outreach programmes could be designed to address the issue. For this reason, this indicator is still essential in GNH.

Intervention ideas for the domain of time use

Workplace practices such as flexible work schedules and telecommuting could help employees better balance their professional and personal life. Time management training can also assist people in better prioritising their responsibilities and activities, resulting in more efficient use of working hours and more time for leisure activities and sleep. Sleep hygiene education, such as the significance of maintaining a regular sleep schedule and avoiding gadgets before night, can enhance sleep hours and quality.

While government-driven interventions may be required to establish the correct conditions for people not to overwork or sleep less, these initiatives must be led by individuals. For instance, it is up to the individual to adopt a consistent sleep schedule, to prioritise and schedule leisure time, to utilise the flexible work arrangements, to practice good time management and to take breaks during a work day. This is especially true for those who work outside of the typical office environment, such as on farms.

Table 34: Domain indicators and their status in GNH Index, 2015–22

		Intervention focus areas	
Indicator	National censored deprivation headcount ratios	Region where censored deprivation has increased	Districts where censored deprivation headcount ratios have increased
Work	Decreased	Rural	Lhuentse, Gasa, Chukha, Tsirang, Thimphu, Punakha, Zhemgang, Pema Gatshel, Samdrup Jongkhar, Samtse, Tashi Yangtse
Sleep	Increased	Urban	Gasa, Chukha, Tsirang, Thimphu, Punakha, Zhemgang, Pema Gatshel, Samdrup Jongkhar, Samtse, Tashigang

Source: Authors’ computations based on 2015 and 2022 GNH Survey

Some intervention ideas are proposed in Table 35 to improve the time use domain.

Table 35: Proposed intervention ideas to improve time use domain

GNH Indicator	Nature of intervention	Title of intervention	Intervention objective	Implementation period	Lead agency	Partners	Intervention ideas
Sleep	Advocacy and awareness	Sleep Matters: A Public Awareness Campaign on the Importance of Sleep	To develop a targeted and engaging approach that reaches people and communities where they are, educating them on the importance of sleep and empowering them to prioritise their own sleep habits.	Short term	Ministry of Health	CSO, NGOs, LGs	<ol style="list-style-type: none"> 1. Social Media Campaign: Make a series of social media posts with messaging promoting healthy sleep habits, such as 'Get the rest you need for a better tomorrow' or 'Sleep well, feel well.' To increase visibility and engagement, these posts can include relevant hashtags. 2. School outreach programme: Collaborate with local schools to create a programme that teaches students about the importance of sleep and how to develop healthy sleeping habits. These can include presentations, workshops, and teaching materials. 3. Workplace programme: Collaborate with public and private agencies to create a programme that promotes employees to have healthy sleeping habits. Creating a sleep-friendly office climate, providing sleep education tools, and fostering a healthy work-life balance are all examples of how this might be accomplished. 4. Community event: Host a community event that promotes healthy sleep habits. This can include a sleep-themed walk or marathon or a sleep hygiene workshops, seminars and conferences.
Sleep	Infrastructure	Reducing Light Pollution for Better Sleep: Minimising Street Lighting	To promote the use of low-intensity lighting technology and infrastructure in communities to	Medium term	City Corporation, Thromdes	Ministry of Works and Human Settlements, CSO, NGOs, LGs	Lighting: Reduce night-time street lighting and install low-intensity lighting across the area. This will help to lessen the influence of light pollution on people's sleep-wake cycle. In addition, to create a darker sleeping environment, encourage people

GNH Indicator	Nature of intervention	Title of intervention	Intervention objective	Implementation period	Lead agency	Partners	Intervention ideas
		in Neighbourhoods	reduce light pollution while maintaining safety and security.				to utilise blackout curtains or shades in their houses.
Sleep	Infrastructure	Silencing the Soundscape: Noise Pollution Reduction Using High-Traffic Noise Barriers	To reduce the impact of noise pollution on nearby residents.	Long term	City Corporation, Thromdes	Ministry of Works and Human Settlements , CSO, NGOs, LGs	Noise Barriers: To lower noise levels in residential areas, install noise barriers in high-traffic areas such as highways or trains. Community initiatives that raise awareness of the benefits of noise barriers and advocate for their installation can help achieve this.
Sleep	Policy	Disconnect to Reconnect: Encouraging workers to Limit After-Hours Communication for Better Sleep and Work-Life Balance	To educate the public so that they limit after-hours communication can help employees to disconnect from work and prioritise their sleep needs.	Medium term	Ministry of Health	CSO, NGOs, LGs	<ol style="list-style-type: none"> 1. Research and Analysis: Conducting research and analysis on the current state of after-hours communication policies in the workplace and the impact they have on employee sleep and wellbeing. 2. Policy Development: Developing policies and guidelines that limit after-hours communication, including defining acceptable communication methods and establishing clear boundaries for employees and managers. 3. Worker Education: Informing employees on the significance of disconnecting from work after hours and the benefits of maintaining a healthy work-life balance. 4. Management Training: Educating managers on how to effectively adopt and enforce new policies,

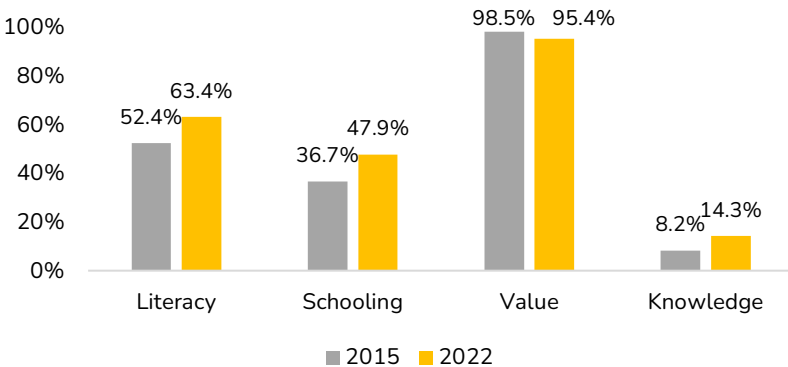
Policy Implications of the GNH Index

GNH Indicator	Nature of intervention	Title of intervention	Intervention objective	Implementation period	Lead agency	Partners	Intervention ideas
							as well as how to assist employees in prioritising their sleep and wellbeing.
Work	Capacity building	Developing a Work-Life Balance Culture: Empowering Managers to Support	To promote the significance of work-life balance among managers for their employees' wellbeing, productivity, and job satisfaction.	Short term	Ministry of Health	CSO, NGOs, LGs	The programme could include workshops, training sessions, and resources on the following topics: Recognising the significance of work-life balance and its impact on employee happiness and productivity Recognising indicators of burnout and stress in employees, as well as prevention and support techniques Techniques for effectively managing workload and delegating tasks Establishing boundaries and encouraging managers and staff to practice self-care Strategies for promoting work-life balance and addressing problems through communication
Work	Policy	Changing Workplace Culture: Policy Adjustments for Better Work-Life Balance	To reduce work-related stress	Short term	Ministry of Health	CSO, NGOs, LGs	1. Flexitime: Arrival and departure times may vary, but they must not affect the overall number of hours worked in a workweek. 2. Workplace Location Flexibility: Supervisors may regularly allow staff to work several hours/days during the week from a location other than onsite. 3. Compressed Workweek: Employees work the same number of hours but over fewer days.

Education

Analysis of the uncensored or raw headcount ratios in previous chapters revealed that deprivation across knowledge indicators is the highest, implying that sufficiency is the lowest for knowledge indicator. The uncensored deprivation headcount ratio (the share of people who are deprived in an indicator) highlights that Bhutanese people have significantly improved their level of sufficiency for three indicators (literacy, schooling and knowledge) since deprivations have decreased for all except for values indicator (Figure 58).

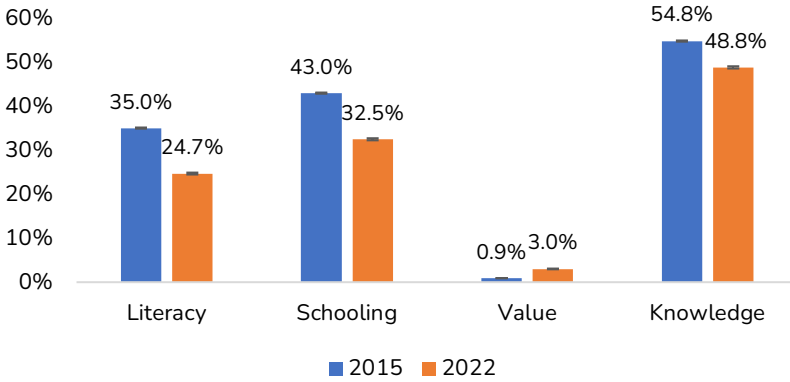
Figure 58: *Uncensored/raw deprivation headcount ratios, 2015–22*



Source: Authors’ computations based on 2015 and 2022 GNH Survey

Furthermore, among not-yet-happy people, proportion of people suffering deprivation in literacy fell from 35% in 2015 to 24.7% in 2022. Likewise, deprivations in the not-yet-happy group in schooling and knowledge fell from 43% and 54.8% in 2015 to 32.5% and 48.8% in 2022, respectively. However, deprivations in values indicator have risen by 3% among the not-yet-happy people (Figure 59). It should be noted that knowledge and value indicators are given lower weights than literacy and schooling. Overall, interventions would have to be directed towards improving values (deterioration) and knowledge (high deprivation) indicators.

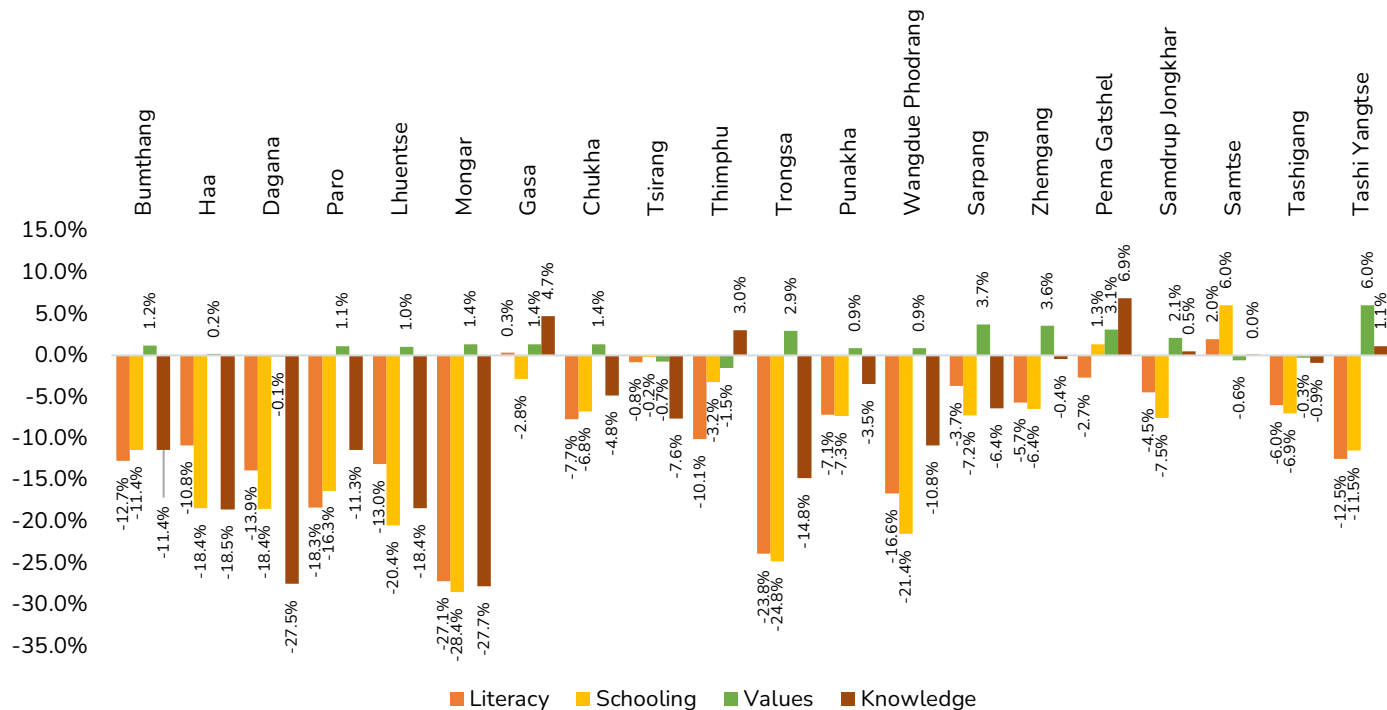
Figure 59: Censored deprivation headcount ratios, 2015–22



Source: Authors’ computations based on 2015 and 2022 GNH Survey

Looking at more evidence for each of these indicators can help to better understand the current situation in Bhutan. Figure 60 shows the changes in the censored deprivations among districts. There has been significant growth in terms of schooling indicator. However, there are certain areas where censored deprivation has worsened. For instance, in Gasa, values and knowledge have deteriorated, while in Pema Gatshel, schooling, values and knowledge have deteriorated over time.

Figure 60: Absolute changes in the censored deprivation headcount ratios by districts, 2015–22



Source: Authors' computations based on 2015 and 2022 GNH Survey

Literacy

Females are more deprived in this GNH indicator than males (see Figure 61). The Bhutan Living Standard Survey (BLSS) report for 2022 showed that literacy rates across all age groups for males were 77.1% and for females were 63.6%. Female youth literacy is 97.2%, while male youth literacy is 98.3%. These figures indicate that Bhutan has made tremendous progress in raising literacy rates, particularly among young people. However, despite a rise in overall literacy, female's literacy rates for both teenagers and adults are lower than their male counterparts. There are also discrepancies across region. The 2022 BLSS report also states that that literacy rates among those aged 5 and above are 70.2%; 82.1% in urban regions and 62.9% in rural areas. The proportion of people belonging to the not-yet-happy group and who are deprived in literacy is considerably higher for rural regions than urban areas (Figure 62).

The country's emphasis on education as a priority has been a major factor to Bhutan's literacy improvement. Bhutan's government has made education available and free to all citizens, and has invested in facilities to facilitate education throughout the country. While, literacy rates may become less relevant as education becomes more widely available, they remain an essential indication of educational attainment as well as social and economic engagement in many circumstances. Furthermore, regardless of formal education level, literacy skills are required for involvement in modern society and businesses. Literacy rate can be a helpful measure of individuals' and communities' ability to participate effectively in economic, social, and political activities.

As the findings show, there are still obstacles to increasing literacy rates, particularly among women. Traditional gender roles and cultural conventions that limit women's access to school may be some of the factors for the lower female literacy rate. But, it is also important to remember that a generation of women who never were schooled may not have the opportunity to obtain literacy, and for some of the elderly, it might not be a priority. Furthermore, given the country's rising youth literacy rates, the metric's usefulness in GNH may need to be reconsidered in the near future.

Schooling

The schooling indicator measures the number of years of schooling completed by respondents including monastic education for which a sufficiency threshold of six years had been set. The share of deprivation among the not-yet-happy group has decreased significantly, from 43% in 2015 to 32.5% in 2022.

However, gender and regional discrepancies still exist. Around 54% of females belonging to the not-yet-happy group have been able to complete six years of schooling as opposed to 40% of males. Likewise, 50.9% of the not-yet-happy living in rural areas have not attained six years of schooling in comparison to 45.7% of urban residents.

Further validation is provided by the 2022 BLSS report, where approximately 36% of the population aged 5 and up were reported to have not attended any formal education (schooling from formal institutions, whether traditional school or institute). The living standard survey also collected information on whether people aged 5 and above who had never attended a traditional school or institute had gotten any other learning in the past or present. It found that 19% of those who have never attended formal education (6.8% of the population aged 5 and up) have obtained other types of learning, including monastic education (institutional), monastic education (non-institutional), and non-formal education. Non-formal education was received by nearly 4.3% of the population aged 5 and up, followed by monastic education (institutional) (1.3%) and monastic education (non-institutional) (1.1%). Almost 29.2% of those who have never attended a formal school or institute have never acquired any other sorts of schooling.

The 2022 BLSS report also highlighted that females and males have significantly different educational attainment levels. Around 40.4% of females have no formal schooling, compared to only 30.3% of males. Similarly, approximately 6% of females have a bachelor's degree or more, compared to approximately 9% of males. The report, however, does not provide information on age groups to help assess whether this is a stock variable from the earlier time or actual gender disparities in educational attainment. Around 49% of household heads have no

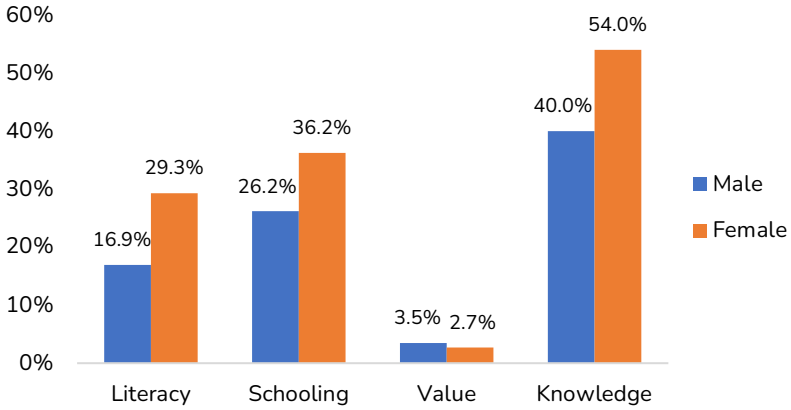
formal education; in rural areas, the number is larger (63.5%) than in urban areas (27.5%).

As more people get access to education and as the current generation, which has a high percentage of school attendance, becomes older, education may eventually lose its relevance. The 2022 BLSS⁵⁰ report stated that the current rate of school attendance is 85%. The proportion of people aged 2 and up who have never attended a formal school or institute is 37.7%, whereas 28.8% are currently going or have gone in the previous academic year, and 33.5% have previously attended. When comparing male and female school attendance, the proportion of males and girls now enrolled in formal school or institute is nearly equal.

In addition, there is no variation in school attendance rates between urban and rural locations. But for now, as the findings suggested, access to education may still be restricted or unequally distributed among subgroups, and even in communities where education is widely accessible, the quality and level of education attained can differ significantly. While education remains a major indicator in GNH for the time being, it may need to be reconsidered in the future depending on the progress made in educational attainment.

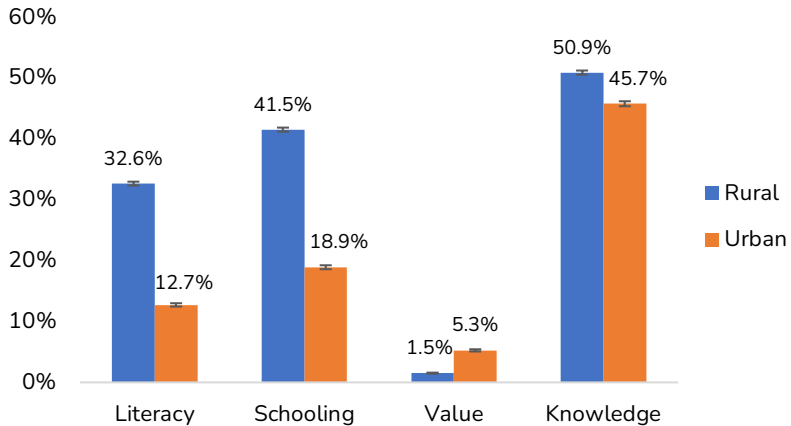
⁵⁰ <https://www.nsb.gov.bt/publications/bhutan-living-standard-survey-report/>

Figure 61: Censored deprivation headcount ratios by sex, 2022



Source: Authors' computations based on 2015 and 2022 GNH Survey

Figure 62: Censored deprivation headcount ratios by region, 2022



Source: Authors' computations based on 2015 and 2022 GNH Survey

Values

The values indicator covers people's perceived justifications on the five harmful actions; killing, stealing, lying, causing disharmony in relationships, and sexual misconduct. The values indicator is one of the GNH indicators in which people enjoy a high level of sufficiency, implying that a large majority rate the five harmful actions as 'never justified'. However, it is vital to note that the proportion of people stating

these actions can either be 'sometimes be justified' or 'always' is also increasing marginally.

For instance, in 2015 only 0.9% of the not-yet-happy group were deprived but in 2022, this rose to 3%. It is also interesting to note that not-yet-happy females are less deprived in values than males (3.5% of not-yet-happy males deprived vs. 2.7% of not-yet-happy females). Perhaps this is also one of the indicators in which rural residents enjoy more sufficiency as deprivations among the not-yet-happy rural residents is lesser (1.5%) than not-yet-happy urban residents (5.3%).

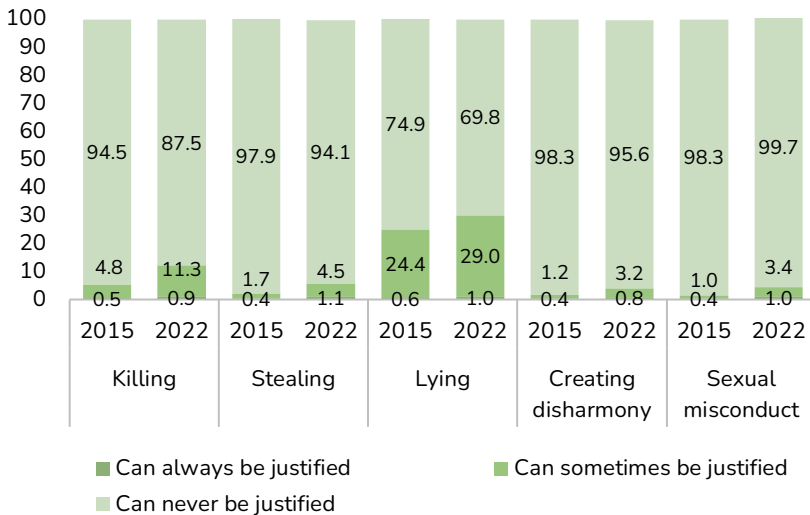
While in general there is a large share of the population stating that these harmful actions can never be justified, there is an increase the proportion of people who stated that they can be sometimes justified. For example, Figure 64 shows that in 2015 only 4.8% reported that killing can sometimes be justified, but in 2022 this proportion increased to 11.3%. The biggest increase can be seen in lying, as an additional 5% perceive that it can sometimes be justified (24.4% in 2015 and 29% in 2022).

Now, what if this pattern continues and even increases in the future? Would it increase crime? Currently, the GNH Index uses the values indicator as a proxy for a society's preferred attitudes and behaviours, including what is considered acceptable and improper behaviour. When a strong emphasis is placed on values, it is expected that such principles will foster a culture of social order and legal conformity, which may reduce crime rates in the long run. While Bhutan remains one of the world's safest countries, in recent years, it has seen an increase in the number of crimes and thefts, particularly in urban areas. The Statistical Yearbook 2022⁵¹ generated by the Royal Bhutan Policy (RBP), shows that 46 criminal occurrences happened per 10,000 people in 2022. The crime rate increased by 24.3% in 2022 compared to 2021 (37 criminal incidents).

⁵¹<https://www.rbp.gov.bt/Forms/CRIME%20STATS%20YEARBOOK%202022%20FINAL.pdf>

The values indicator is still relevant as it provides an insight into a society's cultural, social, and political dynamics and can aid in identifying areas of strength and concern. It can be used to identify places where social norms and values may be contributing to social problems such as crime, poverty, and discrimination. Policy makers can create interventions that seek to influence attitudes and beliefs in order to achieve positive social outcomes by identifying places where societal values are out of sync with desired social outcomes.

Figure 63: Changes in the percentage reporting of the five variables under values indicator, 2015–22



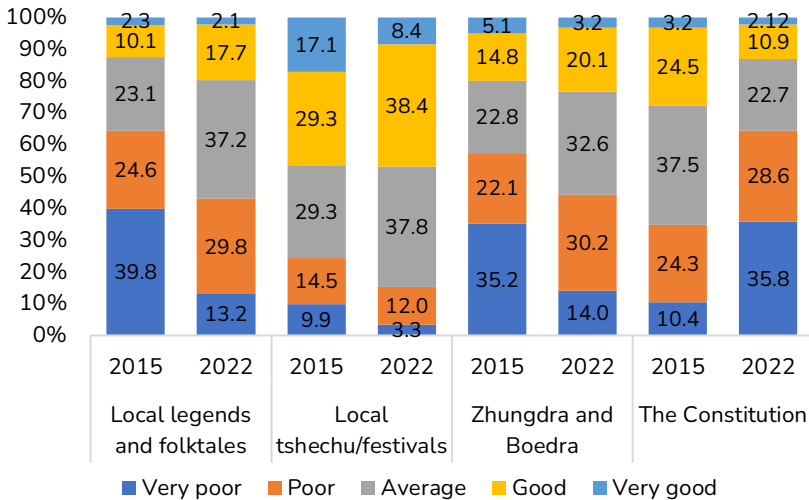
Source: Authors' computations based on 2015 and 2022 GNH Survey

Knowledge

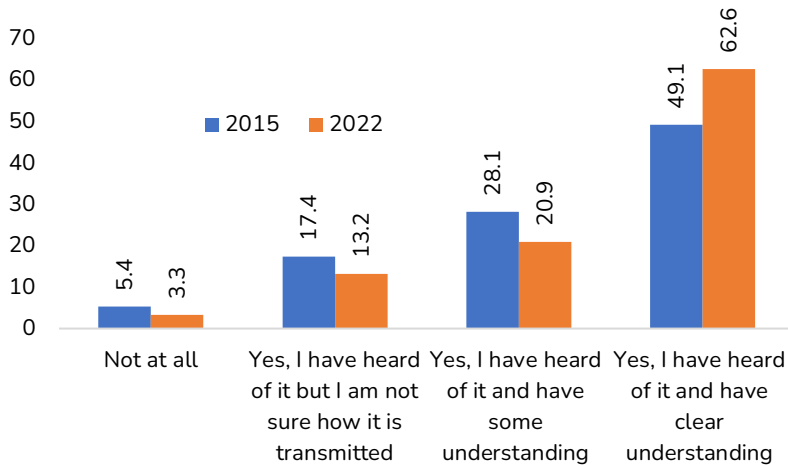
The knowledge indicator, which is the highest deprivation, comprises of five variables; knowledge on local legends, *tshechus*/festivals, *zhungdra* and *boedra*, the Constitution and HIV/AIDS. People's perception on their knowledge level on these five topics are being captured. The censored headcount ratios show that deprivations have decreased significantly: 54.8% of people were deprived and not-yet-happy in 2015, while in 2022 this fell to 48.8%. Not-yet-happy females have higher deprivation (54%) than their male counterparts (40%). Similarly, not-yet-happy rural residents are more deprived than urban residents.

In 2022, merely 19.8% had at least good knowledge of local legends, and 13% had at least good knowledge of the constitution (Figure 64). The share of people with ‘very good’ knowledge local festivals also fell significantly (17.1% to 8.4%). There was also a drastic decrease in the proportion of people with ‘good’ knowledge of the Constitution (24.5% in 2015 to 10.85% in 2022). 23.3% had at least good understanding of traditional songs, and 46.8% had at least a good understanding of local festivals. 62.6% knew how HIV/AIDS was transmitted. On average, understanding of all five measures is mostly low; nevertheless, with the exception of knowledge of the Constitution, there has been significant improvement.

Figure 64: Changes in the percentage reporting on five variables under knowledge indicator, 2015–22



Do you know how HIV/AIDS is transmitted?



Source: Authors' computations based on 2015 and 2022 GNH Survey

With modernisation, there is a risk that these traditional cultural components and knowledge would deteriorate, therefore these variables are crucial. Bhutan has a rich oral storytelling history, with many local legends passed down through centuries. These stories frequently include important moral lessons as well as insights into Bhutanese culture and history. *Tshechus* are annual celebrations that are an essential element of Bhutanese culture and history. Certain festivals convey ideals and establish societal norms over time. *Zhungdra* and *Boedra* are two traditional genres of Bhutanese music and dancing. These songs frequently depict societal morals.

Hence, knowledge on the first three topics provide people with an opportunity to preserve and celebrate a community's cultural traditions and history but also to connect with their cultural roots. It may bring people together fostering social cohesion and a sense of belonging which is vital of wellbeing and happiness. Many local festivals have a spiritual or religious significance and allow people to reconnect with their beliefs and spirituality. They frequently include prayers, blessings, and other religious rites, and they allow people to develop their spiritual connection. In terms of the Constitution, understanding rights and

responsibilities, governance and democracy, the rule of law, national identity, and the promotion of peace and stability all require knowledge of the Constitution. It is a fundamental component of civic education and the operation of a democratic society. Hence, it is still relevant in GNH.

HIV/AIDS knowledge is being utilised as a proxy for reducing new cases as well as stigma and prejudice. Bhutan remains one of the few countries in the region with an HIV prevalence of less than 0.1%. Nonetheless, the 2022 Annual Health Bulletin⁵² reports that there is a high-risk behaviour among Bhutanese citizens, as well as the concentration of infection among the most productive age groups, increase the risk of HIV transmission. The overall number of cases has steadily climbed from 570 in 2017 to 795 in 2021, with males and those aged 24 and up having a higher prevalence rate. On average, 50 to 55 new cases are detected annually.

Unprotected intercourse with multiple partners, sharing of needles and syringes among people who inject drugs, and a lack of information about HIV prevention and transmission are some of the high-risk behaviours that contribute to the spread of HIV in Bhutan. Furthermore, stigma and prejudice towards people living with HIV/AIDS can create barriers to testing, treatment, and care, driving the virus's spread. Infection concentrations among the most productive age groups, such as young adults, can have serious economic and social consequences for the country. HIV can increase healthcare expenses, decrease workforce productivity, and place a strain on families and communities.

Intervention ideas for the domain of education

Having reviewed the five education indicators, we look at some of the practical actions that can be implemented to assist improvement in these indicators over time. To address the challenges across these education indicators, interventions need to be tailored to those indicators that are showing the maximum lag, such as the knowledge

⁵² https://www.moh.gov.bt/wp-content/uploads/ict-files/2022/05/Annual-Health-Bulleti-2022_Link.pdf

indicator. Table 36 shows the status of the education indicators based on the analysis of the censored deprivation headcount ratios.

Table 36: Domain indicators and their status in GNH Index, 2015–22

			Intervention focus areas
Indicator	National censored deprivation headcount ratios	Region where censored deprivation has increased	Districts where censored deprivation headcount ratios have increased
Literacy	Decreased	Rural	Gasa
Schooling	Decreased		Pema Gatshel, Samtse
Values	Increased	Rural and Urban	Bumthang, Haa, Paro, Mongar, Gasa, Chukha, Trongsa, Punakha, Wangdue Phodrang, Sarpang, Zhemgang, Pema Gatshel, Samdrup Jongkhar, Tashi Yangtse
Knowledge	Decreased		Gasa, Thimphu, Pema Gatshel, Samdrup Jongkhar, Tashi Yangtse

Source: Authors’ computations based on 2015 and 2022 GNH Survey

Table 37 proposes some interventions to improve some of the lagging indicators of education domain.

Table 37: Proposed interventions ideas to improve the education domain

GNH Indicator	Nature of intervention	Title of intervention	Intervention objective	Timeline	Lead agency	Partners	Interventions ideas
Literacy	Capacity building	Bringing the Classroom to Them: Mobile Literacy Programmes for Older Females	To improve literacy among rural females	Short term (1-2 years)	Ministry of Education and Skills Development	Schools, Royal University of Bhutan, Influencers, CSO, NGOs, LGs	A mobile literacy programme for rural females is a programme that provides basic reading skills training to elder females who have limited access to formal schooling in rural locations. The initiative employs a mobile classroom or bus that visits remote villages to provide literacy training to the target population, making learning more convenient. The curriculum could be intended to be adaptable and responsive to the unique needs of rural females. It is critical that the programme is culturally appropriate and takes into account the unique obstacles and hurdles to education that rural females confront.
Literacy	Capacity building	Peer-to-Peer Learning for Female Literacy	To improve literacy among rural females	Short term (1-2 years)	Ministry of Education and Skills Development	Schools, Royal University of Bhutan, Influencers, CSO, NGOs, LGs	Peer-to-peer learning: Elderly women may prefer to learn from their peers. Peer-to-peer learning programmes in which older ladies teach each other basic literacy skills can be formed. This can be accomplished through group classes or one-on-one meetings. Peer-to-peer learning can take many forms, such as study groups, mentorship programmes, or community-based education programmes.
Schooling	Advocacy and awareness	Dropout Prevention Programme	To increase school completion rates among female students	Short term (1-2 years)	Ministry of Education and Skills Development	Schools, Royal University of Bhutan, Influencers, CSO, NGOs, LGs	Mentorship and counselling: To assist female students in overcoming personal, family and academic obstacles that are prompting them to consider dropping out. A mentor or counsellor can provide students with direction

GNH Indicator	Nature of intervention	Title of intervention	Intervention objective	Timeline	Lead agency	Partners	Interventions ideas
							and support, as well as assistance with academic planning and emotional support.
Values	Policy	Teaching values in school	To review curriculum and strengthen values education	Short term (1-2 years)	Ministry of Education and Skills Development	Schools, Royal University of Bhutan, Influencers, CSO, NGOs, LGs	Curriculum review and value education development: Developing curriculum is an important technique for teaching values in schools. To assist students comprehend the importance of values in their lives, values can be interwoven into numerous topics such as social studies, language arts, and science.
Knowledge (HIV/AIDS)	Advocacy and awareness	HIV/AIDS Education: the Key to Prevention and Therapy	To raise awareness of individuals and communities on HIV/AIDS	Short term (1-2 years)	Ministry of Health	CSO, NGOs, LGs, Influencers	<p>1. Communication materials: Developing engaging materials, such as brochures, posters, and movies, that provide factual information on HIV/AIDS, its transmission, prevention, and treatment, can be an effective strategy to educate people about the disease. Materials should be visually appealing, understandable, and culturally suitable.</p> <p>2. Social Media Campaign: Facebook, Twitter, and Instagram are wonderful methods for reaching a larger audience. Developing and sharing compelling blogs, infographics, and videos can aid in the spread of HIV/AIDS awareness and prevention. Using influencers to promote HIV/AIDS awareness can be an effective way to reach a wider audience.</p> <p>3. Collaboration with community organisations and healthcare providers: Collaboration with community organisations such as local NGOs, religious groups, and</p>

Policy Implications of the GNH Index

GNH Indicator	Nature of intervention	Title of intervention	Intervention objective	Timeline	Lead agency	Partners	Interventions ideas
							healthcare providers can assist raise awareness about HIV/AIDS. To educate local communities about the condition, these organisations can offer educational events, workshops, and training programmes.
Knowledge (Constitution)	Advocacy and awareness	Empowering Citizens: Educating the Public on the Constitution	To raise awareness of individuals and communities on the Constitution	Short term (1-2 years)	Ministry of Education and Skills Development	Schools, Royal University of Bhutan, Influencers, CSO, NGOs, LGs	<p>1. Utilise social media and digital platforms to generate compelling content about the Constitution: Social media platforms such as Facebook, Twitter, and Instagram can be used to create engaging content about the Constitution. These can include short movies, infographics, and quizzes that illustrate the Constitution's important clauses and principles.</p> <p>2. Partner with schools and Royal University of Bhutan: Schools and universities can be valuable partners in raising constitutional awareness. To help students learn about the Constitution, educational institutions might be encouraged to include it in their curricula and to organise events such as debates, quizzes, and mock trials.</p> <p>3. Organise community events: To discuss and raise understanding of the Constitution, community events such as public forums, seminars, and workshops might be organised. Community organisations, NGOs, and government agencies can organise these events.</p>

GNH Indicator	Nature of intervention	Title of intervention	Intervention objective	Timeline	Lead agency	Partners	Interventions ideas
Knowledge (Constitution)	Policy	Know Your Rights: Teaching the Constitution in High Schools	To reflect the high school curricula with the Constitution	Short term (1-2 years)	Ministry of Education and Skills Development	Schools, Royal University of Bhutan	Examine the current high school curriculum to see how the Constitution is being taught. This would entail going over the syllabus and materials to find any gaps or areas for improvement. Second would be to integrate the Constitution in the high school curriculum. This would entail providing teachers with the resources and training they need to properly teach the Constitution, as well as ensuring that students had access to the materials and technology required to complete the learning activities.
Knowledge (local legends)	Research and documentation	Uncovering local legends: Documenting their stories	To investigate and document local legends and their historical and cultural significance	Short term (1-2 years)	Ministry of Home Affairs	District administrations, LGs	Carry out extensive research and recording of the legends. This approach should include gathering all accessible legend-related information and resources and storing them in a central database or repository, in collaboration with local stakeholders such as historical organisations, museums, and community groups.
Knowledge (local legends)	Advocacy and awareness	Discovering and Sharing the Stories of our Local Heroes	To educate the general public about local legends	Short term (1-2 years)	Ministry of Home Affairs	District administrations, LGs	<ol style="list-style-type: none"> 1. Educate the public about the local legends: This can be accomplished through a number of outreach activities such as lectures, workshops, and community events. These events should aim to engage the audience and provide opportunity for them to learn about the legends and their significance. 2. Collaboration and partnerships: It is critical to engage with local stakeholders and community groups to ensure the success of any programme aimed at increasing

Policy Implications of the GNH Index

GNH Indicator	Nature of intervention	Title of intervention	Intervention objective	Timeline	Lead agency	Partners	Interventions ideas
							understanding and awareness of local legends. Collaboration with local schools, libraries, museums, and historical organisations to provide educational resources and outreach activities is one example.
Knowledge (local legends)	Culture tourism	Increasing Knowledge and Awareness of Local Legends Through Cultural Tourism	To develop and promote cultural tourism products that showcase local legends	Medium term (3-5 years)	Ministry of Home Affairs	District administrations, LGs	Cultural Tourism: Promoting cultural tourism is another efficient strategy to increase understanding and awareness of local legends. This can be accomplished by organising tours and other activities that allow tourists to see the locations linked with the legends. These tours should be given by qualified experts who can enlighten tourists about the legends as well as their historical and cultural context.
Knowledge (local <i>tshechu</i> / festivals)	Infrastructure	The Development and Preservation of Local <i>Tshechus</i> and Festivals	To raise awareness of individuals and communities on local <i>tsherchus</i> and festivals	Medium term (3-5 years)	Ministry of Home Affairs	District administrations, LGs	Projects for festival preservation and development: The preservation and development of local <i>tshechus</i> and festivals is critical to their continuation and longevity. These could involve things like restoring and maintaining festival grounds, preserving traditional costumes and antiques, and sponsoring community projects that help the festival's organising.

GNH Indicator	Nature of intervention	Title of intervention	Intervention objective	Timeline	Lead agency	Partners	Interventions ideas
Knowledge (local <i>tshechu</i> / festivals)	Advocacy and awareness	The Promotion of Local <i>Tshechus</i> and Festivals	To raise awareness of individuals and communities on local <i>tsherchus</i> and festivals	Short term (1-2 years)	Ministry of Home Affairs	District administrations, LGs	Educational programmes can be an effective way to raise awareness about local <i>tshechus</i> and festivals, particularly among young people. This could include generating educational materials like pamphlets and posters with information on the festival's history and significance, as well as hosting workshops and seminars for local schools and community groups.
Knowledge (local <i>tshechu</i> / festivals)	Advocacy and awareness	The Promotion of Local <i>Tshechus</i> and Festivals	To raise awareness of individuals and communities on local <i>tsherchus</i> and festivals	Short term (1-2 years)	Ministry of Home Affairs	District administrations, LGs	Development of curriculum: Reflecting the local knowledge on local legends, a curriculum may be developed.
Knowledge (local <i>tshechu</i> / festivals)	Database	A Centralised Database for Local <i>Tshechus</i> and Festivals	To document the local <i>tshechus</i> and festivals for educational and tourism purposes	Medium term (3-5 years)	Ministry of Home and Cultural Affairs	District administrations, LGs	<ol style="list-style-type: none"> 1. Develop a centralised database: Make a centralised database with information on all local <i>tshechus</i> and festivals throughout Bhutan. This can include data about the history and significance of each festival, as well as rituals, performances, and other cultural traditions linked with each occasion. 2. Acquire and curate data: Using a combination of conventional and digital methods, collect and curate data on local <i>tshechus</i> and festivals. This could entail conducting interviews with local community members and festival organisers, documenting festival activities using

Policy Implications of the GNH Index

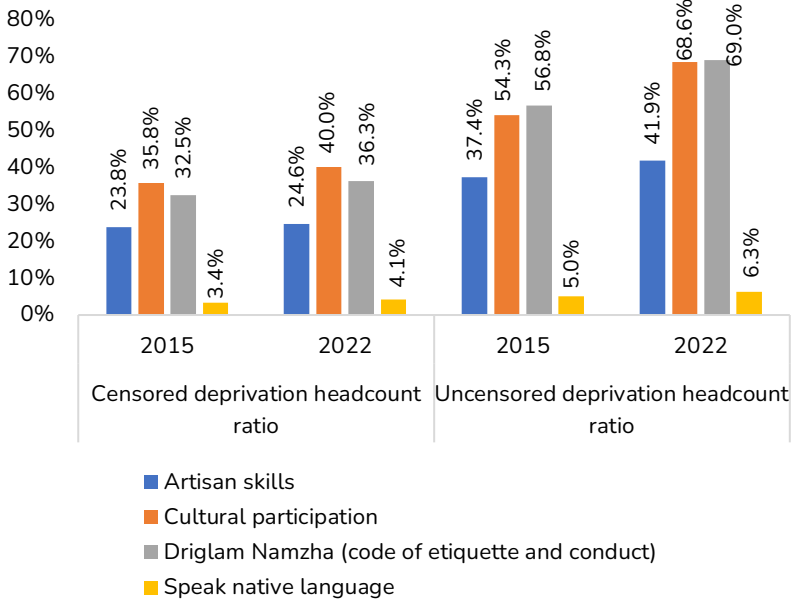
GNH Indicator	Nature of intervention	Title of intervention	Intervention objective	Timeline	Lead agency	Partners	Interventions ideas
							<p>photographs and films, and gathering historical documents and artifacts relevant to each event.</p> <p>3. Engage with local communities: Work with local communities to ensure that local <i>tshechus</i> and festivals are documented and displayed in a culturally sensitive and appropriate manner. Working with local community groups and leaders to ensure that the information collected authentically reflects the traditions and customs of each festival, as well as soliciting their input and comments on the development of the online platform, could be part of this.</p> <p>4. Promote the online platform: Promote the online platform through focused marketing and outreach activities both inside and outside of Bhutan. Partnerships with tourism agencies and travel companies could be formed to promote the platform as a resource for visitors interested in learning about local culture and traditions.</p>

Cultural diversity and resilience

Figure 65 depicts the censored deprivation headcount ratios and raw (uncensored) deprivation headcount ratios for the entire population. To redefine, censored deprivation headcount ratio is the share of population that is not-yet-happy and deprived in each indicator while the uncensored deprivation headcount ratio refers to share of population that is deprived in each indicator irrespective of whether they are happy or not-yet-happy. From 2015 to 2022, deprivation grew for both the deprivation headcounts for all four cultural indicators. For example, the share of not-yet-happy people and deprived in *Zorig Chusum* skills increased from 23.8% in 2015 to 24.6% in 2022. This increase was not significant.

While censored deprivations in native language seems to be comparatively low, it has increased nevertheless with time (3.4% in 2015 to 4.1% in 2022). Likewise, censored deprivations in *Driglam Namzha* increased from 32.5 in 2015 to 36.3% in 2022. Censored deprivations also increased for cultural participation from 35.8% in 2015 to 40% in 2022. Given these results, all four indicators would necessitate interventions.

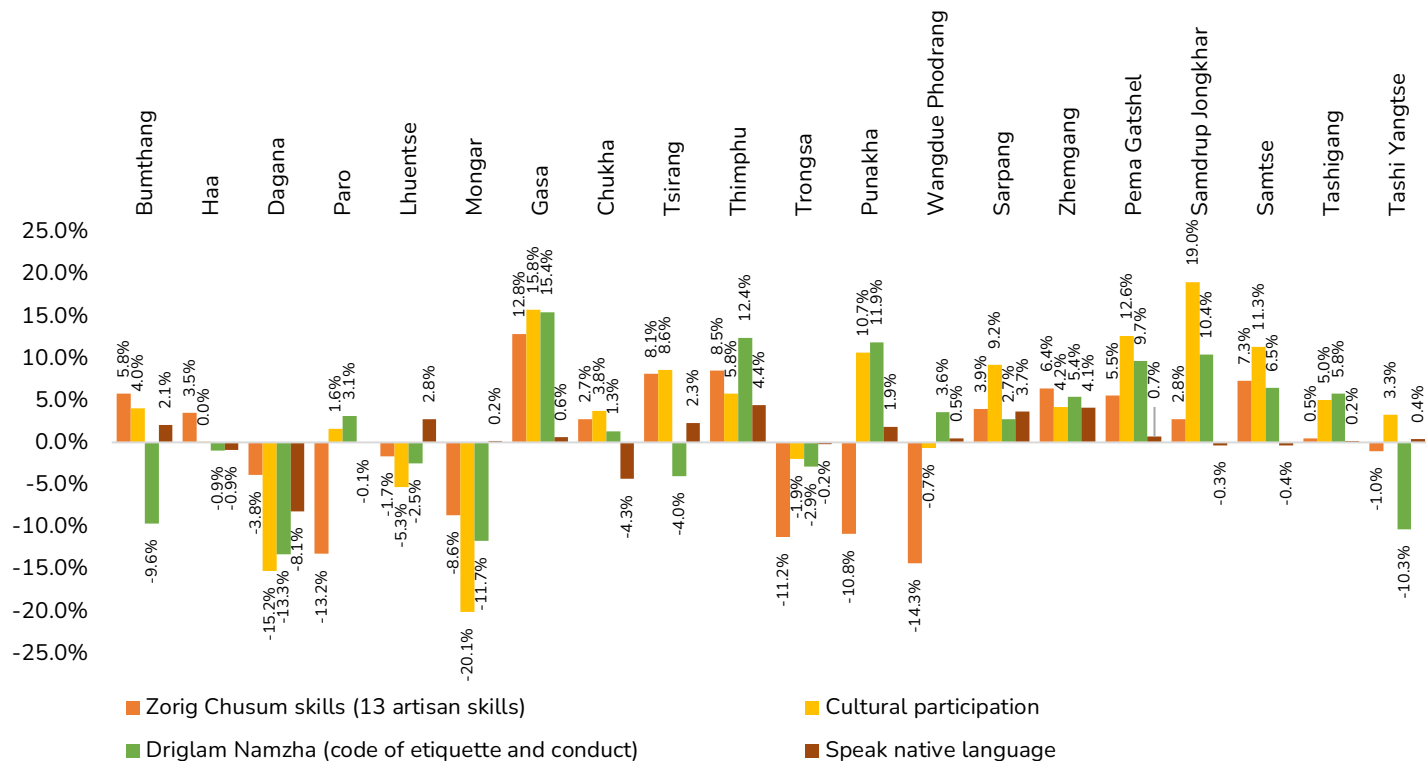
Figure 65: Censored and uncensored/raw deprivation headcount ratios, 2015–22



Source: Authors’ computations based on 2015 and 2022 GNH Survey

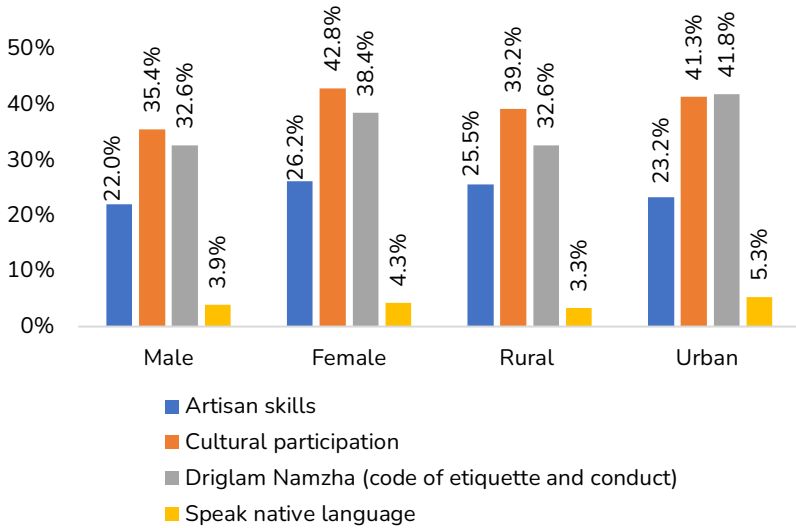
Figure 66 shows district-level trends in censored deprivation headcount ratios. The proportion of not-yet-happy people who are deprived in artisan skills has grown in Bumthang, Haa, Gasa, Chukha, Tsirang, Thimphu, Sarpang, Zhemgang, Pema Gatshel, Samdrup Jongkhar, and Samtse. For Gasa, Thimphu, Punakha, Sarpang, Zhemgang, Pema Gatshel, Samdrup Jongkhar, and Samtse, the deprivation in cultural engagement and *Driglam Namzha* indicators have similarly grown over time. The native language indicator has deteriorated in certain districts, including Bumthang, Lhuentse, Thimphu, Punakha, Sarpang, and Zhemgang.

Figure 66: Absolute changes in the censored deprivation headcount ratios by district, 2015–22



Source: Authors' computations based on 2015 and 2022 GNH Survey

Figure 67: Censored deprivation headcount ratios by sex and region, 2022



Source: Authors' computations based on 2015 and 2022 GNH Survey

Artisan skills (*Zorig Chusum* skills)

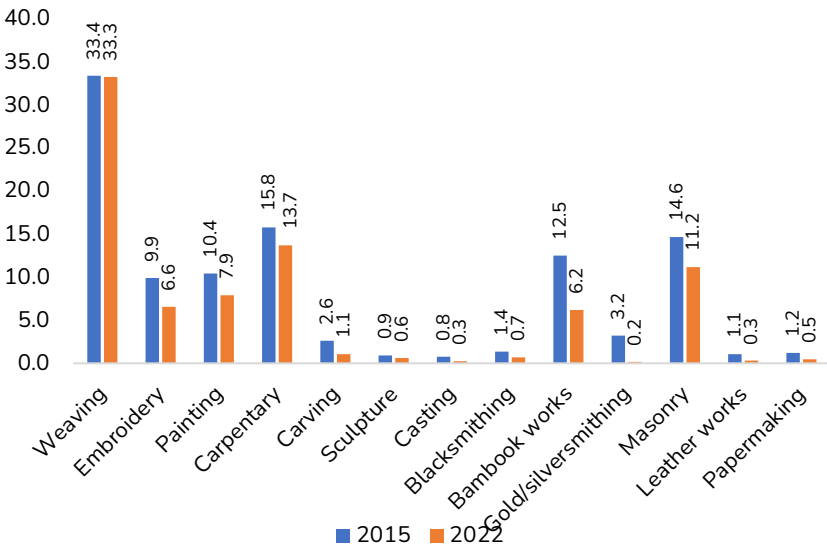
The *Zorig Chusum* skills indicator categorises arts, crafts, and technology abilities into 13 distinct categories: (1) calligraphy or yigzo, (2) painting or lhazo, (3) carving or parzo, (4) clay sculpture or jinzo, (5) metal casting or lugzo, (6) silver and gold smithery or troezo, (7) needle work or tshemzo, (8) wood work/ carpentry or shingzo, (9) textile production or thagzo, (10) paper making or delzo, (11) bamboo craft or tsharzo, (12) black smithery or garzo, and (13) masonry or dozo. From Figure 68 we can deduce that deprivations are higher in rural regions and among females.

Zorig Chusum, or artisan skills, are traditional Bhutanese arts and crafts that have been passed down through generations. These skills are an important aspect of Bhutanese culture and heritage, and they are strongly linked to the country's identity. Possessing such artisan skills also has become a significant source of income for many people. The government also established a National Institute for *Zorig Chusum*,

which teaches the 13 traditional arts and crafts to interested people in the country.

Weaving is the most frequent talent: approximately 33% of Bhutanese people are skilled in this area. Carpentry skill possession has dropped (15.8% in 2015 to 13.7% in 2022). There is also a drop in the proportion of people who know bamboo craft (12.5% in 2015 to 6.2% in 2022) and masonry (14.6% in 2015 to 11.2% in 2022). Casting, sculpture, and blacksmithing are nearly non-existent.

Figure 68: Percentage of people who possess artisan skills, 2015–22



Source: Authors’ computations based on 2015 and 2022 GNH Survey

Cultural participation

The cultural participation indicator assess a person’s time spend attending social and cultural activities, such as community festivals or *choku* of neighbours in the past year. Based on Figure 67 we might conclude that deprivation is higher in urban areas and among women. In 2015, on average Bhutanese people spend around 8.5 days a year, while this decreased to around 7 days in 2022. The median for 2015 was 5 while for 2022 it was 3 days.

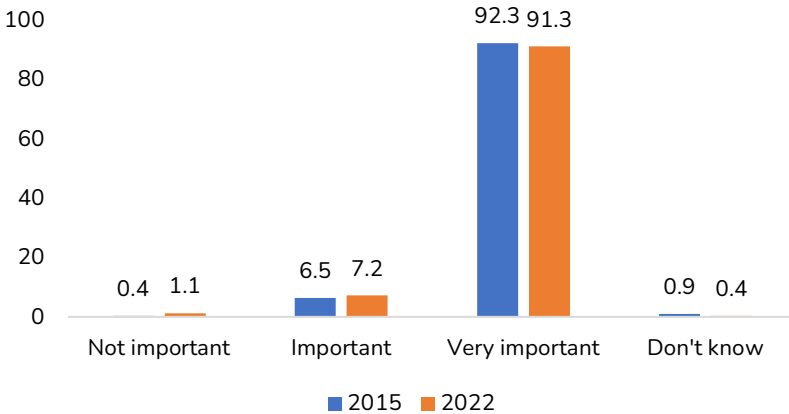
The significance of this indicator is in terms of how it brings people together and improves social cohesion, both of which are vital components of wellbeing. It also reflects the importance of preserving and promoting cultural values and traditions. Several cultural gatherings, including local festivals and annual *chokus*, have been cancelled or postponed for extended periods of time as a result of the COVID-19 pandemic. As we enter the post-COVID era, it is critical to revive cultural festivals.

Driglam Namzha (Way of Harmony)

Driglam Namzha's relevance is anticipated to be greater as Bhutan modernises and integrates into the global community. While the speed of change may be accelerating, Bhutan's distinct cultural identity remains a vital component of the country's identity. *Driglam Namzha* provides a framework for preserving traditional values and habits while adapting to changing situations. *Driglam Namzha* is also an important part of the educational curriculum in Bhutan.

The etiquette indicator in GNH is made up of two variables: the level of significance people consider traditional etiquette and whether it is getting weaker or stronger over time. Figure 67 shows that deprivations are higher among females and in urban areas. A closer look at the two variables reveals that the proportion of those who said *Driglam Namzha* was 'very important' fell marginally.

Figure 69: Percentage of people reporting the level of importance to *Driglam Namzha*, 2015–22

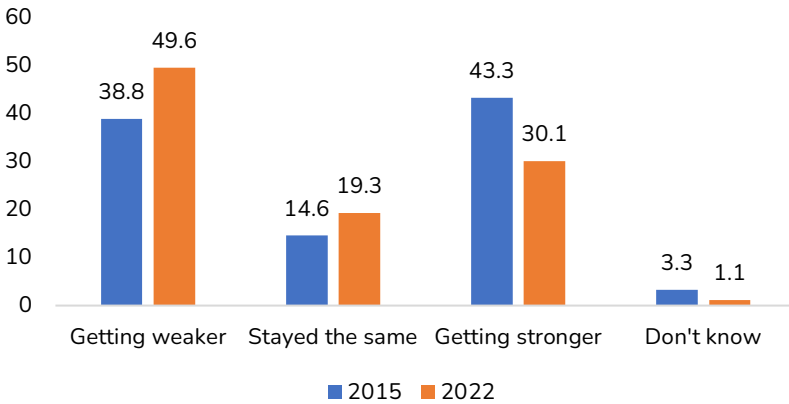


Source: Authors’ computations based on 2015 and 2022 GNH Survey

The second variable, which analyses *Driglam Namzha* practice and observance over time, reveals an increase in the percentage of people who believe it is ‘getting weaker’ and a reduction in the share of people who believe it is ‘getting stronger’ (Figure 70).

In Bhutan, there is a risk of *Driglam Namzha* degrading with time. Also, as societal norms develop, there may be a shift away from traditional structures and social roles, both of which are important in *Driglam Namzha*. Additionally, cultural influences from outside Bhutan may undermine traditional behaviors and beliefs. The increased availability of western media and the internet, for example, may expose Bhutanese adolescents to cultural norms and values that differ from those of *Driglam Namzha*. The government, civil society organisations and society in general will need to continue to take steps to promote and preserve the practice of *Driglam Namzha*, including through education, cultural festivals, and other activities.

Figure 70: Percentage of people reporting the level of importance to *Driglam Namzha*, 2015–22



Source: Authors' computations based on 2015 and 2022 GNH Survey

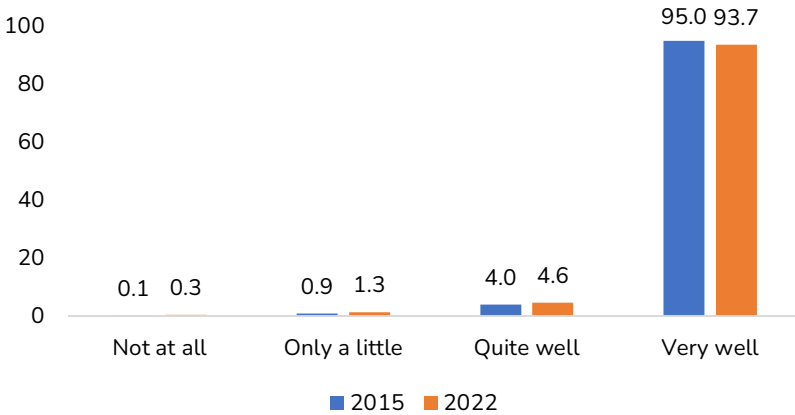
Speak native language

While *Dzongkha* is the national language, there are over 19 dialects spoken in the country, reflecting its unique cultural heritage and geographic diversity. The native language indicator in GNH attempts to assess a person's level of fluency in speaking their mother tongue. Each dialect has its own history, traditions, and values that are carried down from one generation to the next, fostering a sense of belonging and community among Bhutanese people, especially in rural areas where dialects predominate.

While the censored deprivation headcount ratios are generally low for this indicator (Figure 67), deprivations have increased over time. The share of people deprived in native language and not yet happy has increased from 3.4% in 2015 to 4.1% in 2022. Likewise, the proportion of people deprived (raw deprivation headcount ratio) has increased from 5% in 2015 to 6% in 2022.

Figure 71 shows that the proportion of people who reported high fluency in their native language (very well) has fallen from 95% in 2015 to 93.7% in 2022.

Figure 71: Percentage of people reporting their level of fluency in their native dialect



Source: Authors' computations based on 2015 and 2022 GNH Survey

Conserving and developing dialects is critical to preserve Bhutan's linguistic diversity. Linguistic diversity is an important aspect of Bhutan's cultural history and a vital resource for the future of the country. It aids in the preservation of traditional knowledge, promotes cultural interaction, and promotes long-term growth.

Intervention ideas for the cultural diversity and resilience domain

Based on the aforementioned analysis, actions are necessary that aim to improving all the four variables. Table 39 provides some ideas for programmatic interventions.

Table 38: Domain indicators and their status in GNH Index, 2015–22

Indicator	National censored deprivation headcount ratios	Region where censored deprivation is high	Districts where censored deprivation headcount ratios have increased
Artisan skills	Increased	Rural	Bumthang, Haa, Gasa, Chukha, Tsirang, Thimphu, Sarpang, Zhemgang, Pema Gatshel, Samdrup Jongkhar, Samtse, Tashigang
Speak native language	Increased	Urban	Bumthang, Paro, Lhuentse, Gasa, Tsirang, Thimphu, Punakha, Sarpang, Zhemgang, Pema Gatshel, Tashi Yangtse
<i>Driglam Namzha</i>	Increased	Urban	Paro, Gasa, Chukha, Thimphu, Punakha, Wangdue Phodrang, Sarpang, Zhemgang, Pema Gatshel, Samdrup Jongkhar, Samtse, Tashigang
Cultural participation	Increased	Urban	Paro, Gasa, Chukha, Tsirang, Thimphu, Punakha, Sarpang, Zhemgang, Pema Gatshel, Samdrup Jongkhar, Samtse, Tashigang, Tashi Yangtse

Source: Authors' computations based on 2015 and 2022 GNH Survey

Table 39: Proposed intervention ideas to improve culture domain

GNH Indicator	Nature of intervention	Title of intervention	Intervention objective	Implementation period	Lead agency	Partners	Intervention ideas
Speak native language	Policy	Mainstreaming native dialects in Early Childhood Care and Development Centres of Urban Areas	To promote the use and preservation of native dialects among children living in urban areas	Medium term (3-5 years)	Ministry of Education and Skills Development	State run ECCDs, Privately owned ECCDs	Identify a state-run ECCD centre to pilot the programme: Identify a commonly used dialect such as <i>tshanglakha</i> or the national language <i>Dzongkha</i> as the core language for interaction in the ECCD centre. Provide appropriate instructional resources using the dialect and train teachers to use the dialect as the medium of instruction in the centre.
Speak native language	Advocacy and awareness	Mother Tongue at Home: Advocating for Language Development, Cognitive Growth, and Cultural Identity	To strengthen the use of native language at home	Short term (1-2 years)	Ministry of Home Affairs	Bhutan Broadcasting Service (BBS), print media, radio, parents, ECCDs	<ol style="list-style-type: none"> 1. Social media awareness campaign: The awareness campaign emphasise the value of native languages. Organising community events, workshops, and outreach initiatives to engage parents, caregivers, and community leaders to sensitise the importance of using native language. 2. Parental education: Offer parental education programmes to enable parents and caregivers realise the benefits of speaking their children's mother tongue at home.
Speak native language	Advocacy and awareness	Celebrating Linguistic Diversity: A Youth Competition on Speaking Native Languages	To promote the use and preservation of native dialects among youths in urban areas	Short term (1-2 years)	Ministry of Education and Skills Development	Schools	<ol style="list-style-type: none"> 1. Organise a competition among youth on native language fluency: Decide on the format of the competition, which could include a public speaking competition, a narrative competition, or a debate tournament in their native language to a panel of judges or a live audience. 2. Rewards and Recognition: Provide winners and participants with awards and recognition. Scholarships, educational resources, or

Policy Implications of the GNH Index

GNH Indicator	Nature of intervention	Title of intervention	Intervention objective	Implementation period	Lead agency	Partners	Intervention ideas
							cultural experiences may be awarded as prizes. Acknowledge the winners and participants in community events and local media.
Zorig Chusum Skills	Infrastructure	Empowering Bhutan's Artisans: A Business Incubation Programme	To provide support for Zorig Chusum start ups	Medium term (3-5 years)	Ministry of Industry, Commerce and Employment	National Institute of Zorig Chusum	<p>1. <i>Zorig Chusum</i> Business Incubation: Provide artisans completing their course from National Institute of <i>Zorig Chusum</i> with business incubation assistance, which may include mentoring, networking, and financial management training. This can assist craftsmen in developing long-term business plans, expanding their market reach, and increasing their income.</p> <p>2. <i>Zorig Chusum</i> Market Development: Establish a centre to aid in the establishment of artisan markets where artisans can sell their wares and demonstrate their abilities. Local towns, tourist sites, and online platforms can all host markets. Artists can earn a living and expose their skills to a larger audience by promoting and selling their creations.</p>
Zorig Chusum Skills	Capacity building	Promoting Cultural Exchange Through an International Artisan Exchange Programme	To promote exchange of artisan skills across borders	Short term (1-2 years)	Ministry of Education and Skills Development	National Institute of Zorig Chusum	Create an artisan exchange programme that encourages international cultural interchange and learning opportunities. Hosting international artisan workshops, artist-in-residence programmes, and cultural exchanges that encourage cross-cultural understanding and appreciation can all contribute to this.

GNH 2022

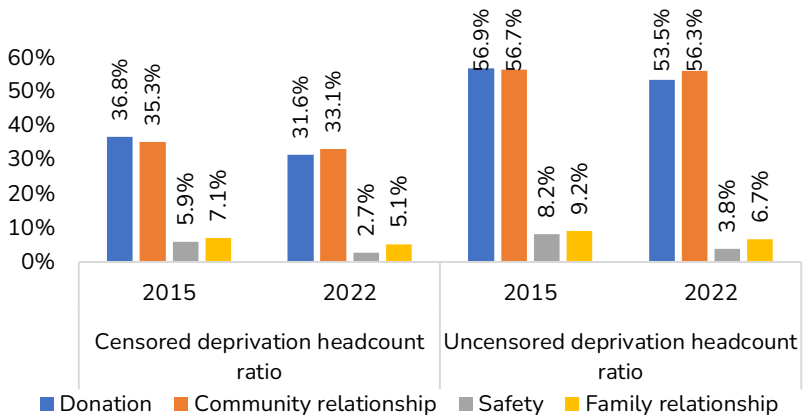
GNH Indicator	Nature of intervention	Title of intervention	Intervention objective	Implementation period	Lead agency	Partners	Intervention ideas
<i>Zorig Chusum Skills</i>	Advocacy and awareness	Promoting and Preserving Traditional Artisan Skills that are Dying in Bhutan	To preserve and promote the traditional casting, sculpting, carving, goldsmithing, leather works and paper making skills	Short term (1-2 years)	Ministry of Education and Skills Development	National Institute of <i>Zorig Chusum</i>	Organise a nationwide competition stimulating creativity and celebrating cultural identity, and promoting the usage and preservation of traditional artisan skills (particularly those that exhibit high deprivations). Competitors must demonstrate their abilities in designing and completing the products based on the skills they possess. Acknowledge the winners and participants in media. Promote the competition through various channels, such as social media, local newspapers, and community organisations.
<i>Driglam Namzha</i>	Advocacy and awareness	Implementing Educational Programmes to Promote <i>Driglam Namzha</i>	To provide a platform for the students to learn and appreciate <i>Driglam Namzha</i> practices	Short term (1-2 years)	Ministry of Education and Skills Development	Schools	Educational Programmes: Create and implement educational programmes that emphasise the significance of <i>Driglam Namzha</i> and how it can be used in everyday life. School curricula, community workshops, and public awareness campaigns are examples of this.
<i>Driglam Namzha</i>	Advocacy and awareness	Traditions That Bind: Exploring the Richness and Significance of <i>Driglam Namzha</i>	To promote and preserve the practice and observance of <i>Driglam Namzha</i>	Short term (1-2 years)	Bhutan Broadcasting Service (BBS), print media, radio	Ministry of Home Affairs	Air a show/series on <i>Driglam Namzha</i> and its significance: Develop content that highlights various characteristics of <i>Driglam Namzha</i> . Bring people who can add new perspectives and insights to the discussion, such as cultural experts, historians, and community leaders. Decide the programme's format, which could include a talk show format, panel discussions, and feature pieces.

Community vitality

The community vitality domain comprises four indicators of donation, community relationship, safety and family relationship. These indicators are meant to assess whether a community is thriving and fostering a sense of belonging, promoting cooperation and collaboration, and offering chances for communal progress. This is based on the assumption that communities with a high level of community vitality are more robust to adversity such as natural catastrophes, economic downturns, and social upheaval. They are better suited to deal with disasters and recover faster than communities lacking social capital and a sense of shared purpose.

Deprivation (both censored and raw headcount ratios) has declined over time for all four measures (Figure 72). In 2015, 36.8% of people were donation deprived and unhappy, but by 2022, this had dropped to 31.6%. The headcount of censored deprivation for community relationships dropped from 35.3% in 2015 to 33.1% in 2022. The safety and family relationship indicators exhibit low deprivations, indicating a high level of sufficiency being enjoyed by Bhutanese people in these indicators. In terms of interventions, the analysis proposes targeting improvements in the spirit of giving and community connections.

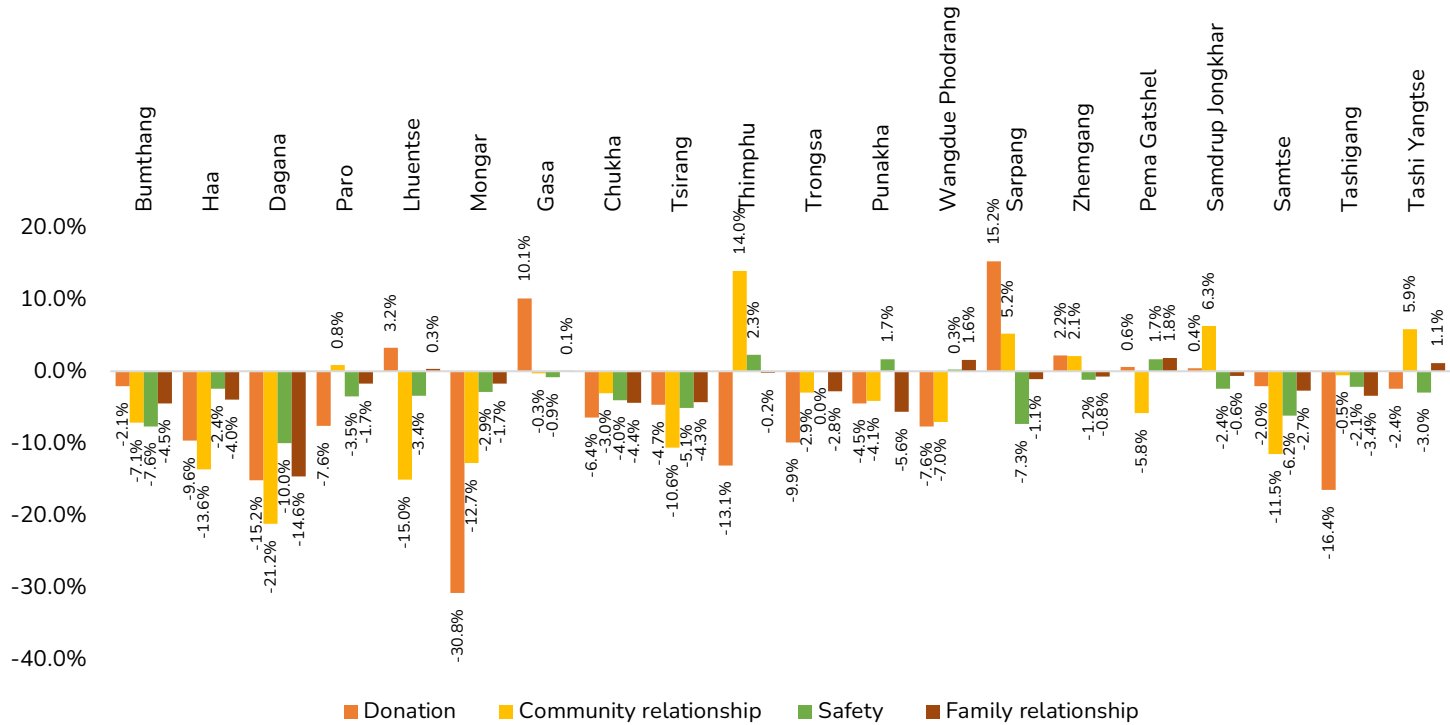
Figure 72: Censored and raw/uncensored deprivation headcount ratios, 2015–22



Source: Authors’ computations based on 2015 and 2022 GNH Survey

An examination of changes at the district level (Figure 73) reveals that Bumthang, Haa, Dagana, Mongar, Chukha, Tsirang, Samtse, and Tashigang all saw their censored deprivation headcount ratios decrease across all four community variables. The percentage of not-yet-happy people deprived in the donation indicator grew by 3.2% in Lhuentse and by 10.1% in Gasa. Sarpang had the highest rise (by 15.2%). Thimphu saw the biggest increase in terms of deprivations in the community relationship measure (14%). In Sarpang, Samdrup Jongkhar, and Tashi Yangtse, community relations have also worsened (increase in censored deprivation headcount ratios). The safety index has improved in all the districts, except for Thimphu, Punakha, and Pema Gatschel.

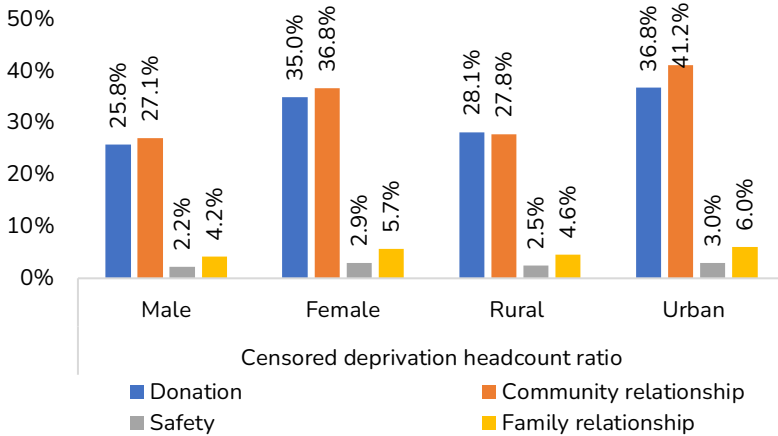
Figure 73: Absolute changes in the censored deprivation headcount ratios by district, 2015–22



Source: Authors' computations based on 2015 and 2022 GNH Survey

An examination of the regional and gender inequalities reveals that urban people face more deprivation across all four indicators. As a result, programmes targeted at strengthening community bonds and instilling a giving attitude in urban areas might improve this domain.

Figure 74: Censored deprivation headcount ratios by sex and region, 2022



Source: Authors’ computations based on 2015 and 2022 GNH Survey

Donation (time and money)

The donation indicator is made up of two variables: the amount of money donated and the number of days people volunteered in the previous year. As previously noted, donation has increased marginally (Figure 74). This is further supported by the results in Table 40. The average contribution amount (Nu. 10,250 in 2015 and Nu. 19,110 in 2022) increased with time, as did the median (Nu. 2,000 in 2015 and Nu. 4,000 in 2022).

Possible explanations for this development include the fact that numerous individuals and communities suffered severe economic and social hardship as a result of the pandemic. This could have raised public awareness about the need for donations. The pandemic brought people together to aid one another, as a result of which a sense of community and shared responsibility may have evolved. People may have felt more connected to their community and to help those in need.

Table 40: Donation (time and money) across time, 2015–22

	2015			2022		
	Mean	Median	SD	Mean	Median	SD
Donation (money in Nu.)	10250.8	2000	52255.1	19110.7	4000	196713.8
Donation (% of total income donated)	10.4%	1.9%	24.0%	7.4%	2.1%	28.2%
Donation (time in voluntary days)	10.4	3.0	27.1	10.4	3.0	21.1

Source: Authors' computations based on 2015 and 2022 GNH Survey

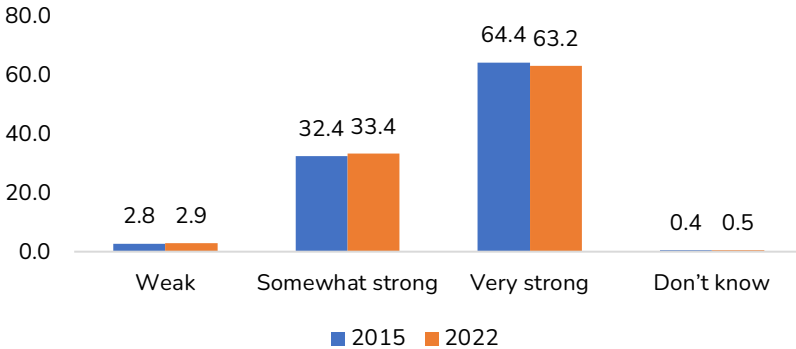
Community relationship

Community relationships are measured using two variables: people's sense of belonging to their community and their level of trust in their neighbours. The country's overall community relations appear to have improved since deprivations for both censored and uncensored (raw deprivation headcount) have declined over time. However, even with this favourable outcome, we must keep in mind that deprivation is still high, particularly among urban dwellers. For example, in urban regions, around 41% are deprived in community relationships and are not yet happy (Figure 74). This would imply directing efforts to promote community relations towards urban areas.

Looking at the variables more closely, sense of belongingness to the community has stayed more or less the same. In 2015, 64.4% reported 'very strong' sense of belongingness, and in 2022 this was 63.2% (Figure 75). It is possible that people's sense of belonging may have improved during the pandemic, since it affected everyone in some manner, creating a shared experience that might bring people together. Due to this common experience, people may have felt more linked to one another. As a result of the pandemic, many people were compelled to rely on community members for goods and services. During the epidemic, many communities came together to help one other get

through the difficult times. People may have felt more connected to their neighbours and neighbourhood as a result of this sense of community support. This may have allowed people to connect with people they might not have met otherwise, leading to a better sense of belonging.

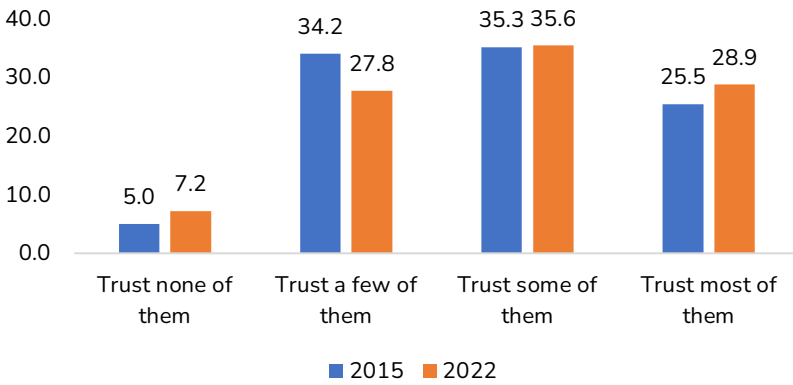
Figure 75: Percentage of people who reported their sense of belongingness to the community, 2015–22



Source: Authors' computations based on 2015 and 2022 GNH Survey

The proportion of people who 'trust most of' their neighbours improved in 2022 (25.5% in 2015 to 28.9% in 2022). On the other hand, the share of people reporting 'trust none of them' and 'trust a few of them' has declined over time. The share of people reporting 'trust some of them' has stayed the same (Figure 76). As stated earlier, the pandemic brought people together to assist one another in many ways. This reciprocal support could have improved neighbourly connections and increased trust.

Figure 76: Percentage of people who reported their level of trust in the neighbours, 2015–22



Source: Authors’ computations based on 2015 and 2022 GNH Survey

Safety

The safety indicator evaluates individual events, attempting to determine whether a person has been a victim in the last 12 months. A person is considered deprived if they have been a victim at least once. Figure 74 shows that deprivation is low and has decreased with time (censored and uncensored deprivation headcount ratios).

Figure 74 demonstrates that 2.5% (raw deprivation headcount) are disadvantaged in rural areas and roughly 3% are deprived in urban areas. In general, it appears that communities are generally perceived as safe, and as having a low crime rate. While the indicator appears to show modest deprivation, it is still relevant. Bhutan may encounter new challenges and concerns as it develops and modernises, notably those related to crime.

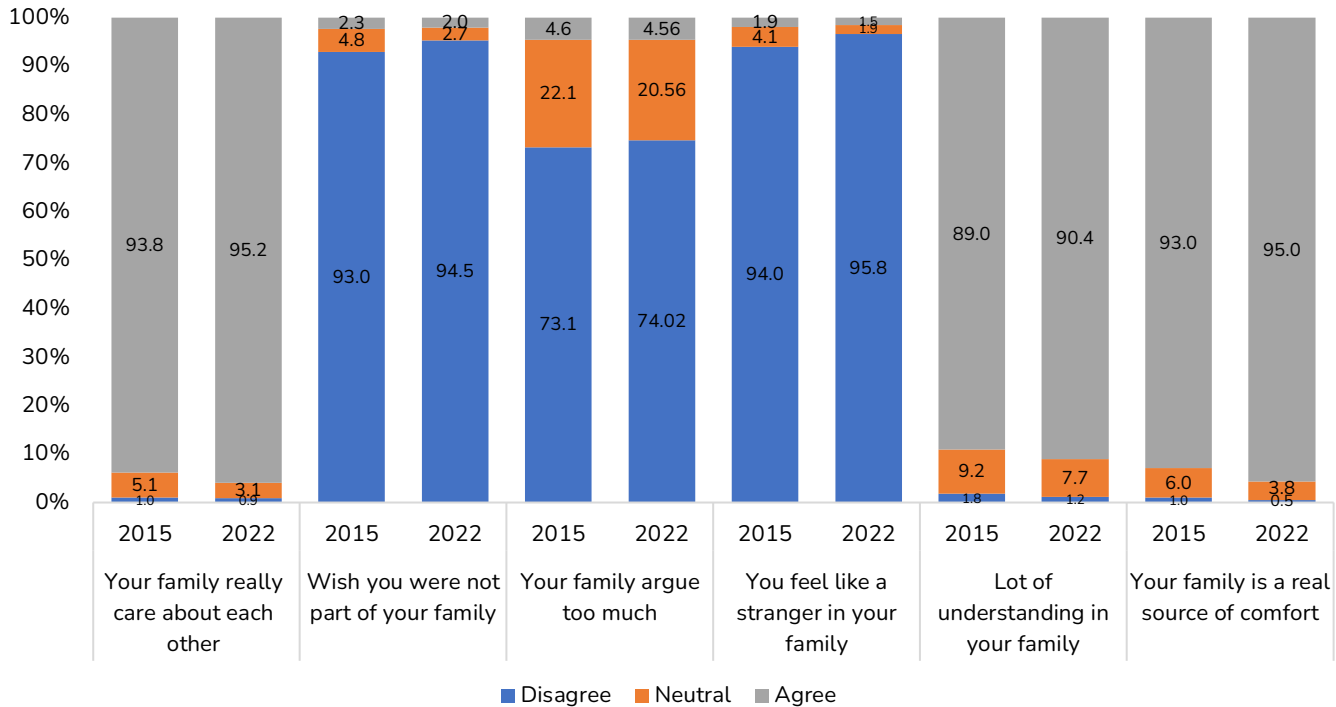
Virtual crimes, such as cybercrime, may become more widespread in Bhutan as technology and the internet become more extensively used. As a result, it is vital to continue measuring safety across communities, as well as for Bhutan's government and law enforcement authorities to be vigilant and address any emerging issues related to crime and safety. People must also be aware of the potential hazards and take the necessary precautions.

Family relationship

Bhutanese people, like with the safety indicator, have a high level of sufficiency (low deprivation) in the family relationship indicator. Since 2015, deprivation has decreased. In 2015, 7.1% of people were deprived in the family and not-yet-happy category, and this ratio fell to 5.1% by 2022 (Figure 72). Censored headcounts are greater in urban areas among people who are deprived in this indicator. As a result, any family relationship interventions would need to be targeted towards those residing in urban areas.

An examination of the six variables that define the family relationship indicator reveals that most people agreed with the positive statements while disagreeing with the negative ones.

Figure 77: Percentage of people reporting the strength of family relationship, 2015–22



Source: Authors' computations based on 2015 and 2022 GNH Survey

Intervention ideas for the community vitality domain

Given that three of the community vitality indicators have improved significantly since 2015, interventions may be targeted to improve only the community relationship indicator, especially in urban areas where it seems to lag. Organising community activities, meetings, and initiatives to boost community involvement may be helpful. This may help foster a sense of belonging in the community.

Table 41: Domain indicators and their status in GNH Index, 2015–22

			Intervention focus areas
Indicator	National censored deprivation headcount ratios	Region where censored deprivation headcount ratio is higher	Districts where censored deprivation headcount ratios have increased over time
Donation	Decreased	Urban	Lhuentse, Gasa, Sarpang, Zhemgang, Pema Gatshel,
Community relationship	Decreased	Urban	Paro, Thimphu, Sarpang, Tashi Yangtse
Family relationship	Decreased	Urban	Wangdue Phodrang, Pema Gatshel, Tashi Yangtse
Safety	Decreased	Urban	Thimphu, Pema Gatshel

Source: Authors’ computations based on 2015 and 2022 GNH Survey

Table 42: Proposed intervention ideas to improve community vitality domain

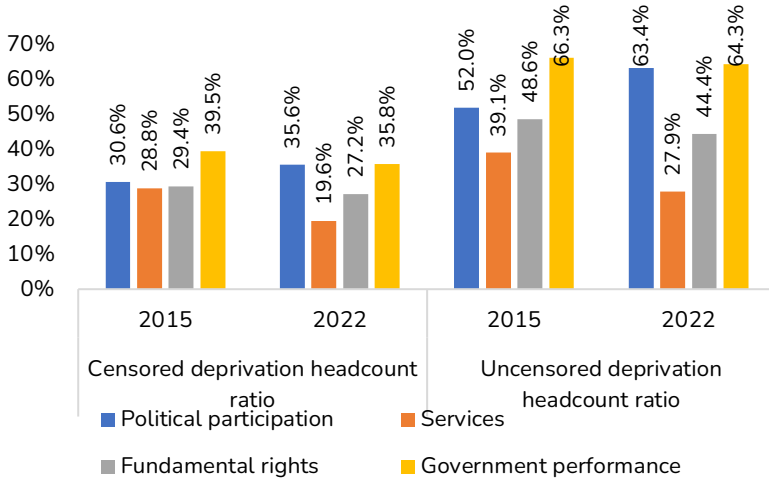
GNH Indicator	Nature of intervention	Title of intervention	Intervention objective	Implementation period	Lead agency	Intervention ideas
Community relationship	Infrastructure	Building Community through Parks in Suburban regions	To promote interactions between community members	Medium term (3-5 years)	Ministry of Infrastructure and Transport	Developing community parks: Locate viable suburban community park locations and collaborate with a team to develop parks that fit the requirements and interests of the local community. All citizens, including those with impairments, should be included in the park's design. Organise regular community events and activities: To foster community engagement and interaction, plan regular events and activities in parks.
Community relationship	Infrastructure	Building Community through Temples in Suburban regions	To provide a shared space Opportunities for community members to connect through shared values and cultural traditions	Medium term (3-5 years)	Ministry of Infrastructure and Transport	Develop temples in suburban regions: By providing a space for community members to come together, this initiative intends to enhance social interaction, improve relationships, and foster a deeper sense of community by providing a venue for community members to gather.
Family relationship	Advocacy and awareness	Parenting Services to Improve Family Relationships	To improve communication and conflict resolution skills among family members and to promote positive parent-child relationships and bonding.	Short term (1-2 years)	Ministry of Education and Skills Development, Ministry of Infrastructure and Transport	Pilot a Parenting Services programme: To provide support, education, and resources to parents to help them improve family relationships. The programme aims to help parents develop positive parenting skills and strategies that promote healthy communication, conflict resolution, and bonding among family members.

Good governance

The good governance domain comprises four indicators: political participation, services, fundamental rights and government performance. Deprivations have fallen for services, fundamental rights and government performance, indicating progress in these three indicators over time. Services improved among the not-yet-happy group, with censored deprivations decreasing from 28.8% in 2015 to 19.6% in 2022 (Figure 78). Similarly, censored deprivations in government performance decreased from 39.5% in 2015 to 35.8% in 2022. However, for the indicator of political participation, deprivation has worsened. In 2015, 30.6% were deprived in political participation and in the not-yet-happy group, while in 2022 this increased to 35.6%. Since political participation is the only indicator for which deprivations have worsened over time, interventions directed towards improving the good governance domain might be aimed at increasing people's civic engagement.

It is important to note that while services, fundamental rights and government performance indicators improved, deprivations are still high. The government performance indicator has the highest share of deprivations under this domain. Therefore, interventions are still necessary, notwithstanding the improvements.

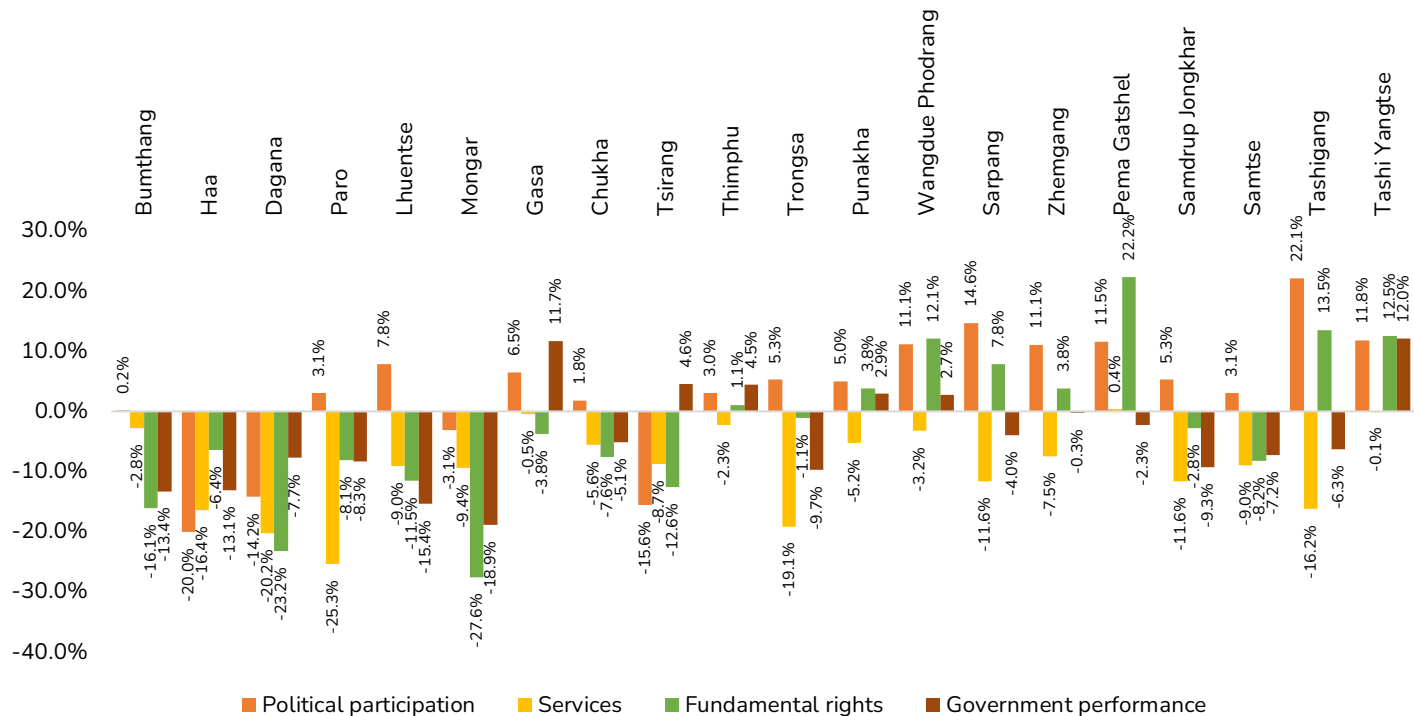
Figure 78: Censored and raw/uncensored deprivation headcount ratios, 2015–22



Source: Authors’ computations based on 2015 and 2022 GNH Survey

Figure 79 shows the absolute changes in censored deprivation headcount ratios. It reveals that there is progress in good governance domain indicators in Bumthang, Haa and Dagana. The percentage of people not-yet-happy and deprived in government performance indicator has increased in Gasa, Thimphu, Punakha and Wangdue Phodrang. The highest increase in censored deprivation in political participation is in Tashigang (by 22.1%). Services seem to have improved overall, with the highest decrease in censored deprivations seen in Paro (by 25.3%).

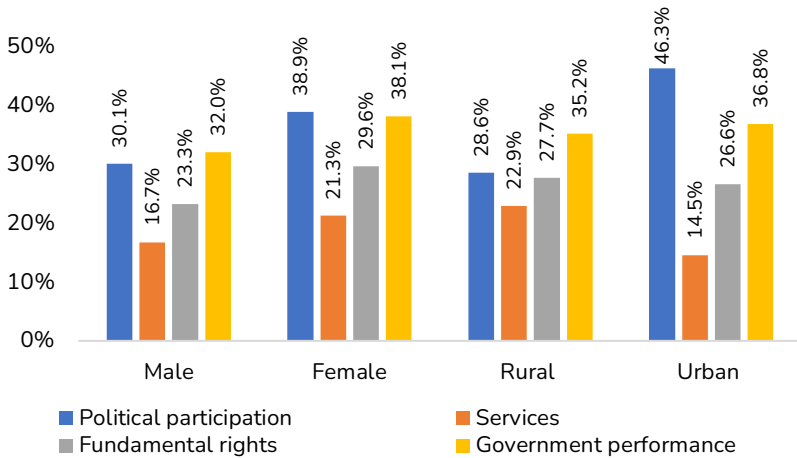
Figure 79: Absolute changes in censored deprivation headcount ratios by districts, 2015–22



Source: Authors' computations based on 2015 and 2022 GNH Survey

As indicated in Figure 80, in 2022 censored deprivations in political participation were significantly higher in urban regions (46.3%) than in rural areas (28.6%). Females have higher deprivations. Overall, censored deprivations are high in rural areas except for political participation: 46.3% of political participation deprived and unhappy people live in urban areas. This calls for targeted interventions on improving political participation among urban residents.

Figure 80: Censored and raw/uncensored deprivation headcount ratios by sex and region, 2022



Source: Authors' computations based on 2015 and 2022 GNH Survey

Each of the indications are examined in greater depth below.

Political participation

As can be seen from preceding statistics, the political engagement index has slightly worsened over time, with interventions needing to be targeted towards women and those living in urban regions. In the GNH Index, political participation is measured through two variables: the frequency of attendance at zomdues (meetings) held at the village, gewog, or thromde levels and a person's intention to vote in the next general elections. Table 43 depicts how political engagement has changed over time.

In 2015, engagement at the village level was highest, with a median of 4 days as opposed to 4.5 days at the gewog level. Engagement at the thromde level was non-existent. A similar trend continued in 2022. However, there is a decrease in the median number of days at village (from 4 in 2015 to 1 in 2022) and gewog levels (from 3 in 2015 to 1 in 2022).

Table 43: Average number of days people spent attending zomdues in a year, 2015–22

National	2015		2022	
	Mean (SD)	Median	Mean (SD)	Median
Village level	5.7 (6.9)	4	3.3 (3.7)	3
Gewog level	4.5 (5.9)	3	2.1 (3.3)	1
Thromde level	.41 (2.4)	0	0.2 (1.2)	0

Note: SD refers to standard deviation

Source: Authors’ computations based on 2015 and 2022 GNH Survey

Examining any regional differences that may exist, as suggested by the censored deprivation analysis in the previous section, Table 44 clearly shows that people who live in rural areas attend more *zomdues* than those who live in urban areas. This necessitates urban-focused initiatives to encourage political engagement.

Table 44: Average number of days people spent attending zomdues in a year by region, 2015–22

Region	2015				2022			
	Rural		Urban		Rural		Urban	
	Mean (SD)	Median	Mean (SD)	Median	Mean (SD)	Median	Mean (SD)	Median
Village level	6.1 (7)	4	1.7 (3.9)	0	3.5 (3.7)	3	1.5 (2.5)	0
Gewog level	4.7 (6)	3	1.7 (3.4)	0	2.2 (3.4)	2	1.1 (1.8)	0
Thromde level	.04 (0.6)	0	4 (6.6)	2	0.1 (0.9)	0	1.6 (2.5)	0

Source: Authors’ computations based on 2015 and 2022 GNH Survey

Most people intend to vote in the general election, and the percentage has grown over time (Table 45). However, rural communities have a little higher intention to engage.

The Election Commission of Bhutan (ECB) website states that a record-high 71.5% of eligible voters turned out for the Third Parliamentary National Assembly General Election held in 2018. This is a rise of more than 5% on the 66% voter turnout in the general election of 2013. Likewise, in the 2021 local government elections, around 126,304 postal votes were received, shattering all previous records. This is more than four times the 35,051 ballots received during the 2016 local government elections. The increased voter participation over time can be a sign that the ECB has diversified its voting services. This necessitates continuing efforts to simplify the voting process for citizens.

Table 45: *Percentage of people planning to participate in the next general elections, 2015–22*

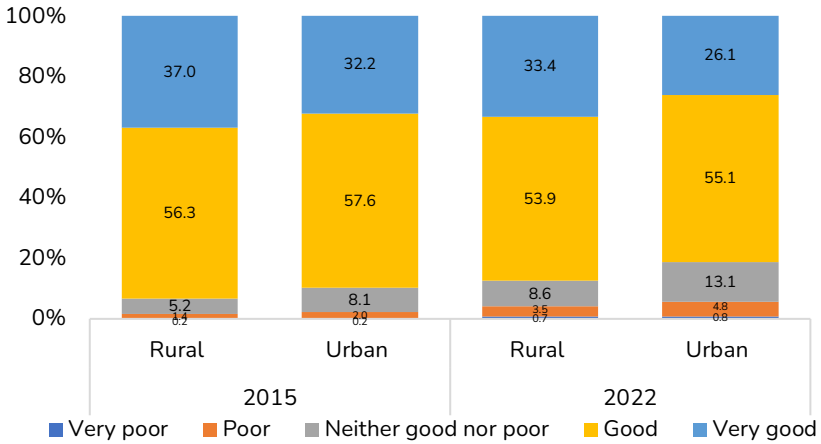
	2015			2022		
	National	Rural	Urban	National	Rural	Urban
Yes	91.2	92.2	89.0	93.9	94.1	93.6
No	2.8	2.4	3.4	1.9	1.5	2.5
Don't know	3.3	2.8	4.4	1.7	1.8	1.6
I can't vote	2.8	2.6	3.2	2.5	2.6	2.4

Source: Authors' computations based on 2015 and 2022 GNH Survey

Services

The services indicator attempts to evaluate the standard of several fundamental government services. It is composed of the following five factors: electricity availability, distance to a health facility, water source and quality, and facility for disposing of waste. Figure 81 shows that the service indicator has significantly improved for the group that is not yet happy, going from a censored headcount deprivation of 28.8% in 2015 to 19.6% in 2022. Raw deprivation headcount ratio have similarly dropped from 39.1% to 27.9% in 2022. Let us assess if all five variables show improvement over time.

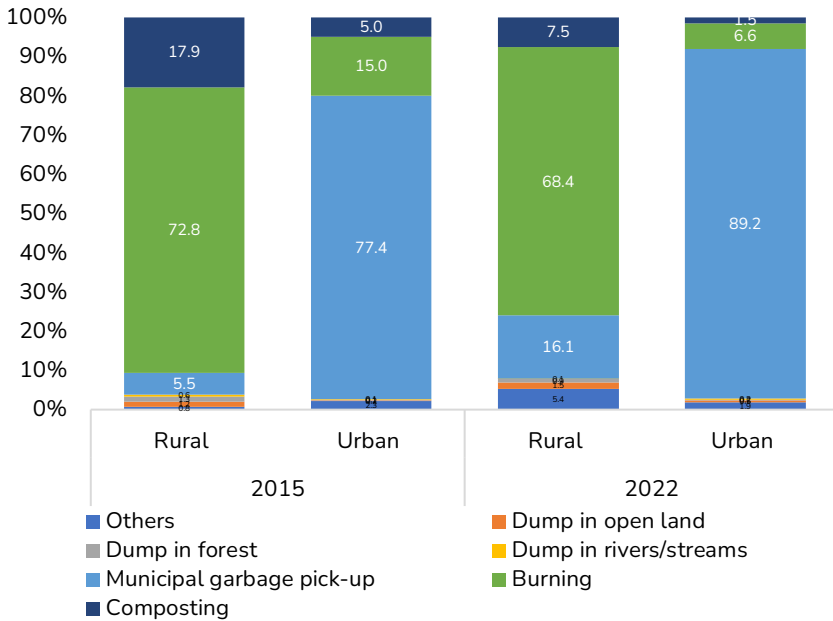
Figure 81: Percentage of people reporting quality of drinking water, 2015–22



Source: Authors’ computations based on 2015 and 2022 GNH Survey

The quality of drinking water is deteriorating over time both in rural and urban areas, as shown in Figure 81. Given that there are no municipal garbage services in rural areas, burning is the predominant form of waste disposal there, whereas municipal pick-up is used in metropolitan areas. In 2015, 17.9% of rural residents managed their waste through composting, but this fell to 7.5% in 2022. Interventions are required to encourage composting in both contexts.

Figure 82: Percentage of people reporting their waste disposal method, 2015–22



Source: Authors’ computations based on 2015 and 2022 GNH Survey

Bhutan has almost complete coverage in terms of water and energy access. According to the 2022 BLSS report, the proportion of the population with improved drinking water has climbed from 99.5% in 2017 to 99.9% in 2022. Similarly, the proportion of people who have access to electricity has risen from 98.6% in 2017 to 99.6% in 2022. With such a high coverage rate, which is likely to improve further in the coming years, the importance of these two variables in the GNH Index may need to be reconsidered in the next survey. It could be better to replace it with more relevant indicators, such as internet or digital services. Table 46 shows that the challenges with distance to a healthcare centre are also a rural problem. However, the average and median distances are falling over time, indicating progress in terms of health services in rural areas.

Table 46: Average distance (in minutes) to the nearest healthcare centre, 2015–22

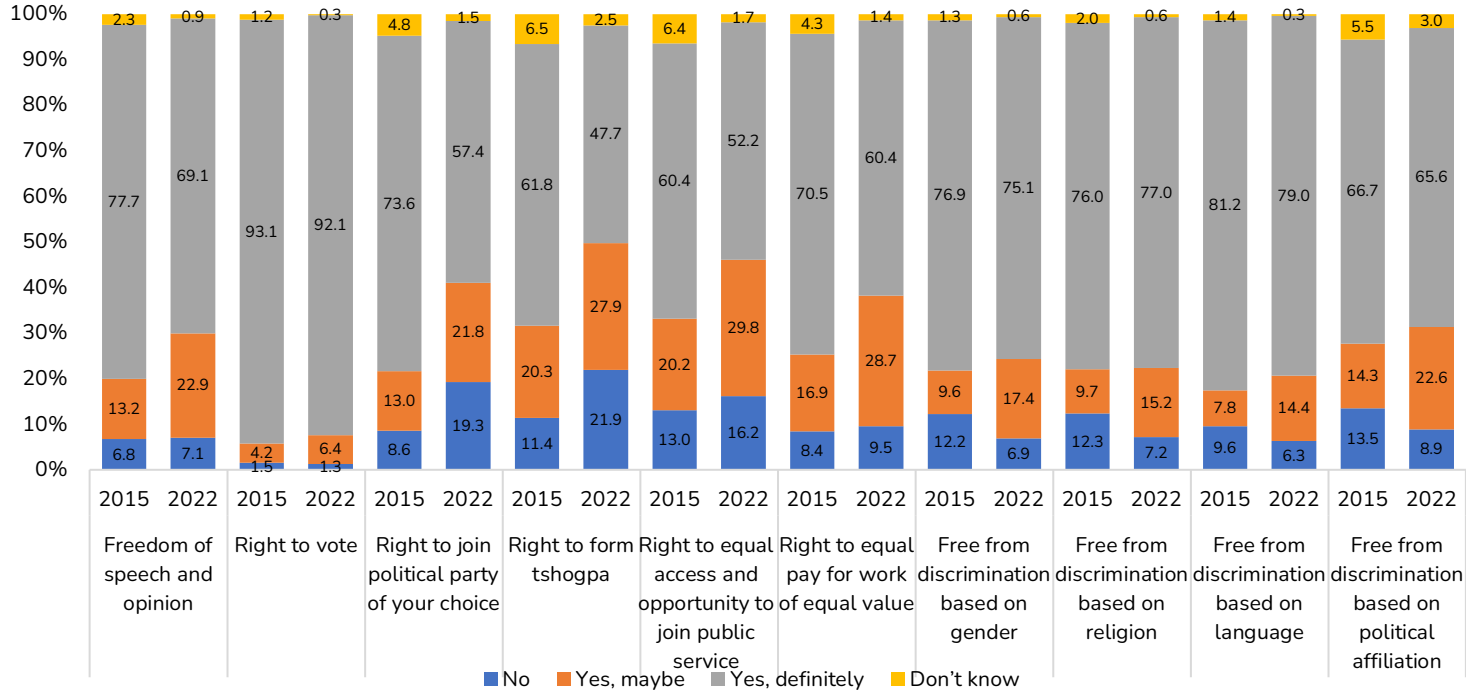
	2015		2022	
	Mean (SD)	Median	Mean (SD)	Median
Rural	86.2 (99.2)	60	44.1 (50.4)	30
Urban	26 (25.6)	20	15 (13)	10

Source: Authors' computations based on 2015 and 2022 GNH Survey

Fundamental rights

Deprivations in this category have slightly decreased, indicating progress in terms of people's perceptions of their rights and freedoms (Figure 83). However, deprivation remains substantial, with approximately 44% (raw headcount) deprived in this indicator, implying that 44% are unaware of their rights in at least one of the 10 rights. Fundamental rights indicator assess people's perception on their rights across 10 variables: freedom of speech and opinion, right to vote, right to join political party, right to form *tshogpa*, right to join public service, right to equal pay for work of equal value, free from discrimination based on gender, religion, language and political affiliation.

Figure 83: Percentage of people reporting their perception on fundamental rights, 2015–22



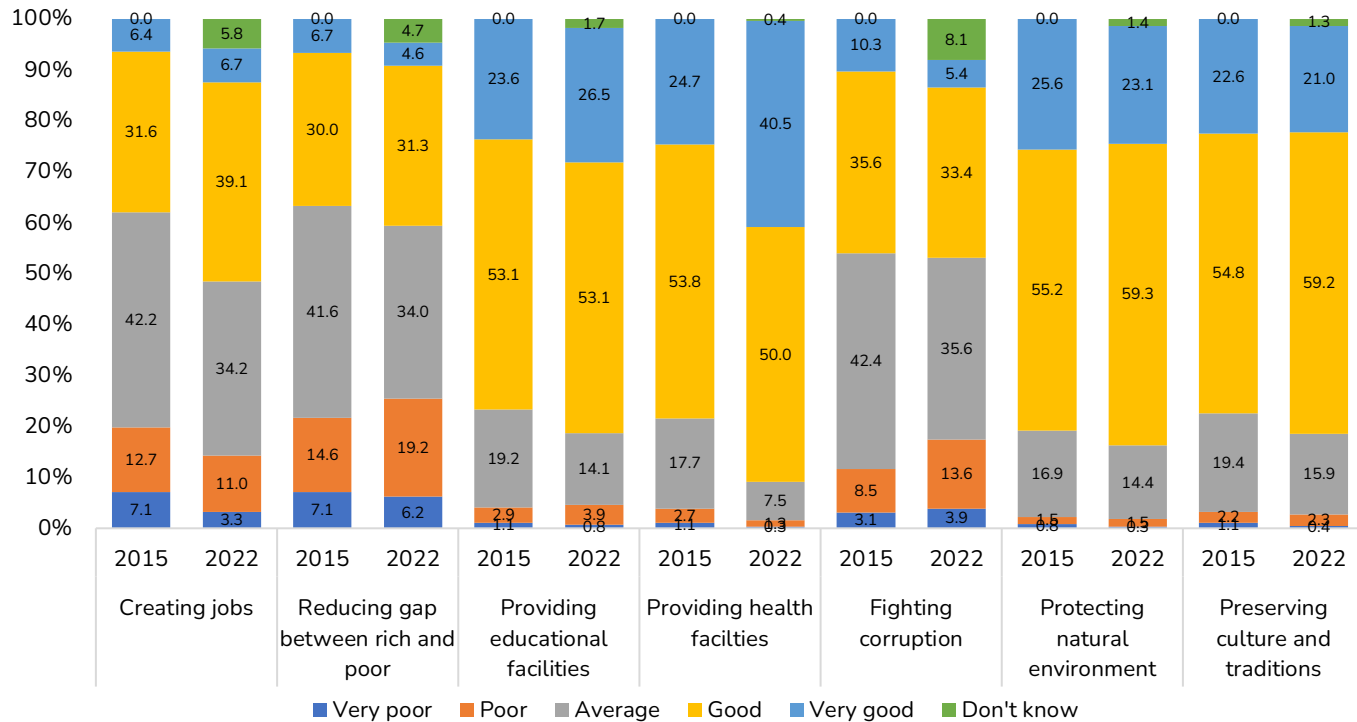
Source: Authors' computations based on 2015 and 2022 GNH Survey

Figure 83 demonstrates that, among the 10 variables, Bhutanese people are the most aware of their right to vote, with more than 90% stating that they have this right. There appears to be a need for many advocacy initiatives for citizens, since there is considerable room to improve education and awareness on these rights.

Government performance

Government performance deprivation has improved since 2015, although it continues to have the highest rate of deprivation in the domain (Figure 84). Around 66.3% of people were deprived in this metric in 2015, and the proportion was still high in 2022 (64.3%). Seven variables are used to evaluate government performance. The proportion of people ranking the government's performance in delivering healthcare as 'very good' has improved from 24.7% in 2015 to 40.5% in 2022. However, there is room for improvement in the remaining variables.

Figure 84: Percentage of people rating government performance, 2015–22



Source: Authors' computations based on 2015 and 2022 GNH Survey

Interventions ideas for the domain of good governance

Based on the analysis, actions will mostly need to be directed toward enhancing political engagement, improving rural services, and increasing public knowledge of fundamental rights and freedoms. Investments in the creation of jobs, the reduction of inequality, and the fight against corruption are necessary for raising the government performance indicator. Table 47 provides a summary of the findings on censored deprivation headcount ratios. Next, Table 48 shows some interventions to improve the domain indicators.

Table 47: Domain indicators and their status in GNH Index, 2015–22

Indicator	National censored deprivation headcount ratios	Intervention focus areas	
		Region where censored deprivation headcount ratio is higher	Districts where censored deprivation headcount ratios have increased over time
Political participation	Increased	Urban	Paro, Lhuentse, Chukha, Thimphu, Trongsa, Punakha, Wangdue Phodrang, Sarpang, Zhemgang, Pema Gatshel, Samdrup Jongkhar, Samtse, Tashigang, Tashi Yangtse
Services	Decreased	Rural	Pema Gatshel
Fundamental rights	Decreased	Urban	Thimphu, Punakha, Sarpang, Wangdue Phodrang, Tashigang, Pema Gatshel, Tashi Yangtse
Government performance	Decreased	Urban	Tashi Yangtse, Wangdue Phodrang, Punakha, Thimphu, Gasa

Source: Authors’ computations based on 2015 and 2022 GNH Survey

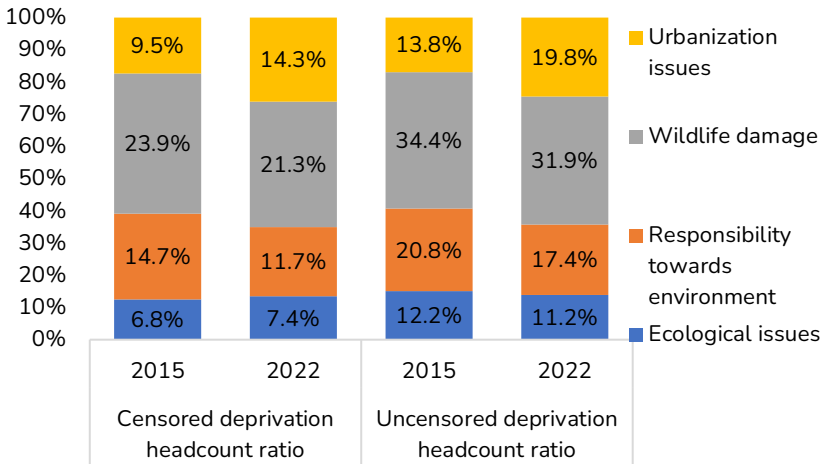
Table 48: Proposed intervention ideas to improve good governance domain

GNH Indicator	Nature of intervention	Title of intervention	Intervention objective	Implementation period	Lead agency	Partners	Intervention ideas
Political participation	Advocacy and awareness	Communication Campaign to Enhance Political Participation	To promote and encourage participation in <i>zomdues</i>	Short term (1-2 years)	Election Commission of Bhutan	LGs, CSOs, NGOs	Launch a communication campaign: To advocate on the importance of political participation and the ways in which citizens may participate, initiate a campaign. To maximise reach, use social media channels. Live broadcast community activities and invite people to share their own political involvement tales and experiences.
Political participation	Infrastructure	Making Voting Accessible to All	To make voting easier and more accessible	Short term (1-2 years)	Election Commission of Bhutan	LGs, CSOs, NGOs	Diversity voting services: Make voting and political participation as simple and accessible including to those who are disabled. This can be achieved by offering choices that make it simpler for residents to participate, such as online registration, early voting, mail-in votes, and others. Postal ballots could also be made accessible for private individuals and eligible students.
Fundamental rights	Advocacy and awareness	Know Your Rights, Fulfill Your Duties: Advocating for Civic Engagement	To improve the knowledge on rights and freedom	Short term (1-2 years)	Ministry of Education and Skills Development	Election Commission of Bhutan	Incorporating the fundamental rights and freedom in the curriculum: Reflect the rights and duties in high school curriculum. Initiate advocacy programmes to educate public about the significance of and meaning behind these fundamental rights and obligations.

Ecological diversity and resilience

The domain is evaluated using four indicators that assesses issues in urban areas, wildlife damage, environmental conservation attitude and ecological issues. As Figure 85 shows, the highest deprivations are among wildlife followed by urban issues. In 2022, 21.3% were wildlife damage indicator deprived and in not-yet-happy group and 14.3% were classified as urban issue indicator deprived and in not-yet-happy group. The share of the population who are deprived has decreased for wildlife damage, environmental conservation attitude and ecological issue. But for the urban issues indicator, deprivation has worsened (13.8% in 2015 to 19.8% in 2022).

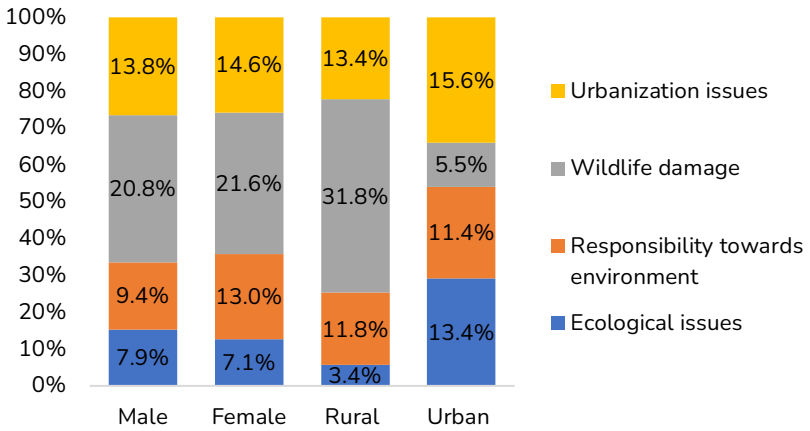
Figure 85: Censored and uncensored/raw deprivation headcount ratios, 2015–22



Source: Authors’ computations based on 2015 and 2022 GNH Survey

Urban issues are dominant in urban areas, and wildlife damage is dominant in rural regions.

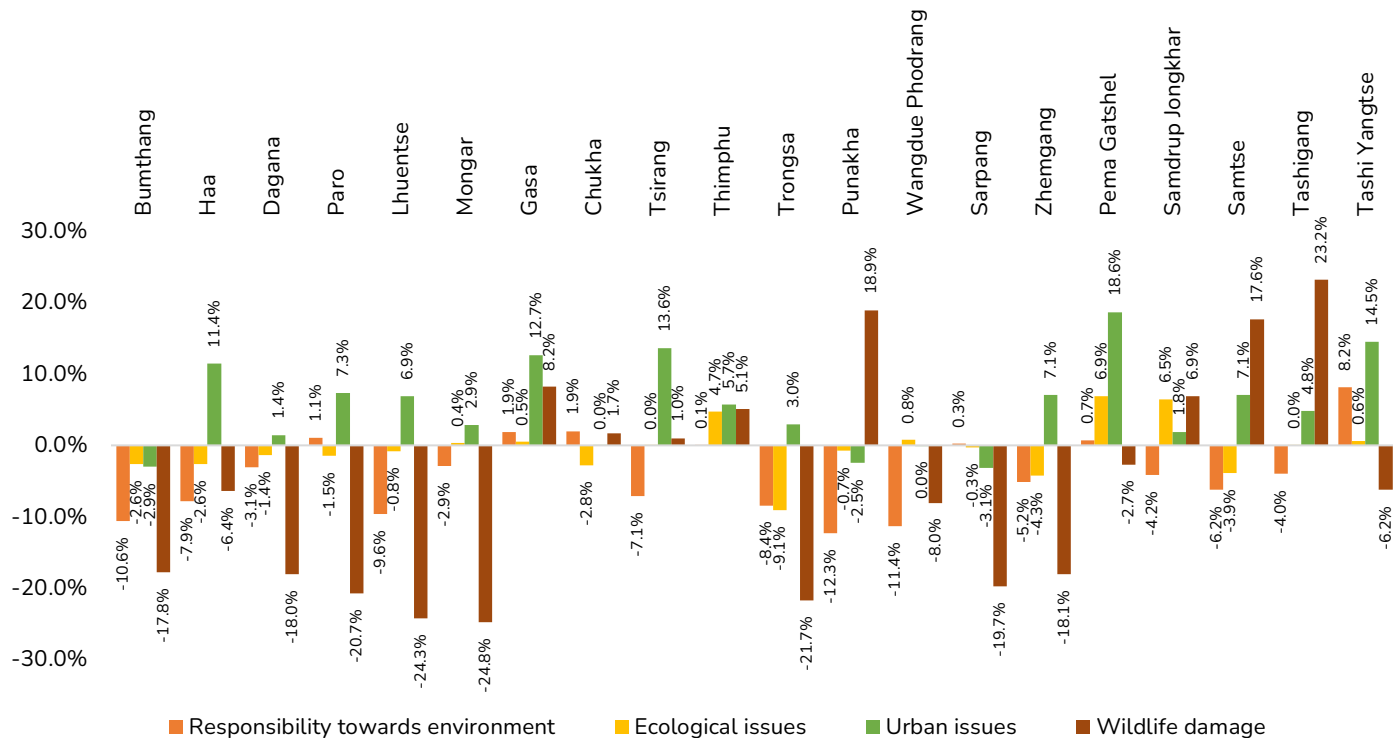
Figure 86: Censored deprivation headcount ratios by sex and region, 2022



Source: Authors' computations based on 2015 and 2022 GNH Survey

Figure 87 shows that the proportion of not-yet-happy people who are deprived in ecological domain indicators varies by district. Thimphu's censored deprivation has risen across almost all the indicators.

Figure 87: Absolute changes in censored deprivation headcount ratios by districts, 2015–22

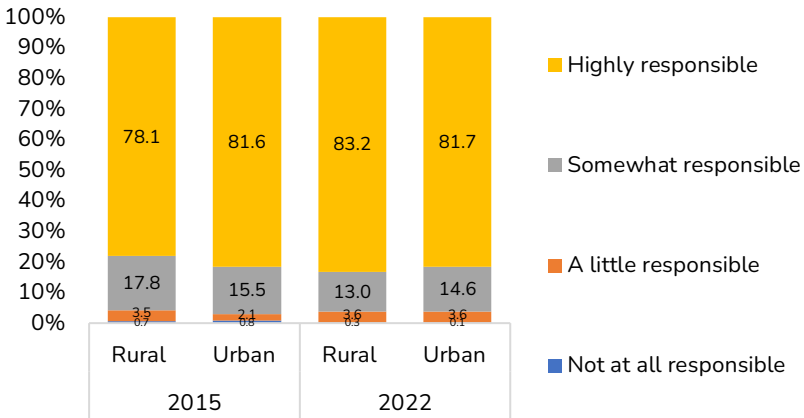


Source: Authors' computations based on 2015 and 2022 GNH Survey

Responsibility towards the environment

Since 2015, Bhutanese people have reported more positive attitudes towards environmental conservation: 78.1% of rural residents stated ‘highly responsible’ for conserving environment in 2015, which in 2022 increased to 83.2% (Figure 88). However, the same cannot be said for the those living in urban areas, which saw only a marginal rise (81.6% in 2015 and 81.7% in 2022). This suggests that the decline in deprivation is mostly driven by people living in rural areas, and hence programmes to enhance conservation attitudes would need to target urban residents.

Figure 88: *Percentage of people reporting their level of attitude towards environmental conservation by region, 2015–22*

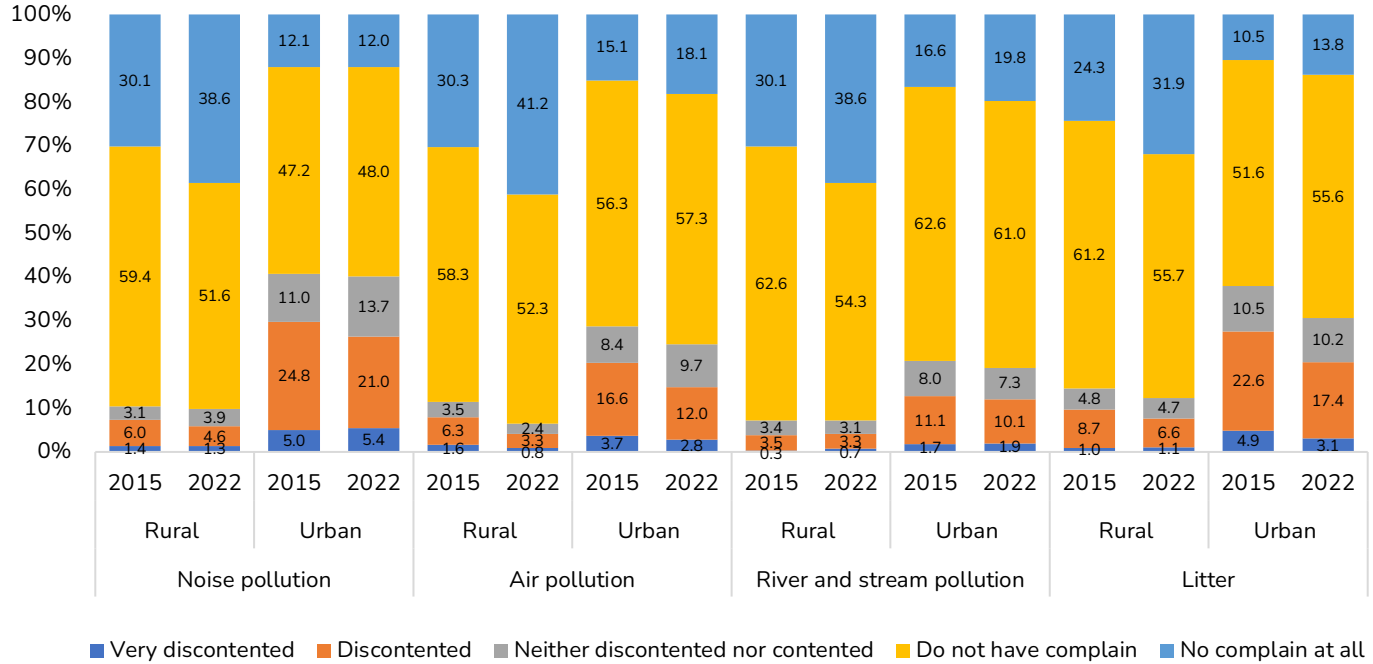


Source: Authors’ computations based on 2015 and 2022 GNH Survey

Ecological issues

Ecological issues are assessed through seven variables: noise pollution, air pollution, litter, river and stream pollution, soil erosion, flood and waste disposal sites. People are asked the status of these issues in the past year. Figure 89 shows that the proportion of people stating ‘discontented’ has slightly decreased for noise, air, river pollution and litter for both the regions. In general, there is high level of sufficiency. For example, in 2015, 6% of rural residents were discontent with noise pollution, and in 2022 this dropped to around 4.6%. In urban areas, 24.8% were discontent in 2015 and in 2022, 21% were discontent. The share of population stating that they are ‘very discontented’ with noise pollution increased from 5% to 5.4% in 2022.

Figure 89: Percentage of people reporting the statuses of four ecological issues, 2015–22

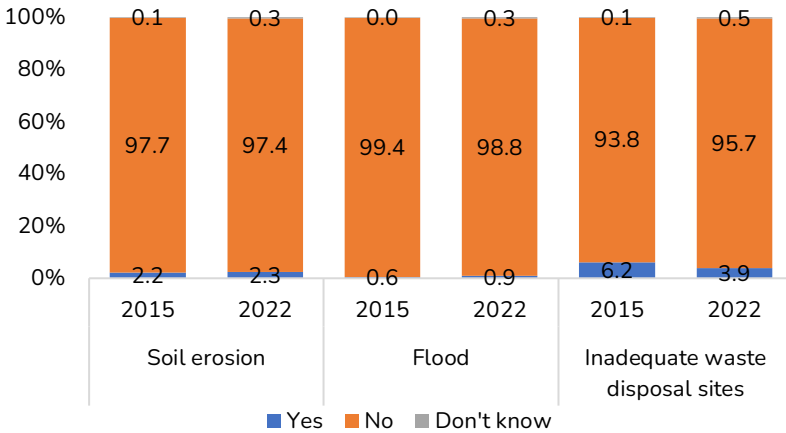


Source: Authors' computations based on 2015 and 2022 GNH Survey

With regards to air pollution, discontentment fell from 16.6% in 2015 to 12% in 2022 in the urban areas. Likewise, discontentment with litter also decreased from 22.6% in 2015 to 17.4% in 2022. Overall, there are improvements in the indicator. The pandemic may have had some impact given that Bhutan was consistently under lockdown. For instance, the reduction in air pollution may have been a consequence of less traffic and industrial activity leading to the quantity of pollutants discharged into the atmosphere decreasing.

Figure 90 shows that the proportion of people who reported soil erosion, flooding, and waste disposal concerns has also decreased in 2022.

Figure 90: Percentage of people reporting soil erosion, flood and inadequate waste disposal sites, 2015–22



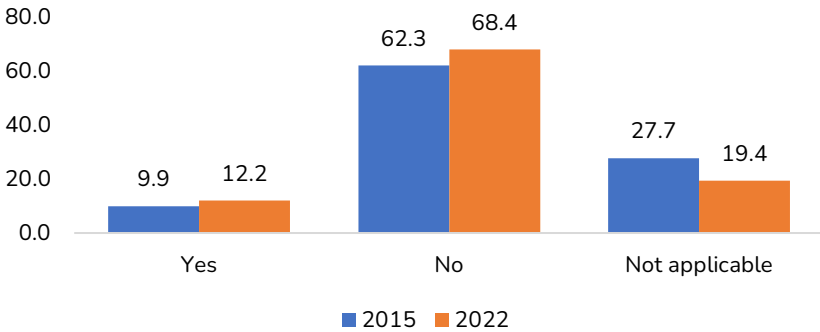
Source: Authors' computations based on 2015 and 2022 GNH Survey

Wildlife damage

The wildlife damage indicator is only for farmers. It determines whether they have left uncultivated land due to wildlife damage. There is an increase in the proportion of respondents reporting that they have left their land uncultivated. In 2015, 9.9% of respondents said they had left their land fallow. In 2022, this rose to 12.2%. Wildlife crop damage is a severe issue in the country, endangering the lives of many farmers and

communities. Bhutan has taken several initiatives to reduce animal damage to crops, such as installing electric fences and other crop security measures.

Figure 91: *Percentage of people who have left land uncultivated due to wild animals' damage, 2022*

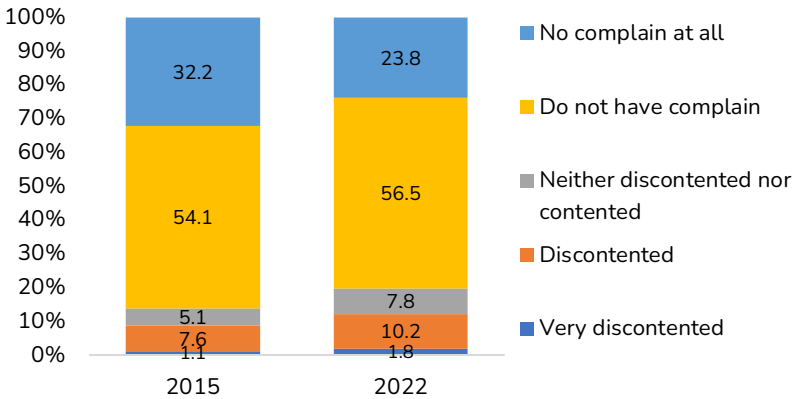


Source: Authors' computations based on 2015 and 2022 GNH Survey

Urban issues

Urban issues are relevant to people who live in urban areas. The indicator measures people's contentment with the pedestrian pathway. Figure 92 shows that censored deprivations have grown since 2015. In 2015, 9.5% of the population was not-yet-happy and urban issue deprived, and this proportion rose to 14.3% by 2022. Discontentment with pedestrian paths grew from 7.6% in 2015 to 10.2% in 2022. The findings therefore suggest the need for more initiatives to enhance urban pedestrian pathways.

Figure 92: Percentage of people reporting their level of contentment with urban pedestrian pathways, 2015–22



Source: Authors’ computations based on 2015 and 2022 GNH Survey

Interventions ideas for the ecological diversity and resilience domain

Based to the analysis, interventions will have to be directed towards improving ecological issues and urban issues indicator.

Table 49: Domain indicators and their status in the GNH Index, 2015–22

Indicator	National censored deprivation headcount ratios	Intervention focus areas	
		Region where censored deprivation headcount ratio is higher	Districts where censored deprivation headcount ratios have increased over time
Ecological issues	Increased	Urban	Thimphu, Pema Gatshel, Samdrup Jongkhar
Urban issues	Increased	Urban	Thimphu, Pema Gatshel, Samdrup Jongkhar, Samtse, Tashigang, Tashi Yangtse
Responsibility towards environment	Decreased	Urban	Gasa, Chukha, Thimphu, Tashi Yangtse
Wildlife damage	Decreased	Rural	Gasa, Punakha, Samtse, Tashigang

Source: Authors’ computations based on 2015 and 2022 GNH Survey

Table 50: Proposed intervention ideas to improve the domain of ecological diversity and resilience

GNH Indicator	Nature of intervention	Title of intervention	Intervention objective	Implementation period	Lead agency	Partners	Intervention ideas
Urban issue	Infrastructure	Accessible Pedestrian Pathways: Assisting People with Disabilities in Navigating Urban Environments	To make the pedestrian pathways in urban areas accessible to a wider range of people	Short term (1-2 years)	Ministry of Infrastructure and Transport	Municipalities	Install tactile paving: Tactile paving is a textured surface that is used to assist people who are visually impaired in navigating pedestrian pathways. Installing these surfaces in key areas can make the pedestrian pathways more accessible to a wider range of people. Develop wider paths: Widening sidewalks or creating wider pedestrian paths can make it easier for people to walk side-by-side and reduce congestion.
Ecological issues	Advocacy and awareness	Creating Serenity: A Programme for Promoting Quiet Zones in Urban Communities	To reduce noise pollution in suburban areas	Short term (1-2 years)	Ministry of Infrastructure and Transport	Municipalities	Public education and outreach: Public education programmes can assist promote awareness about the necessity of quiet zones as well as the effects of noise pollution on health and wellbeing. Public service announcements, social media campaigns, and instructional materials provided in schools and community centres are examples of such initiatives. Designing signage: Once silent zones have been defined, it is critical to make signs indicating their limits. This can help increase awareness and remind people to keep noise levels in certain locations in mind. Promoting quiet zones: Creating quiet zones in public settings such as libraries, parks, or transit systems may give respite from busy situations and foster a culture of silence.

Policy Implications of the GNH Index

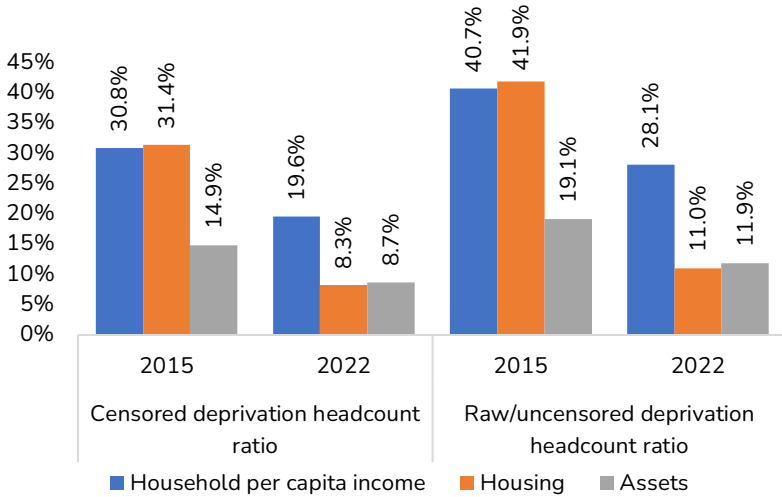
Ecological issues	Infrastructure	Silencing the Soundscape: Noise Pollution Reduction Using High-Traffic Noise Barriers	To reduce the impact of noise pollution on nearby residents	Medium term (3-5 years)	City Corporation, Thromdes	Ministry of Infrastructure and Transport, CSO, NGOs, LGs	Pilot Noise Barriers: To lower noise levels in residential areas, install noise barriers in high-traffic areas such as highways or trains. Community initiatives that raise awareness of the benefits of noise barriers and advocate for their installation can help achieve this.
Wildlife damage	Policy	Wildlife Crop Insurance: Financial Protection for Farmers Against Crop Losses	To help farmers protect their crops from wildlife-related losses by providing financial support to mitigate these risks	Medium term (3-5 years)	Ministry of Agriculture & Livestock	Farmers association, Insurance companies	<p>Piloting a crop insurance scheme: A crop insurance policy against wildlife damage can assist farmers in protecting their crops from wildlife-related losses by offering financial assistance to offset these risks. The programme could collaborate with insurance carriers to provide tailored insurance policies for farmers based on their individual needs and the sorts of animals in their area.</p> <p>Monitoring systems: The initiative could experiment monitoring systems like AI-based surveillance cameras or other sensor technologies to identify wildlife activity and inform farmers when crop damage is possible. These technologies can also be used to track the level of wildlife damage.</p>

Living standards

The living standards domain consists of three primary indicators: income, housing, and assets. These indicators are used to measure material wellbeing of individuals and households. The household income per capita indicator assesses the amount of income individuals and households have access to, and it is a key driver of their capacity to satisfy their basic requirements and engage in activities that contribute to their wellbeing. GNH understands that while income does not guarantee happiness, it is an essential element in determining access to resources and opportunities that lead to happiness. The housing indicator examines the quality and availability of housing. Access to appropriate and safe housing is essential for physical and mental health, as well as social and economic wellbeing. Finally, the asset indicator includes indicators of the assets owned by individuals and households in terms of land, equipment, and livestock.

The censored and uncensored deprivation headcount ratios for the three indicators are shown in Figure 93. Looking first at the censored deprivation headcount ratio, or the proportion of the people who are not-yet-happy and deprived in the indicator, in 2015, 30.8% of the population was unhappy and did not achieve sufficiency in the income indicator. In 2022, income improved, with the censored deprivation falling to 19.6%. In 2015, 31.4% of Bhutanese people were deprived in housing and not-yet-happy, which fell to 8.3% in 2022, demonstrating progress. Similarly, progress was also seen with the assets indicator, with censored deprivations falling from 14.9% in 2015 to 8.7% in 2022. Overall, there has been significant progress in all three indicators of living standards.

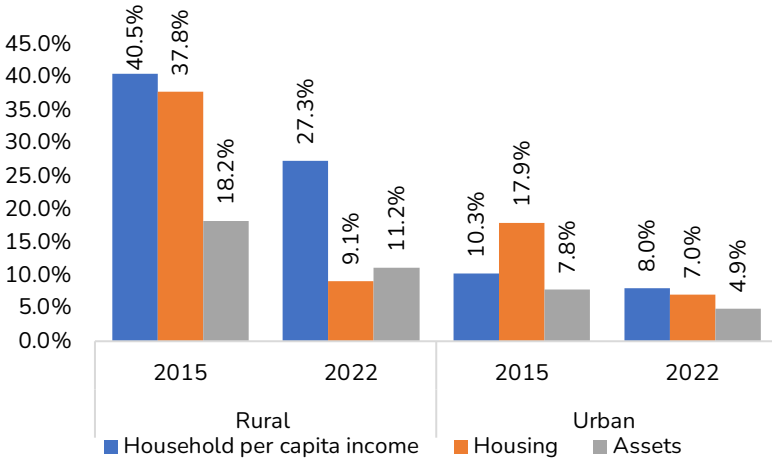
Figure 93: Censored deprivation headcount ratio and uncensored deprivation headcount ratio, 2015–22



Source: Authors’ computations based on 2015 and 2022 GNH Survey

A subsequent regional examination finds that improvement has been more pronounced in housing indicator and in rural regions than in urban ones. For example, in 2015, 40.5% of the rural population was income deprived and not-yet-happy; by 2022, this had dropped to 27.3%. While the urban population saw a decline in censored deprivations (10.3% in 2015 to 8% in 2022), it was not as prominent as in rural regions. Furthermore, housing indicator improved in rural regions, with censored deprivations falling significantly from 37.8% in 2015 to 9.1% in 2022. In urban areas, censored deprivations fell from 17.9% in 2015 to 7% in 2022. The same pattern was seen with the assets indicator.

Figure 94: Censored deprivation headcount ratio and uncensored deprivation headcount ratio by region, 2015–22



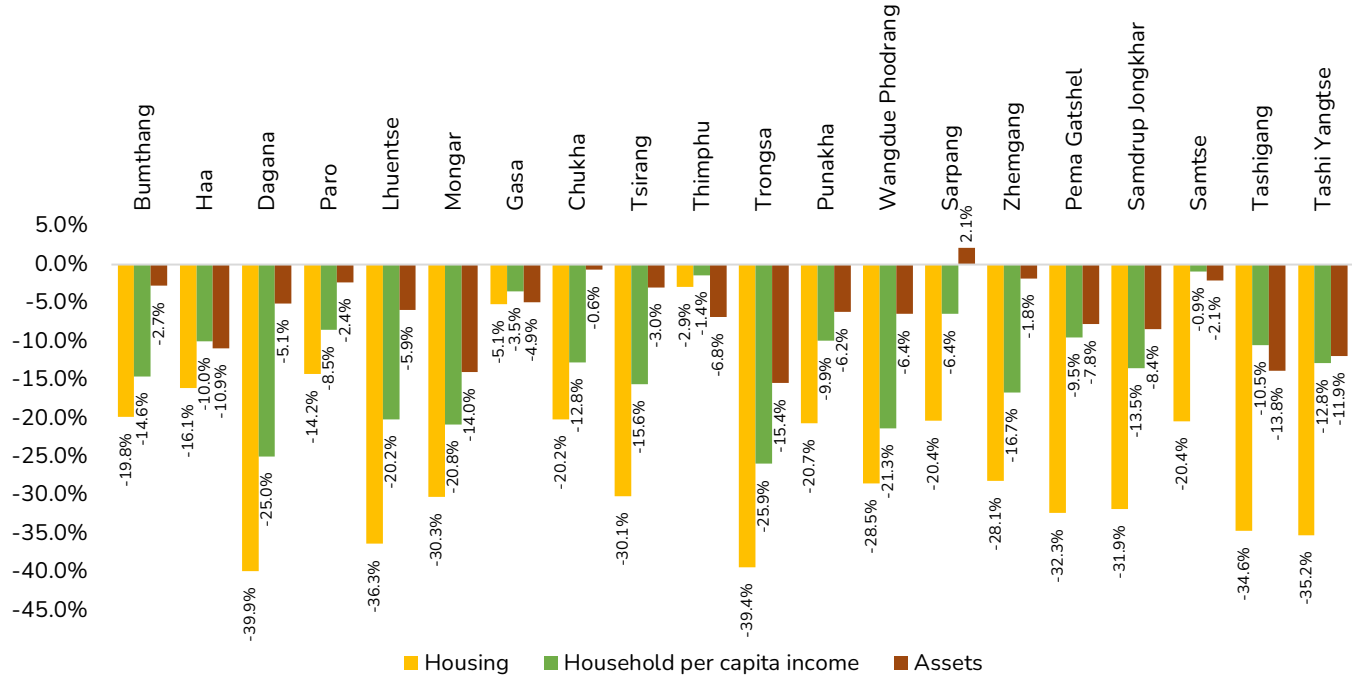
Source: Authors’ computations based on 2015 and 2022 GNH Survey

So, clearly there has been more progress in rural areas compared to urban areas. How does the progress in terms of living standards look like across districts? Has the percentage of not-yet-happy and indicator deprivation decreased or increased?

One positive finding, as seen in Figure 95, is that there is a drop in censored deprivations across almost all the districts. The highest reduction in censored deprivation has occurred across the housing indicator in all districts. Since 2015, Dagana has had the highest decrease in censored deprivation of the housing indicator, with a decline of 39.9%. In terms of income, Trongsa saw the biggest drop in censored deprivation, at 25.9%. With the assets indicator, Mongar has shown the highest decline in censored deprivation.

Thimphu and Gasa are the two districts with the least decrease in censored deprivations. It is also worth noting that the censored deprivation headcount ratio for assets indicator rose by 2.1% in Sarpang.

Figure 95: Absolute changes in censored deprivation headcount ratios by district, 2015–22



Source: Authors' computations based on 2015 and 2022 GNH Survey

Housing

Housing indicator comprises of three variables: room ratio, type of toilet and type of roofing. Each of the variables has a cutoff based on which a person is classified as having achieved sufficiency in housing. Housing indicator aims to assess the quality of housing a person lives in. Poor living conditions can affect one's health, safety, and general wellbeing. Stress and other health issues can also be exacerbated by overcrowding and a lack of privacy.

Room ration refers to the ratio between the size of the household and the number of rooms in a household. When the median and mean are compared, the results do not show progress over time.

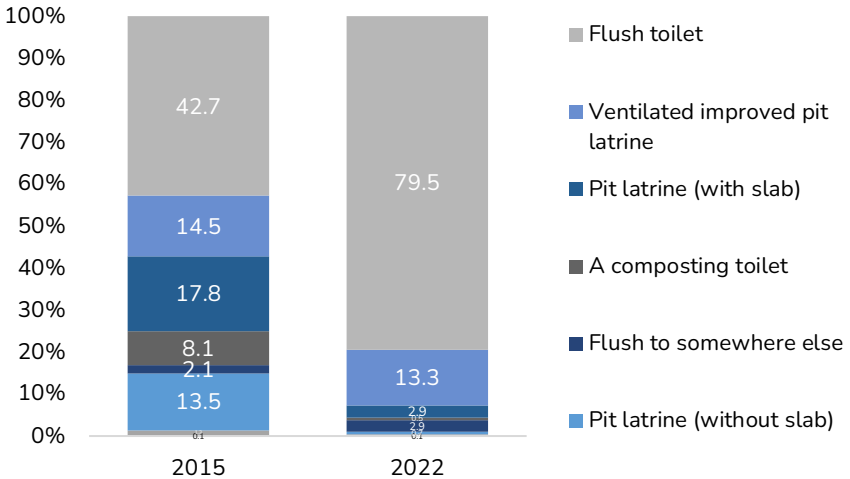
Table 51: *Changes in room ratio, 2015–22*

Room ratio	2015	2022
Mean	1.8	1.2
Standard Deviation	1.2	0.8
Median	1.5	1

Source: Authors' computations based on 2015 and 2022 GNH Survey

Regarding toilets, there has been significant improvement. The prevalence of flush toilets has dramatically grown, from 42.7% in 2015 to 79.5% in 2022.

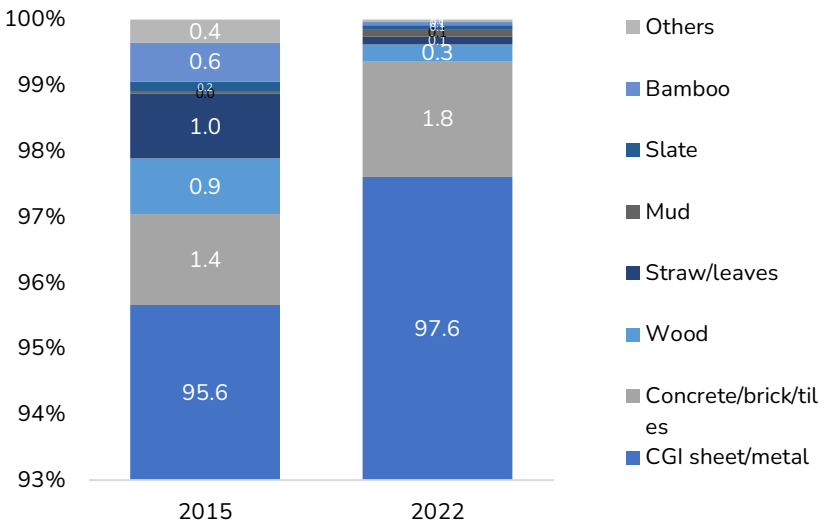
Figure 96: Percentage of people by toilet type, 2015–22



Source: Authors’ computations based on 2015 and 2022 GNH Survey

With CGI sheet and metal roofing, a rise from 95.6% in 2015 to 97.6% in 2022 is seen.

Figure 97: Percentage of people by type of roofing, 2015–22



Source: Authors’ computations based on 2015 and 2022 GNH Survey

Assets

The three variables that make up the assets indicator measure the ownership of three different asset types: livestock, land, and equipment (television, phones, etc.). Corresponding sufficiency cutoffs are then applied to each of these asset types to categorise a person as being in sufficiency or deprivation. Despite witnessing an improvement in sufficiency among the population who were not-yet-happy (a decrease in the censored deprivation headcount ratio of assets indicator), a closer examination at the three asset variables indicated a decrease in the average and median ownership of livestock and land (Table 52).

Table 52: *Changes in the ownership across the three types of assets, 2015–22*

	2015		2022	
	Mean (SD)	Median	Mean (SD)	Median
Livestock (number)	4.8 (11.6)	2	3.8 (9.5)	0
Land (decimal)	309.4 (472.3)	225	276.5 (364.8)	199
Equipment (number)	2.7 (1.4)	3	3.5 (1.3)	4

Source: Authors' computations based on 2015 and 2022 GNH Survey

Household per capita income

The median household per capita has increased from Nu. 29,933 in 2015 to Nu. 63,900 in 2022, reflecting the prior discussion of how censored deprivations have decreased within the population over time. The average household per capita income across quintile has increased for the poorest 20%, 40-60%, and 60-80% (Table 53).

Table 53: *Changes across household per capita income, 2015–22*

Household per capita income quintile	2015 (Nu.)	2022 (Nu.)
0-20%	8,238.6	9,612.7
20-40%	24,299.7	24,548.1
40-60%	44,726.4	46,700.8
60-80%	80,333.6	82,468.1
80-100%	340,674.7	252,713.3

Household per capita income quintile	2015 (Nu.)	2022 (Nu.)
Mean	64,987.6	110,302.9
Standard Deviation	492,789.8	204,613.5
Median	29,933.3	63,900.0

Source: Authors' computations based on 2015 and 2022 GNH Survey

Intervention ideas for the domain of living standards

While all the three indicators of living standards have improved over time, this improvement may be attributed to the Druk Gyalpo's Relief Kidu (DGRK) measures that was administered during the pandemic period. Remittances in the economy has also largely been increasing except for a drop in recent period⁵³. Remittances provide a direct source of money for families and communities which is often used to pay for food, clothes, and other essentials, as well as education, healthcare, and housing. Both of these sources may have played an important role in improving the living standards domain.

While remittances provide an important source of income for families and communities, they may not be a sustainable solution to creating long-term economic growth and development in a country. We must implement policies and strategies that fosters entrepreneurship and innovation to create sustainable income and job opportunities. As per the 2022 National Labour Force Survey⁵⁴, unemployment rate in the country increased from 3.1% in 2017 to 5.9% in 2022. Youth⁵⁵ unemployment in the country has increased significantly from 19.8% in 2017 to 28.6% in 2022.

Likewise, for many people and families, access to affordable housing may still be a crucial concern, especially in urban regions. Residents in

⁵³ As per the Annual Report 2022 of Royal Monetary Authority, in 2020-2021 remittances were recorded at Nu 8,801.4 million. However, there was drop in net inward remittance in 2021-2022 at Nu 4,333.3 million (a decrease by 27.6 percent).

⁵⁴ file:///Users/mac/Downloads/LFSReport-2022-WEB-version%20(1).pdf

⁵⁵ Youth unemployment rate as per the Labour Force Survey Report 2022, is defined as the percentage of unemployed persons in the age group 15-24 years to the labour force (also known as economically active population) in the same age group.

Thimphu Thromde pay the greatest median rent burden, at 48% of the monthly family income of Nu 20,000. This indicates that households in the region with a median income of Nu 20,000 spend Nu 9,500 in rent per month as per the Housing and Market Demand Survey that was conducted in Thimphu Thromde in 2021. The National Housing Development Corporation Limited (NHDCL) has also made a change in policy to provide low-income people with affordable homes by opening up their housing colonies to those beyond civil servants.

Overall, we understand that creating jobs and improving housing conditions are complicated tasks that need a multifaceted strategy. This may involve addressing systemic barriers to economic growth and housing access, such as discrimination, lack of access to capital, and inadequate infrastructure.

Table 54: Domain indicators and their status in the GNH Index, 2015–22

Indicator	National censored deprivation headcount ratios	Intervention focus areas	
		Region where censored deprivation headcount ratio is higher	Districts where censored deprivation headcount ratios have increased over time
Housing	Decreased	Rural	
Assets	Decreased	Rural	Sarpang
Household per capita income	Decreased	Rural	

Source: Authors’ computations based on 2015 and 2022 GNH Survey

Part 2: Exploring contributions of past interventions

In this section, we look at how previous initiatives contributed to the improvement of GNH indicators. Given the lack of publicly available information on earlier efforts, we rely on insights derived from Annual Performance Agreements (APAs)⁵⁶. The APAs were drawn from the

⁵⁶ The Annual Performance Agreement introduced by the Royal Government of Bhutan in 2013 is a mechanism to institutionalize and promote a performance-based culture in public sector agencies. The agreement is signed annually between the Prime Minister and Ministers, Heads of Autonomous Agencies and *Dzongdags* to

ministry⁵⁷'s websites. Initiatives listed under the APAs also includes information on other aspects, of which the following three were used to classify the level of contribution (highly likely, likely, lowly likely and unlikely) the initiative had on each of the GNH indicators;

1. Objective: Proxy for impact level data.
2. Action: Proxy for outcome level data.
3. Success indicator: Proxy for output level data.

If the concerned indicator under discussion has been reflected in 'success indicator' then it is said to be 'highly likely'. Likewise, if it is reflected under 'action' or 'objective' then is it said to be a 'likely' contributor. If indicator is not reflected in 'success indicator' or 'action' or 'objective' but seems to have some indirect contribution, then it is said to 'lowly likely' contributor. However, if the initiative is neither reflected in the three and is thought to deteriorate the indicator then we assume it is an 'unlikely' contributor.

ensure responsibility and accountability for the results. Key objectives include establishing consensus on priorities, targets and for driving implementation efforts on ground. APA scores are also used to rate overall performance at the end of the Fiscal Year.

⁵⁷ Note that the 10 ministries have been restructured. Several departments have been merged and ministries renamed and their mandates reviewed. But for this exercise we use the previous structure since the APAs were from the financial year 2021-2022.

GNH 2022

Fictional sample of ministerial level APA with two initiatives

Initiative 1: Objectives, Success indicators and targets

			Contribution of initiative 1 to 33 indicators		
Objective	Action	Success indicator	Contribution to life satisfaction (Highly likely, Likely, Lowly likely, Unlikely)	Contribution to positive emotion (Highly likely, Likely, Lowly likely, Unlikely)	...contribution to housing...etc.
Enhance health promotion and disease prevention services	Health and wellbeing of vulnerable group improved	% of water supply systems (urban & rural) with routine water quality surveillance undertaken	X	X	X

Initiative 2: Objectives, Success indicators and targets

			Contribution of initiative 2 to 33 indicators		
Objective	Action	Success indicator	Contribution to life satisfaction (Highly likely, Likely, Lowly likely, Unlikely)	Contribution to positive emotion (Highly likely, Likely, Lowly likely, Unlikely)	...contribution to housing...etc.
Expand and strengthen medical services	Disaster Resilience Enhanced	Number of health facilities with operational health emergency contingency plan	X	X	X

Note that we have inserted X in place of values

For the current exercise, we use nine ministerial-level APAs for the financial year 2021-2022 which were available in the public domain. Contributions are examined⁵⁸ based on a categorization framework, some of which were explained earlier. Table 55 illustrates in detail the classification system adopted to assess the level of contributions. For ease of explanation, we use the healthy days indicator under the health domain as an example.

Table 55: Classification system to assess the level of contribution made by an initiative⁵⁹ to GNH indicator

Is the programme/project contributing to the improvement of the GNH indicator?	Description
Highly likely	An initiative is said to have a 'highly likely' contribution to the improvement of GNH indicator if the descriptions under the 'success indicator' has any direct mention of the concerned GNH indicator. For instance, if under the 'success indicator' states 'number of healthy days increased among the population' or 'improve number of healthy days of the population' then the initiative is assumed to directly contribute to the improvement of healthy days indicator. Essentially, any mention of the concerned indicator in the descriptions would be considered to have 'highly likely' contribution.

⁵⁸ The mapping information excel sheet template was only limited to aggregate information on programme title, nature of intervention, output, outcome, impact, implementing agency, year and modality, among others, in relation to the GNH indicator and domain. Programmes were categorized across several components: capacity building, infrastructure, policy/strategy and service delivery, among others. Each interventions reflected in the APAs sheets was assessed against 33 GNH indicators to capture cross-indicator contributions.

⁵⁹ Note that the APA reflect policies/programme/project either under 'objective', 'action' or 'success indicator'.

<p>Likely</p>	<p>An initiative assumed to have 'likely' contribution if descriptions under the 'objective' or 'action' areas mention the concerned GNH indicator. For instance, if either in the 'objective' or the 'action' area highlights 'enhance health of the population' then the contribution is assumed to be 'likely'.</p>
<p>Lowly likely</p>	<p>An initiative is considered to be classified as 'lowly likely' if the GNH indicator does not reflect in all three ('success indicator', 'objective' and 'action') but it is felt that the listed initiative have some indirect contributions to the improvement of the GNH indicator under question. For instance, an initiative on increasing the number of health facilities or enhancing the health services is assumed to indirectly contribute to improving the healthy days indicator by ensuring better quality of healthcare. Note that while, there has been no direct mention of healthy days under 'success indicator', 'objective' and 'action', an association between the improvement of health services or increase in health facilities and healthy days indicator has been drawn and assigned 'lowly likely'.</p>
<p>Unlikely</p>	<p>An initiative is classified as an 'unlikely' contributor, if the GNH indicator under question is neither featured in the descriptions of the outlined 'success indicator', 'objective', 'action' and is also perceived to have some adverse impact on the indicator. For instance, if the 'success indicator' of an initiative states as 'construction of a state owned factory' then this initiative would be considered to be an 'unlikely' contributor to the improvement of healthy days.</p>

After the classification process, analysis was carried out to compare and assess emerging patterns and trends of initiatives in relation to the 33 GNH indicators. We must note that the analysis did not involve assessing the level (intensity) of effectiveness of the interventions. In general, we reflected on the following questions during the analysis phase:

- Are there initiatives that directly/indirectly contribute to GNH indicator improvement?
- Which domains and indicators have the least or the most attention?
- Are there initiatives that have no alignment (those under 'unlikely') with the GNH domains and indicators?

In total, there were 105 ministerial-level APA entries made for the nine ministries for the financial period 2021–2022 (Table 56).

Table 56: Ministerial-level APA entries, 2021–22

Implementing agency	Number of initiatives
Ministry of Health	15
Ministry of Finance	13
Ministry of Information and Communication	13
Ministry of Home and Cultural Affairs	12
Ministry of Agriculture and Forests	11
Ministry of Labour and Human Resources	11
Ministry of Economic Affairs	10
Ministry of Education	10
Ministry of Foreign Affairs	10
Total	105

Source: Authors' computations based on nine ministerial level APAs

The 105 initiatives were examined to assess the level of contribution towards the enhancement of the 33 GNH indicators. Under the psychological wellbeing domain, for example, an initiative were reviewed to determine if they were 'highly likely,' 'likely,' 'lowly likely,' or 'unlikely' to boost life satisfaction indicator. Such evaluations were repeated against rest of the 32 indicators. Despite our efforts to standardise and maximize objectiveness in the approach, one cannot

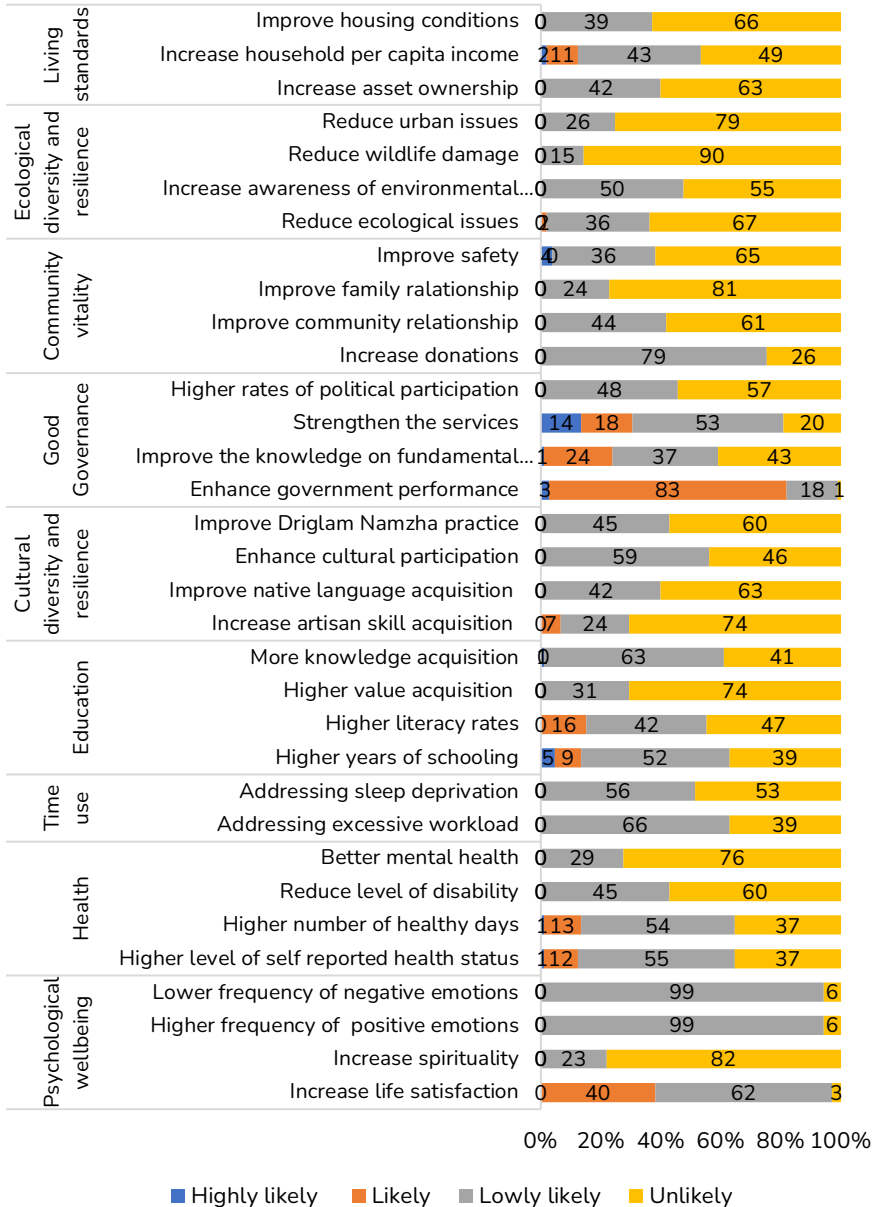
rule out the subjective biasness that may have occurred when the classification system was being implemented.

Figure 89 shows that most of the 105 initiatives were deemed to be 'unlikely' to enhance the 33 indicators. The influence of the initiatives, however, varies from indicator to indicator. For example, only two of the 105 initiatives in the psychological wellbeing domain were 'likely' to lead to an increase in spirituality. Similarly, 14 of the 105 initiatives were 'likely' to enhance the frequency of positive feelings while 12 were 'likely' to decrease the frequency of negative emotions.

Let us concentrate on those that indicate 'highly likely', which correspond to the blue bars in Figure 98. Services have the most initiatives in 'highly likely' category. Fourteen of the 105 initiatives have been designated as 'highly likely' to improve services. Five initiatives were labelled as 'highly likely' to increase years of schooling among the population. Contributions to the safety indicator were next. Four initiatives were identified as having a high likelihood of contributing to increased community safety. Three initiatives were recognised as having a high likelihood to increase government performance.

It is worth noting that the contributions from the initiatives listed in the APAs are assessed across each of the 33 indicators to investigate if the same initiative is enhancing varied indicators. Figure 98 also shows that around 14 initiatives contribute to service indicator under good governance.

Figure 98: Number of initiatives contributing to GNH indicator improvement, 2022



Source: Authors' computations based on nine ministerial level APAs

Table 57 provide insights on the initiatives that were identified as ‘highly likely’ contributor to GNH indicator(s). We see that initiatives mostly caters to the improvement of conventional indicators such as services, schooling, safety, income and health.

Table 57: *Initiatives having high likelihood in contributing to GNH indicators, 2022*

GNH indicator	Number of initiatives depicting high likely contribution	Examples of initiatives
Strengthen the services	14	<ul style="list-style-type: none"> • Key public services in compliance to the Service Delivery Standard delivered • To improve equitable access to quality education: Support students in rural areas through provision of boarding facilities (boarding primary schools under GOI PTA)
Higher years of schooling	5	<ul style="list-style-type: none"> • Timeline by which Education Reform Plan is developed • Net enrollment rate for Early Childhood Care and Development (ECCD) • Explore scholarship opportunities in critical HRD areas in consultation with relevant agencies
Improve safety	4	<ul style="list-style-type: none"> • Enhance airport security, safety, surveillance and response capability • Police Forensic Laboratory Services established
Enhance government performance	4	<ul style="list-style-type: none"> • Integrity score improved • Compliance to SDS (Taxation)
Increase household per capita income	2	<ul style="list-style-type: none"> • Jobseekers engaged through Engagement Programme • Timeline by which National Minimum Wage (NMW) is revised
Higher number of healthy days	1	<ul style="list-style-type: none"> • Percentage of eligible women covered with Accelerating Mother and Child Health Programme (AMHCP)

Source: Authors’ computations based on nine ministerial level APAs

So, what do these findings imply? It demonstrates that the majority of initiatives are focused on conventional development agenda such as education, health, and good governance. These indicators are already quite widespread and, for the most part, the focus of most government programmes. What is lacking is the existence of initiatives aimed at improving social indicators. There are limited initiatives that contribute to community vitality or time usage, for example. It advocates for more deliberate efforts to boost non-conventional domains of GNH.

However, we must note that this evaluation is based on a subset of the 2021–22 APAs. It only considered data from nine ministries (one of the ministerial level APA was not available). A complete assessment would essentially include reviewing the APAs of the 20 districts, *thromdes*, and autonomous agencies in addition to the 10 ministries.

The study was limited by availability of APA information in the public domain particularly during the assessment period of March to April 2023. The analysis here therefore is not complete.

The goal here was simply to demonstrate how similar analysis may be performed to align either performance agreements or any other programmatic interventions or projects or policy action areas with the 33 GNH indicators. Such insights can be administered to realign or reprioritise interventions or redirect resources towards GNH domains and indicators.

Conclusion

The GNH Index has become a well-established measure of wellbeing and holistic progress that goes beyond typical GDP and economic growth statistics. This book has looked at the 2022 GNH Index and the changes over time, the relationship between the GNH Index and income, the various GNH profiles and its policy implications.

Bhutan's GNH Index grew from 0.743 in 2010, to 0.756 in 2015, and to 0.781 in 2022, suggesting significant improvements in wellbeing and happiness. In 2022, the greatest gains were in the areas of living standards and community vitality, followed by good governance. However, other domains, including culture and time use, witnessed deteriorations.

The book also provided some understanding on the standard measurements of material advancement such as GDP and income. Comparison with GNH Index were made to show that the GNH Index delivers a more comprehensive, holistic and inclusive perspective of development compared to GDP.

The GNH Index has also been used to build GNH profiles for various areas of Bhutan, allowing for a more nuanced understanding of varied conditions experienced by people throughout the country. The profiles indicate differences in GNH across urban and rural areas, as well as different age groups, educational backgrounds, and employment position. The profiles also underline the importance of many aspects of GNH such as relationships, work-life balance, belongingness that must be met in order to be happy, rather than just focusing on income alone.

The GNH Index has far-reaching policy implications for governments and policy makers worldwide. It can assist policy makers in identifying areas of need and prioritising measures that promote wellbeing and long-term development.

The need to prioritise social and environmental elements in development programmes is one significant policy conclusion of the 2022 GNH Index. This includes investing in unconventional indicators of GNH. It also entails fostering the preservation of culture and community relationships, both of which are essential aspects in generating happiness.

Another policy implication of the GNH Index is the need to address wellbeing inequities among subgroups. This entails directing policies and investments toward the regions and populations most in need of assistance. As previously stated, this requires indicator based targeting, since the target group changes from one indicator to another.

Efforts should be made to promote social ties and support networks. This may be accomplished through community-building activities, financial support for social clubs and organisations, and programmes that promote social contact and engagement. It is also important to acknowledge the significance of mental health and psychological wellbeing and prioritise measures that enhance emotional resilience and access to mental health services. This might involve financing for mental health services, research into the causes and treatments of mental disease, and projects to encourage mindfulness, meditation, and other mental-wellbeing activities.

Efforts also may need to be made to encourage education on aspects such as the Constitution, local legends, festivals and HIV/AIDs. Accessibility policies may assist guarantee that all members of the community, including those with disabilities, have access to and enjoy pedestrian-friendly streets. This can involve things like adding curb ramps, making public transit more accessible, and making sure walkways are broad enough to accommodate wheelchairs and strollers.

In urban areas, political participation seems to be deteriorating hence, policies may pay attention to lowering voting barriers. This may be done by ensuring that eligible voters have access to the ballot box. This can involve things like extending early voting hours, permitting same-day voter registration, and offering mail-in voting choices. Policies that support political education can serve to boost civic awareness and

Conclusion

engagement. Similarly, interventions such as mandating civics education in schools, offering voter education materials are examples of such efforts.

In general, the 33 indicators appear to be relevant for the time being, but they may need to be revisited in the future to fully reflect societal challenges and circumstances associated with growing economic and social trends and causes of their time. With rising emigration to Australia, for example, one could want to include an employment indicator to capture information on job opportunities in the country. Similarly, as literacy rates rise, the literacy indicator may become obsolete. Therefore, for the GNH Index to successfully monitor the country's wellbeing and happiness, the normative relevance and validity of the indicators will need to be examined before the next update.

The publication of this book is an important first step in increasing awareness and understanding of the GNH Index and the changes overtime. However, it is critical to acknowledge that additional efforts are required to successfully promote and use the GNH Index findings for the improvement of society.

Advocacy efforts, workshops, and awareness programmes aimed at policymakers, civil society organisations, and the general public are critical to increasing understanding of the GNH Index and the findings. These initiatives can educate stakeholders, allowing them to understand and appreciate its importance in gauging societal wellbeing.

By engaging policymakers, we can foster a deeper understanding of how the GNH Index can inform and shape policy decisions. It provides an opportunity to highlight the importance of considering holistic wellbeing and happiness as fundamental goals of governance. Policymakers need to be aware of the potential benefits and policy applications of the GNH Index, encouraging them to incorporate its principles into their decision-making processes.

Engaging non-governmental organisations and civil society organisations, which play an essential role in enhancing societal wellbeing, is also critical. Giving these organisations knowledge about

the GNH Index findings allows them to effectively advocate for policies that prioritise citizens' overall happiness and welfare.

A well-designed communication strategy in multiple languages and for different audiences is therefore, essential for ensuring effective communication and information dissemination.

The promotion of the GNH Index in international fora holds immense potential for developing international cooperation and collaboration on well-being-centered policy. By sharing Bhutan's GNH Index for other countries to tailor to their contexts we can inspire a global movement towards going Beyond GDP by using a more holistic approach to development and well-being. It can drive governments to consider a broader set of elements that contribute to human flourishing rather than a restricted focus on economic growth.

We have an opportunity to influence our own policy landscape by embracing the GNH Index at home. Its institutionalisation guarantees that politicians are urged to make decisions based on evidence rather than short-term political rewards. It will encourage them to think on the long-term effects of their policies on societal wellbeing, fostering sustainable and inclusive growth. In addition to providing a profound yet rigorous framework for measuring success and well-being – one which goes far beyond standard economic indicators - institutionalising the GNH Index promotes an evaluation and accountability culture, allowing politicians to measure the impact of their actions on population happiness and well-being. As a result, governance can become more responsive and people-centered.

Annexure I: Survey Methodology

This section briefly presents the methodology adopted for the 2022 GNH survey such as sampling design, survey instruments, data collection process, data cleaning and analysis approaches.

Survey coverage

The 2022 GNH survey, like past GNH surveys, is designed to cover the entire country which is divided into 20 *dzongkhags*. Each *dzongkhag* is divided into rural and urban areas and is further sub-divided into Enumeration Areas (EA). *Chiwogs* in rural and enumeration blocks in urban areas is used as a Primary Sampling Unit (PSU). The target population included those aged 15 years or older.

Sample design

The sample for the 2022 GNH survey is designed to provide estimates of GNH-related indicators representative at national, rural and urban areas, and *dzongkhag* levels. A stratified three-stage sampling design is adopted. Two mutually exclusive sampling frames – rural and urban areas were used.⁶⁰ Urban and rural areas within each *dzongkhag* have been identified as the main sampling strata.

The first stage sample selection involved selection of PSUs which are *chiwogs* in rural and enumeration blocks in urban areas. The PSUs in both rural and urban areas are selected using Probability Proportional

⁶⁰ All *Thromdes* (urban centres), *Dzongkhag* Headquarters, and satellite towns designated as 'urban' by the Ministry of Works and Human Settlement (MoWHS) were considered as urban areas and all the rest as rural areas for this study. A place that meets four out of the following five criteria is considered 'urban' by the MoWHS: i) a minimum population of 1,500 people; ii) a population density of 1,000 people or more per square kilometre; iii) more than 50% of the population should depend on non-primary activities; iv) the area of the urban centre should not be less than 1.5 square kilometres; and v) potential for future growth of the urban centre particularly in terms of its revenue base.

to Size (PPS) method where number of households is used as measure of size (MOS) variable.

Households within the selected PSUs formed the Secondary Sampling Units (SSUs). Therefore, the second stage sample selection involved selecting households as SSUs from within the selected PSUs. The required number of households from the selected PSUs were selected using Circular Systematic Sampling (CSS) approach.

Finally, the third stage sample selection involved the selection of individuals as Ultimate Sampling Units (USUs) from the selected households. Selection of a household member from the selected households was done using the Kish grid selection method.

Sampling frame

The sampling frame for the survey is constructed using number of households reported by the National Statistics Bureau (NSB) based on the Population and Housing Census of Bhutan (PHCB) conducted in 2017. The household listing for the selected PSUs was updated before the selection of household samples. For effective implementation of area sampling, the field supervisors and assistant supervisors were trained extensively on area sampling methods before leaving for the field survey.

Sample size

The required sample size for the 2022 GNH Survey was determined using the following sample size estimation formula. The required sample size for each *dzongkhag* was calculated based on the 2015 GNH Index value which is expressed as the average sufficiency rate across 33 weighted GNH indicators.

$$s = \chi^2 N p(1 - p)(f)(k) \div d^2(N - 1) + \chi^2 p(1 - p)$$

where;

s = required sample size

χ = the critical z value for 1 degree of freedom at the desired confidence level (1.96)

N = the population size

p = the population proportion (GNH Index)

d = the degree of accuracy expressed as a proportion

(.05).

f = the sample design effect, assumed to be 2

k = non-response rate, assumed to be 5%

Based on the above formula, the total sample size is estimated at 11,181 households by considering the estimate of parameter P equal to respective *dzongkhag*'s 2015 GNH Index, design effect (*Deff*) equal to 2, and assuming non-response rate of 5%. Considering that 10 households are selected from each urban PSUs and 15⁶¹ households from each rural PSUs, a total of 304 PSUs from urban and 560 from rural areas were selected. Therefore, the final sample size was 11,440.

Sample allocation

Within the *dzongkhag*, the estimated sample of respective *dzongkhag* is allocated proportional to the *dzongkhag*'s rural and urban household proportion. Therefore, at the national level, 8,400 (73%) of the total sample was selected from rural areas and the remaining 3,040 (27%) of the total sample was selected from urban areas.

The sample size and sample allocation to *dzongkhags* and area are provided in Table A58.

⁶¹ The number of samples to be drawn from each PSUs in urban and rural areas was discussed with the NSB officials on 10 November 2020. Based on NSB's prior field survey experience, it is optimal to draw 10 samples per urban PSU and 15 per rural PSU.

Table A58: Sample size allocation to different *dzongkhags* by area (rural-urban)

Dzongkhag	Urban	Rural	Total
Bumthang	190	285	475
Chukha	270	300	570
Dagana	100	540	640
Gasa	110	240	350
Haa	110	405	515
Lhuentse	60	465	525
Mongar	150	510	660
Paro	140	390	530
Pema Gatshel	160	390	550
Punakha	120	465	585
Samdrup Jongkhar	200	405	605
Samtse	100	510	610
Sarpang	170	435	605
Thimphu	430	90	520
Tashigang	110	540	650
Tashi Yangtse	120	525	645
Trongsa	140	510	650
Tsirang	70	465	535
Wangdue Phodrang	170	465	635
Zhemgang	120	465	585
Bhutan	3,040	8,400	11,440

Sample weighting

The sampling weights was determined using the following formulae:

$$W_{hi} = \frac{M_h}{(M_{hi} \times n_h)} \times \frac{M^*_{hi}}{m_{hi}} \times \frac{m_{hi}}{m^*_{hi}}$$

Where,

M_h = no. of households in stratum h according to existing frame

M_{hi} = no. of households in EA i in stratum h according to existing frame

n_h = no. of PSUs from the stratum

Annexure I

M_{hi}^* = no. of households in EA i in stratum h according to updated listing

m_{hi} = no. of households in the sample from EA i in stratum h

m_{hi}^* = no. of responding households in the EA i in stratum h

Survey instruments

The GNH 2015 survey used a structured questionnaire, which is divided into 10 sections: a section each on nine domains of GNH and a section on demographic characteristics.

In addition to the training provided to GNH survey field supervisors and enumerators, they were also provided with a GNH survey manual to guide them in asking questions and conducting interviews. The manual contained detailed explanations on how each question should be asked or explained to respondents during the interview. It also included detailed instruction on randomisation in selecting respondents from selected households using Kish grid selection methods.

Data collection and processing

The data collection method adopted was face-to-face interviews using CAPI. The survey was conducted between April and July 2022.

The overall response rate is 96.6%. The response rate is slightly higher in rural areas (97.3%) than urban areas (94.8%).

Table A59: Sample size, respondents, and response rate, by area of residence

	Sample size	Respondents	Response rate
Urban	3,040	2,883	94.8%
Rural	8,400	8,169	97.3%
Bhutan	11,440	11,052	96.6%

The survey questionnaire form was designed in Survey Solutions system for CAPI. This system enabled the inclusion of inbuilt logical and outlier checks to prompt enumerators whenever they keyed in wrong,

illogical, or out-of-range data during data collection. In addition to the data quality checks performed by the field supervisor and survey headquarters, the data was put through several additional rounds of computer-aided validation checks, cleaning and editing processes before final analysis.

Annexure II: Additional Figures

Figure 99: GNH index (0-1) by gewog

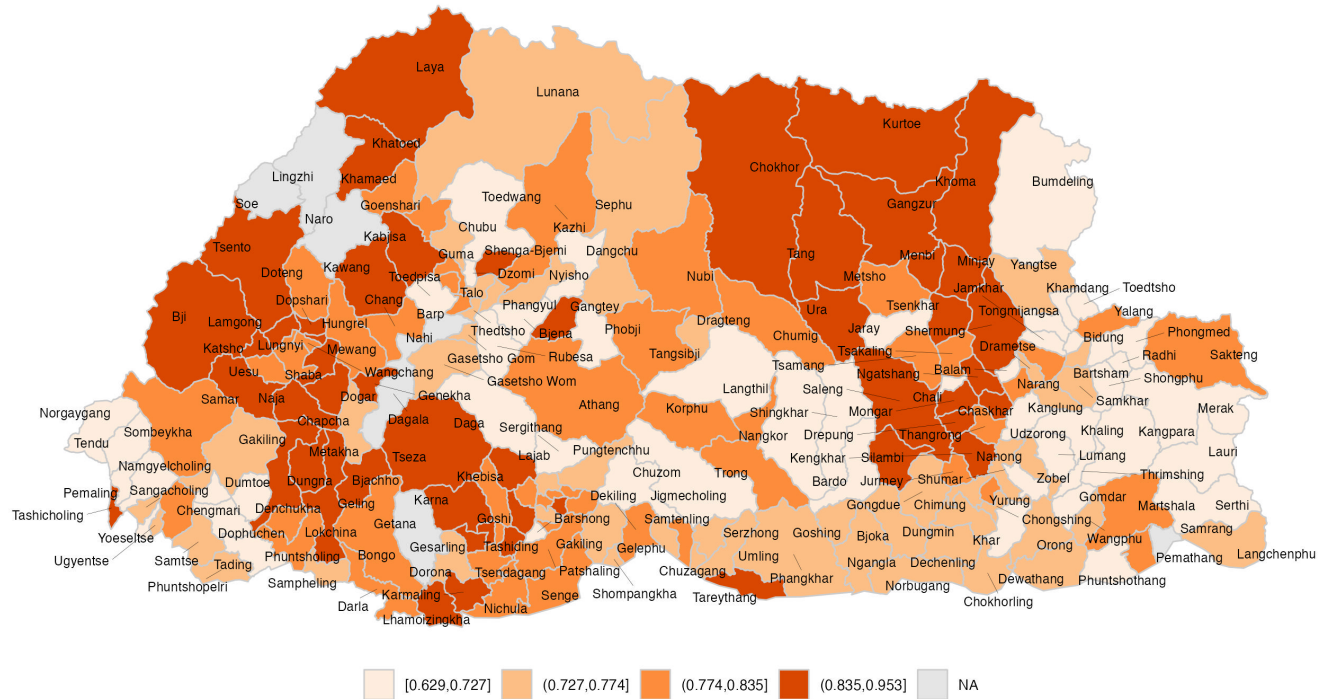


Figure 101: Achievements in Health domain by gewog

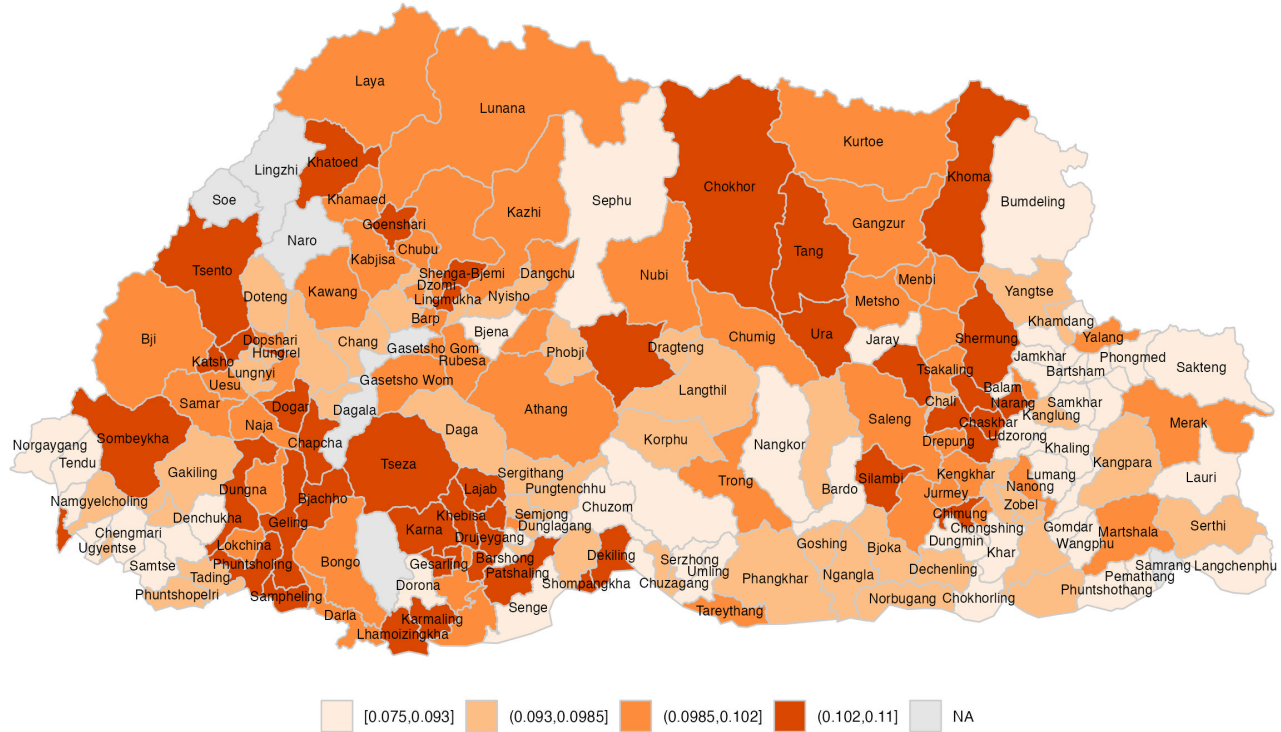


Figure 102: Achievements in Time Use and Balance domain by gewog

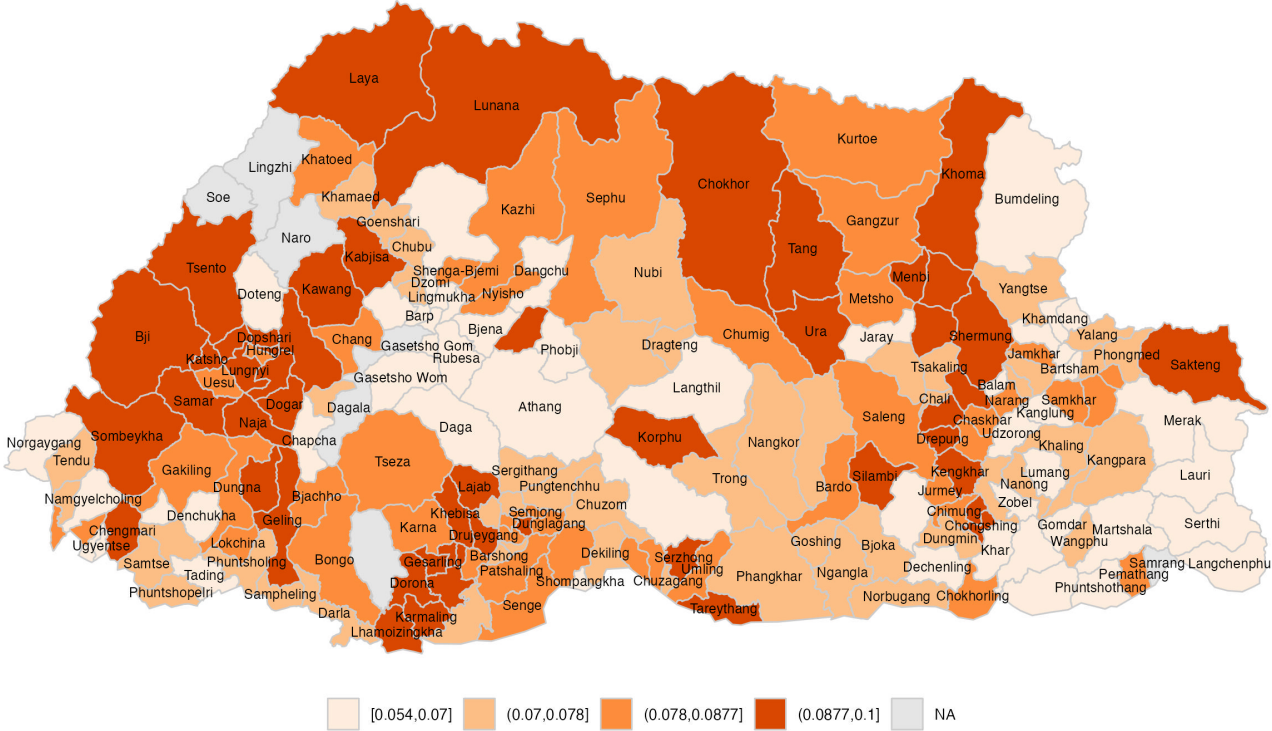


Figure 103: Achievements in Education domain by gewog

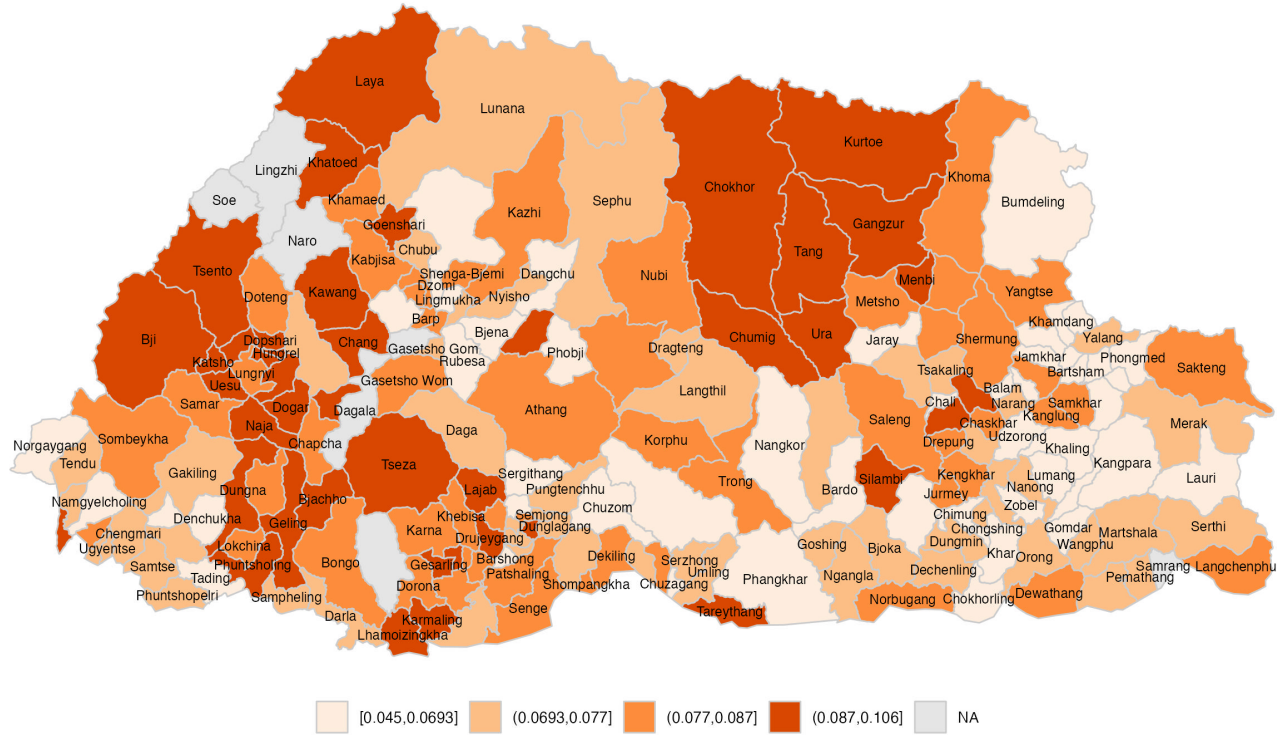
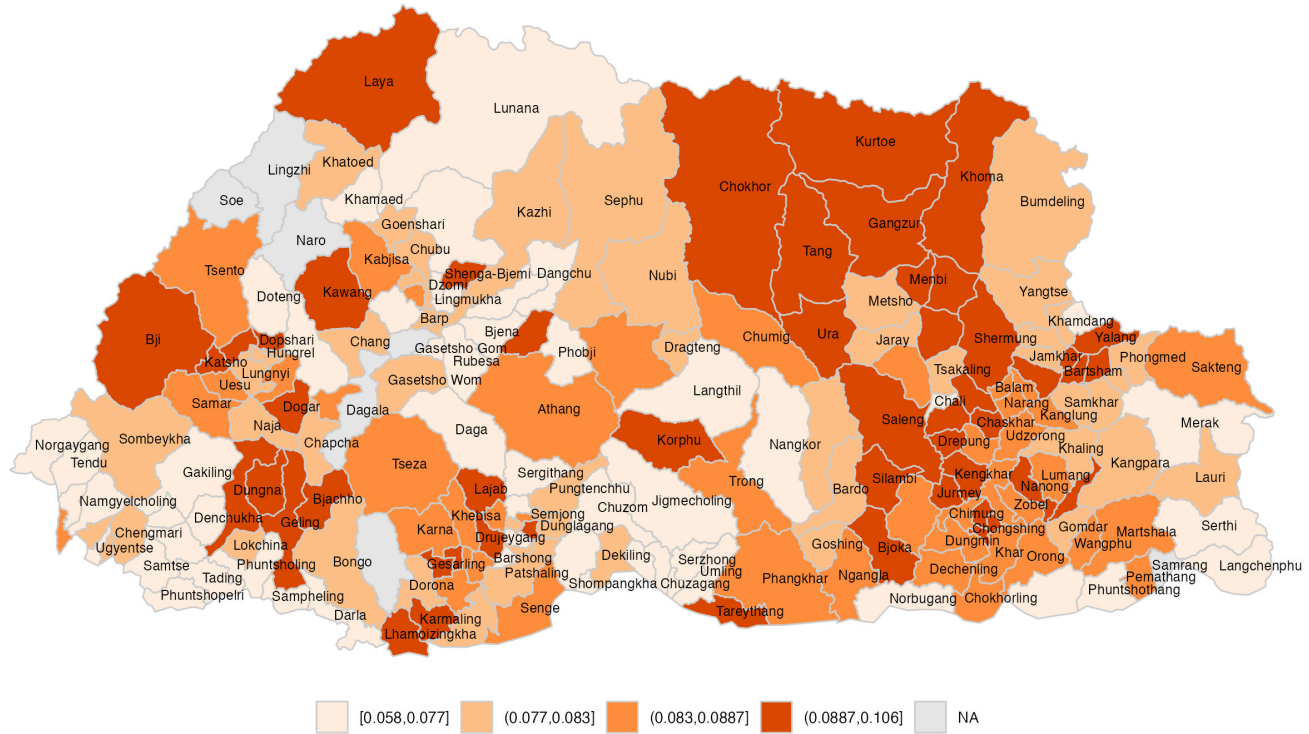


Figure 104: Achievements in Cultural Diversity and Resilience domain by gewog



Annexure II

Figure 105: Achievements in Community Vitality domain by gewog

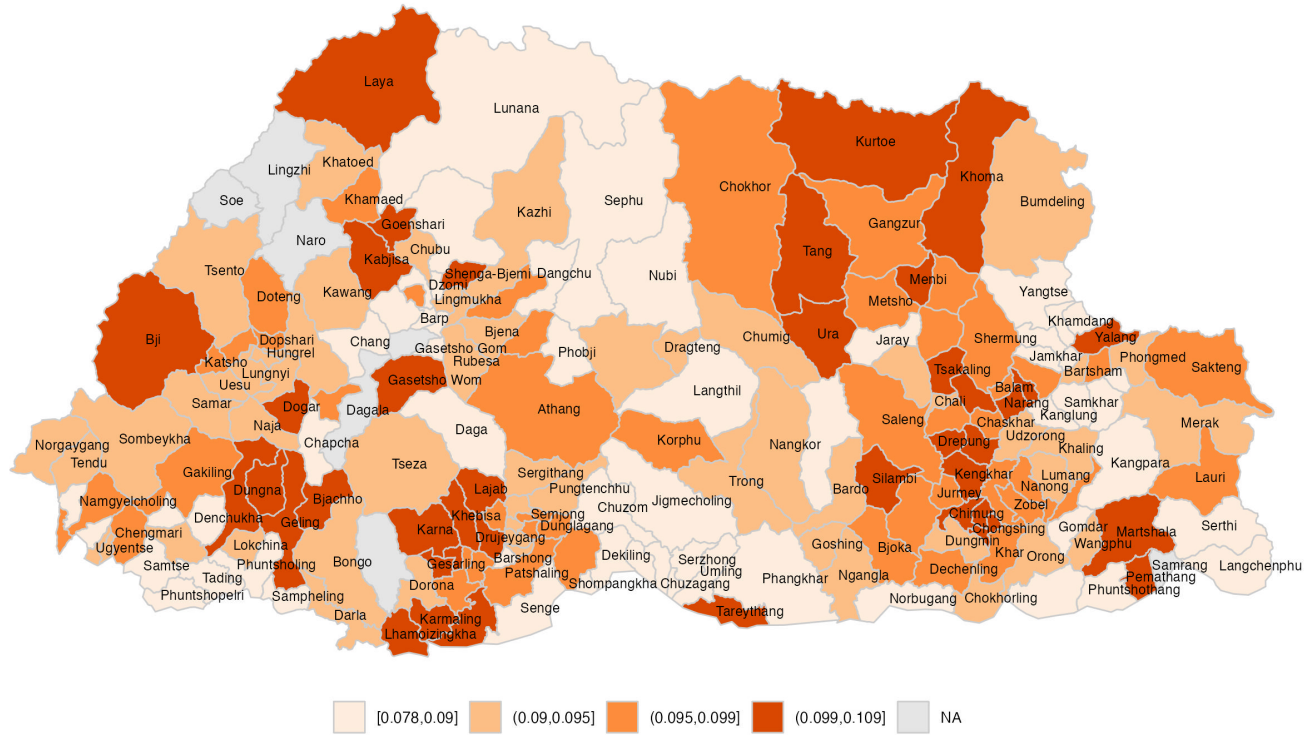
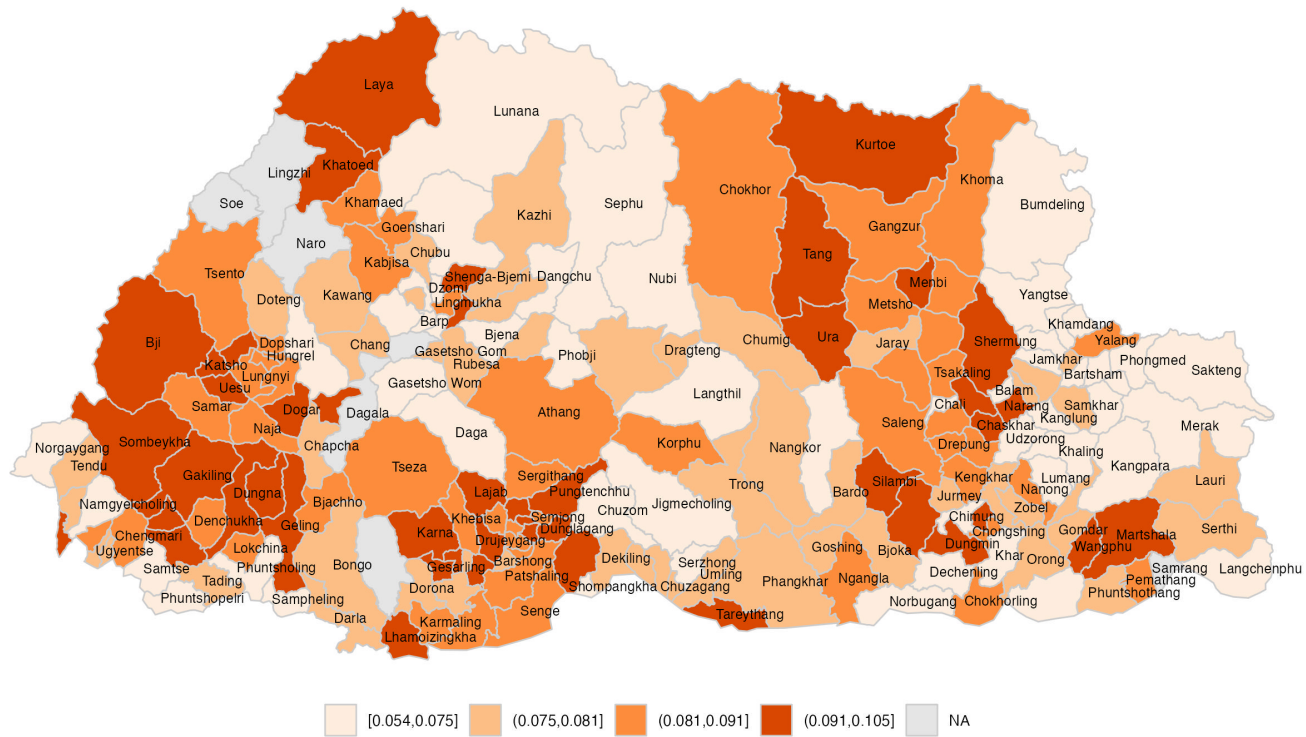


Figure 106: Achievements in Good Governance domain by gewog



Annexure II

Figure 109: Percentage of people enjoying sufficiency in life satisfaction indicator

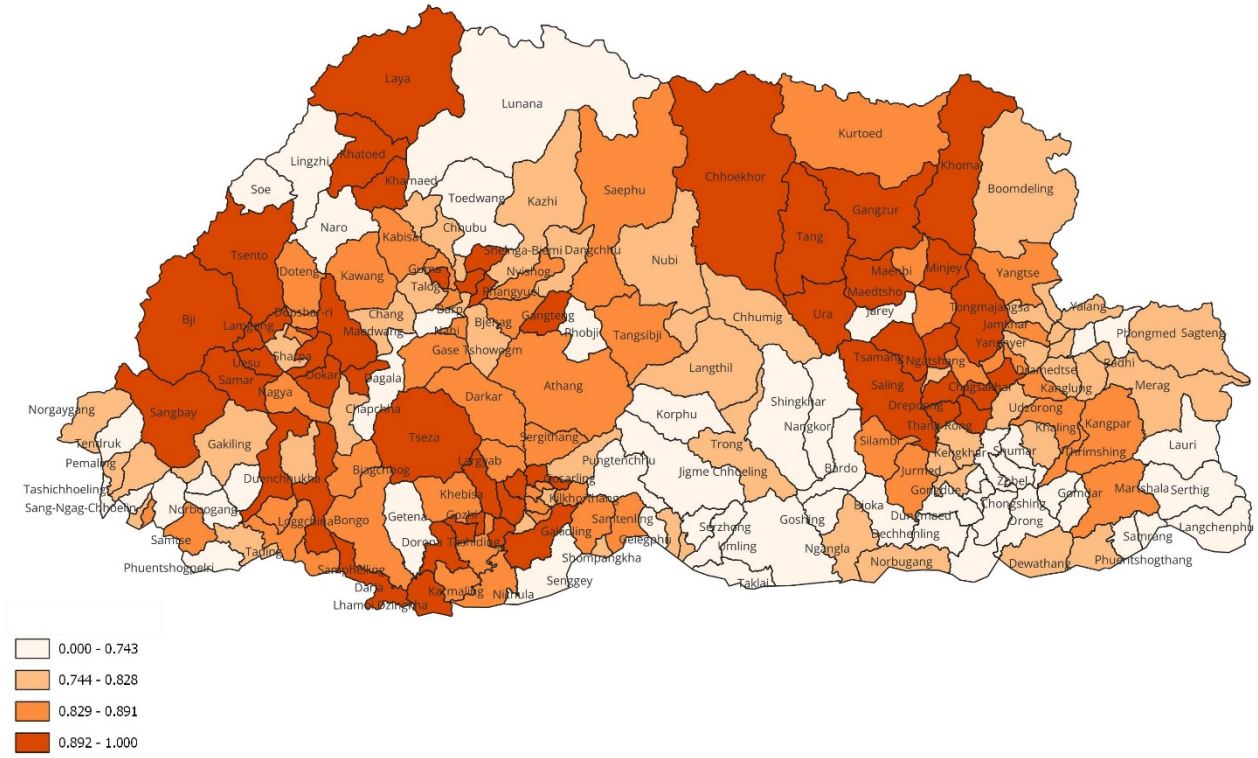
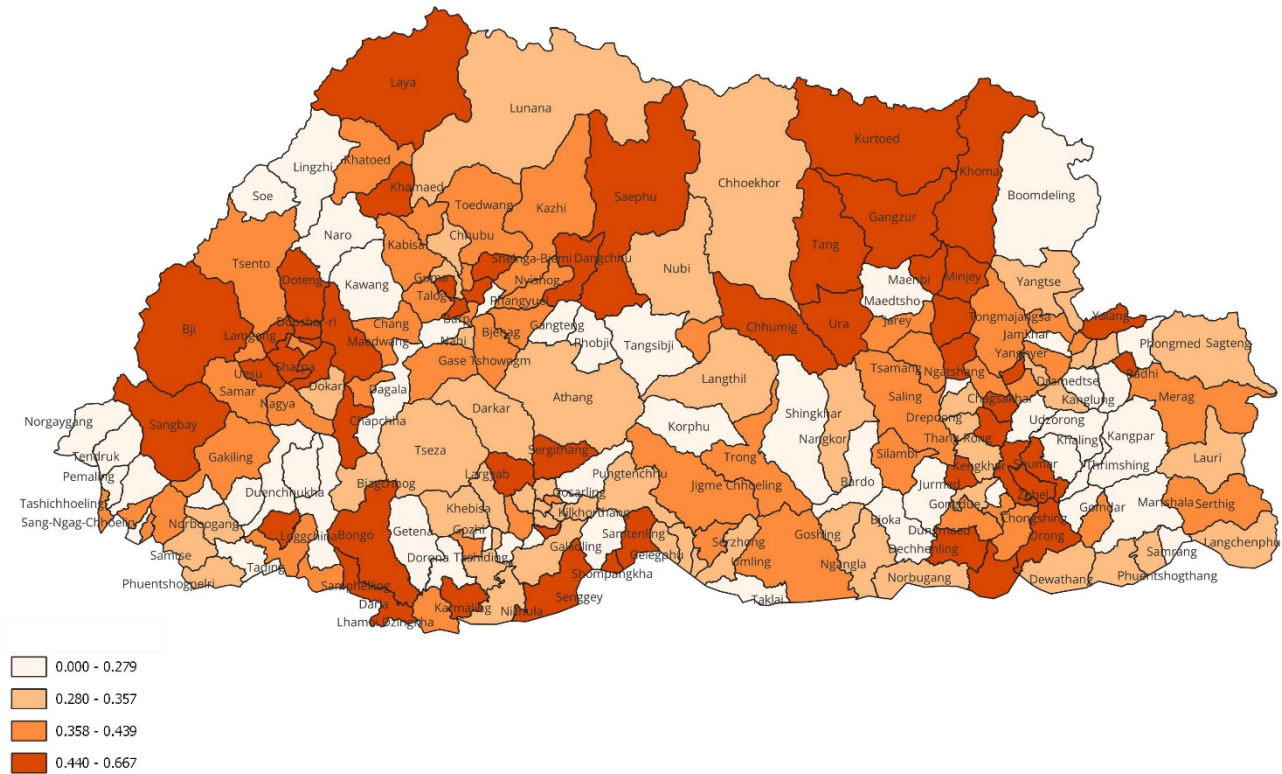


Figure 112: Percentage of people enjoying sufficiency in spirituality indicator



Annexure II

Figure 113: Percentage of people enjoying sufficiency in mental health indicator

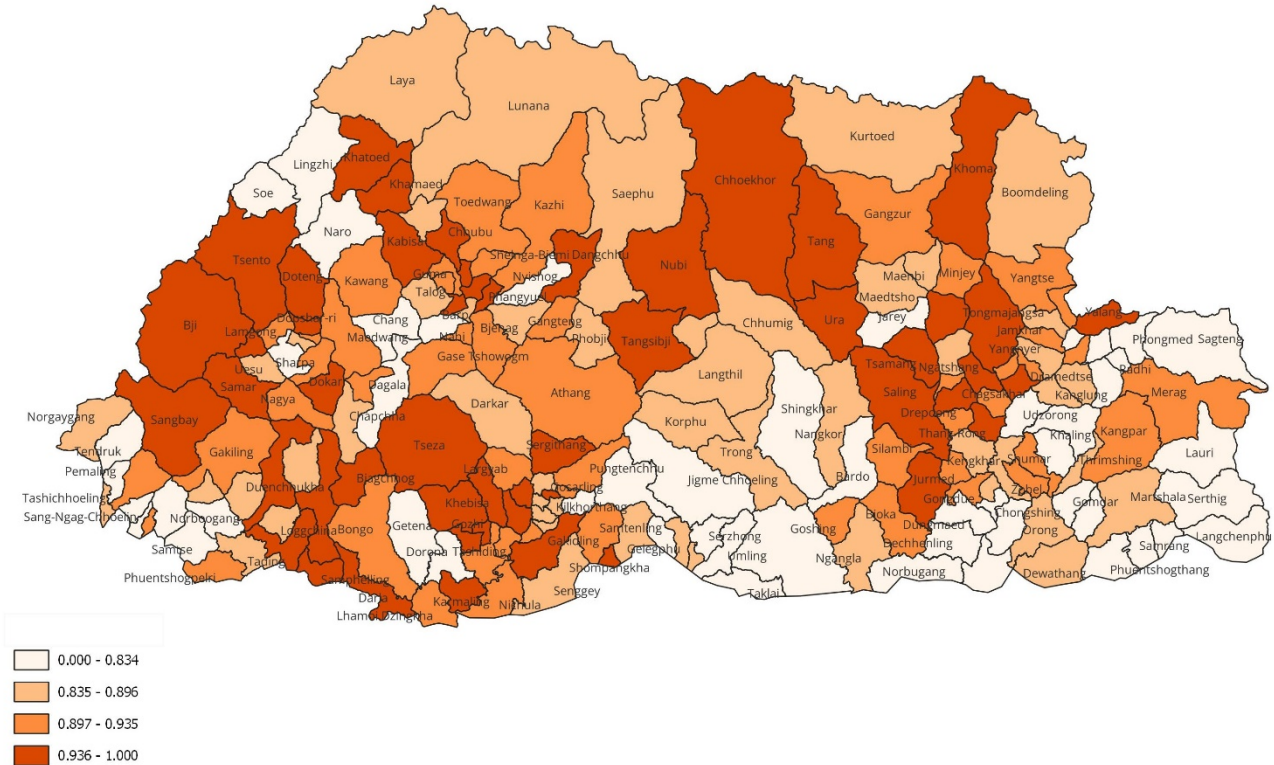
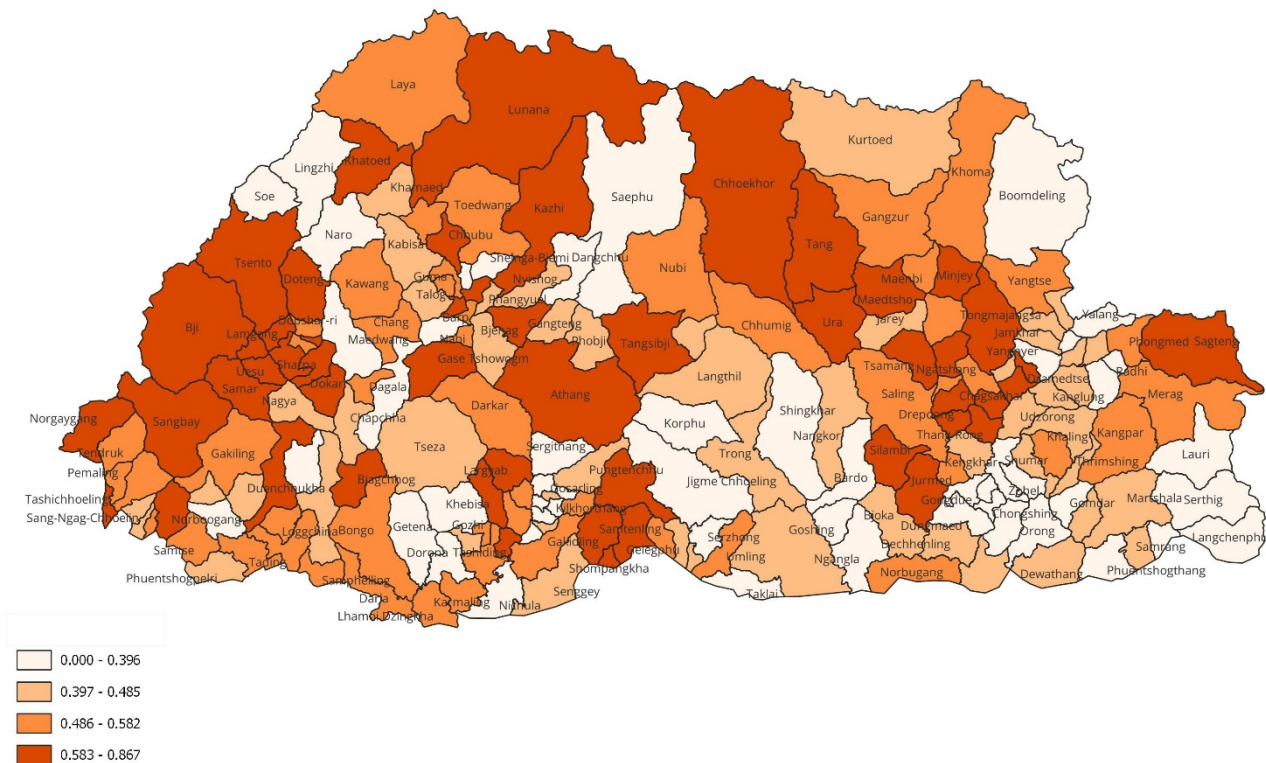


Figure 114: Percentage of people enjoying sufficiency in self-reported healthy days indicator



Annexure II

Figure 115: Percentage of people enjoying sufficiency in healthy days indicator

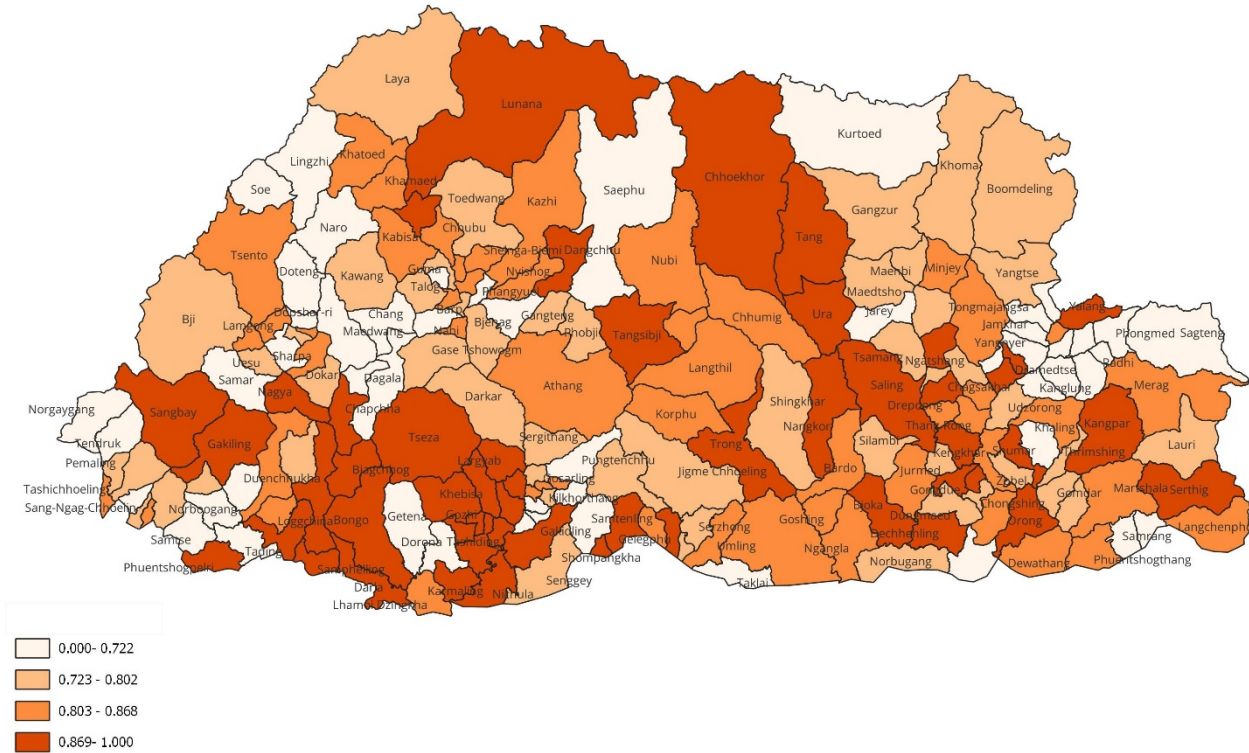


Figure 116: Percentage of people enjoying sufficiency in disability indicator

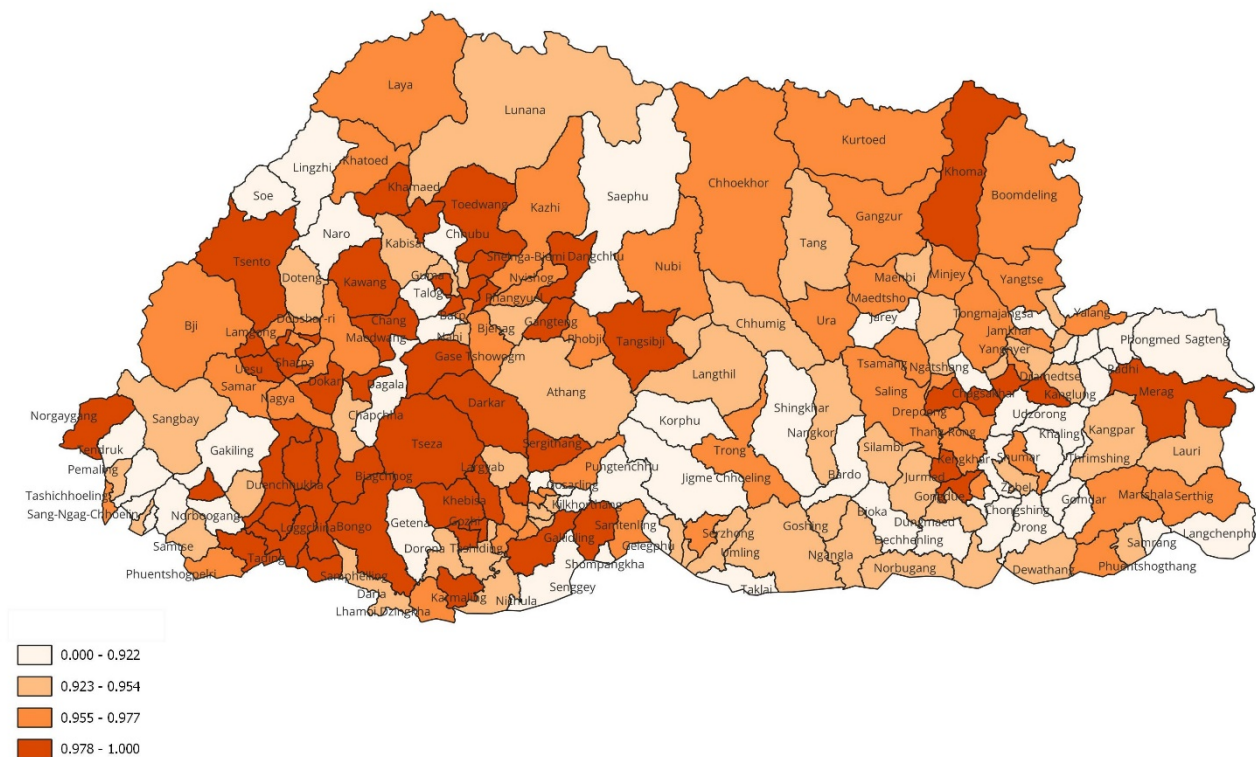
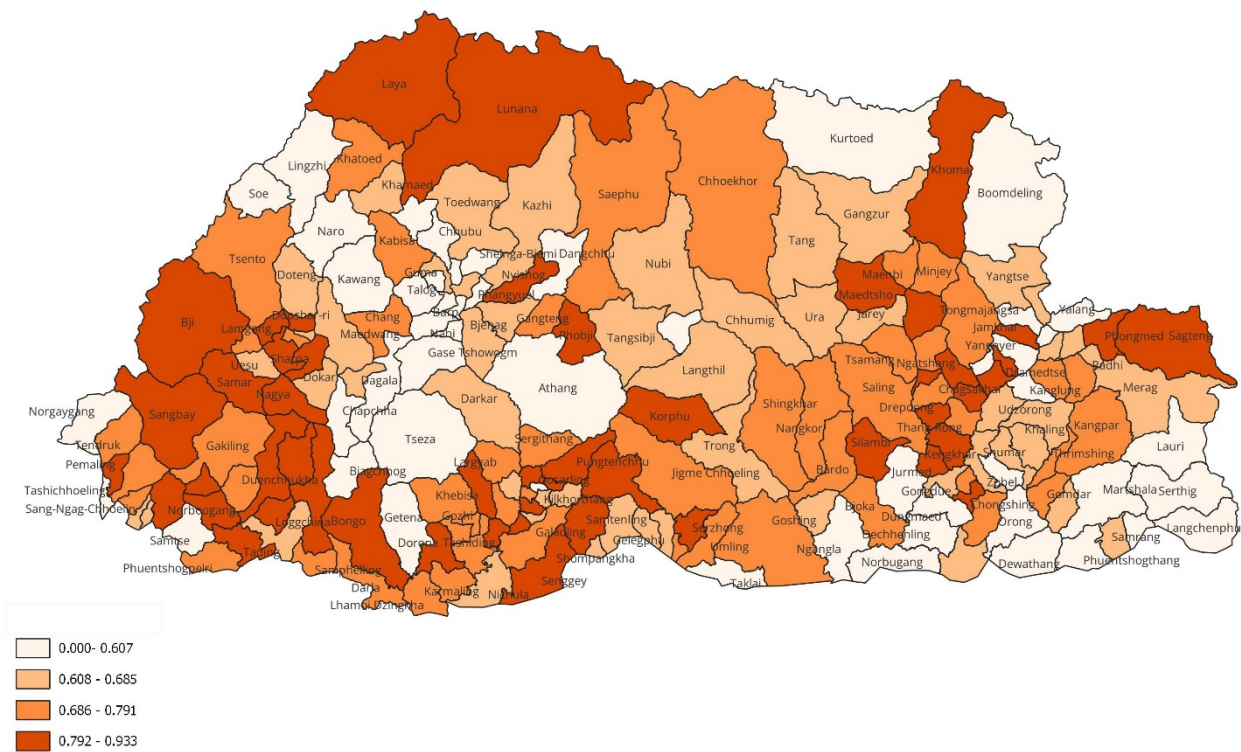


Figure 118: Percentage of people enjoying sufficiency in sleep indicator



Annexure II

Figure 119: Percentage of people enjoying sufficiency in literacy indicator

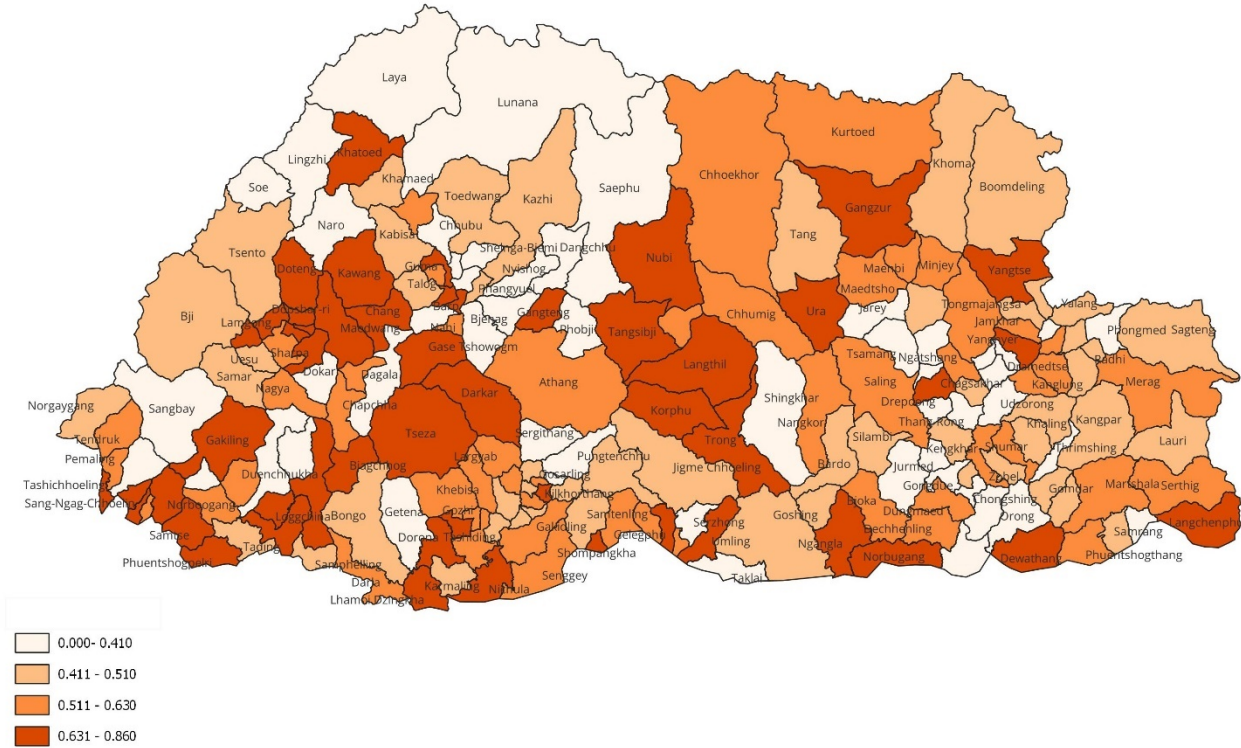
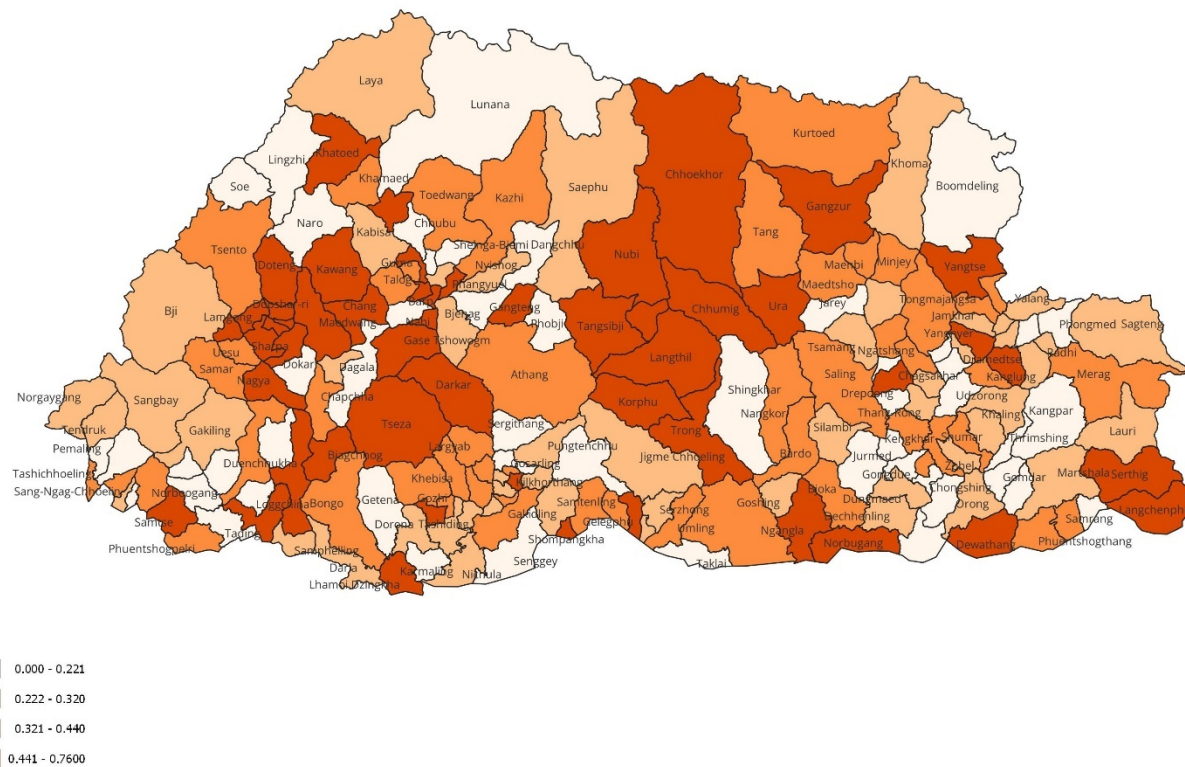


Figure 120: Percentage of people enjoying sufficiency in education level indicator



Annexure II

Figure 121: Percentage of people enjoying sufficiency in knowledge indicator

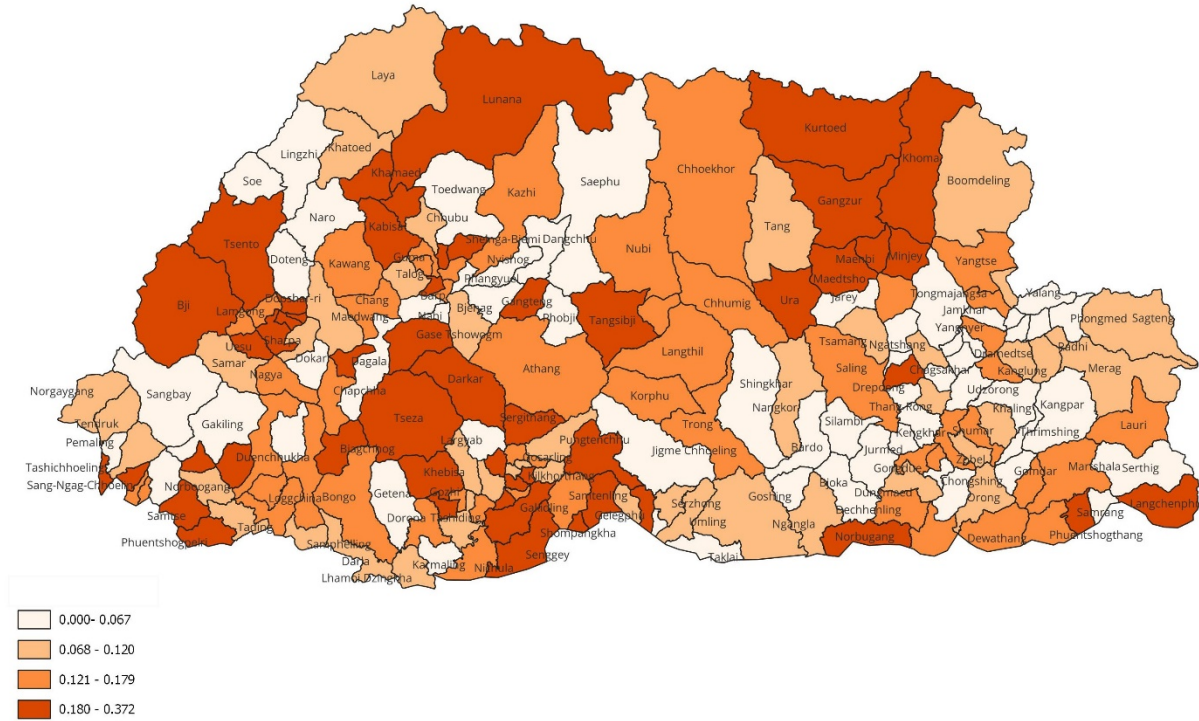
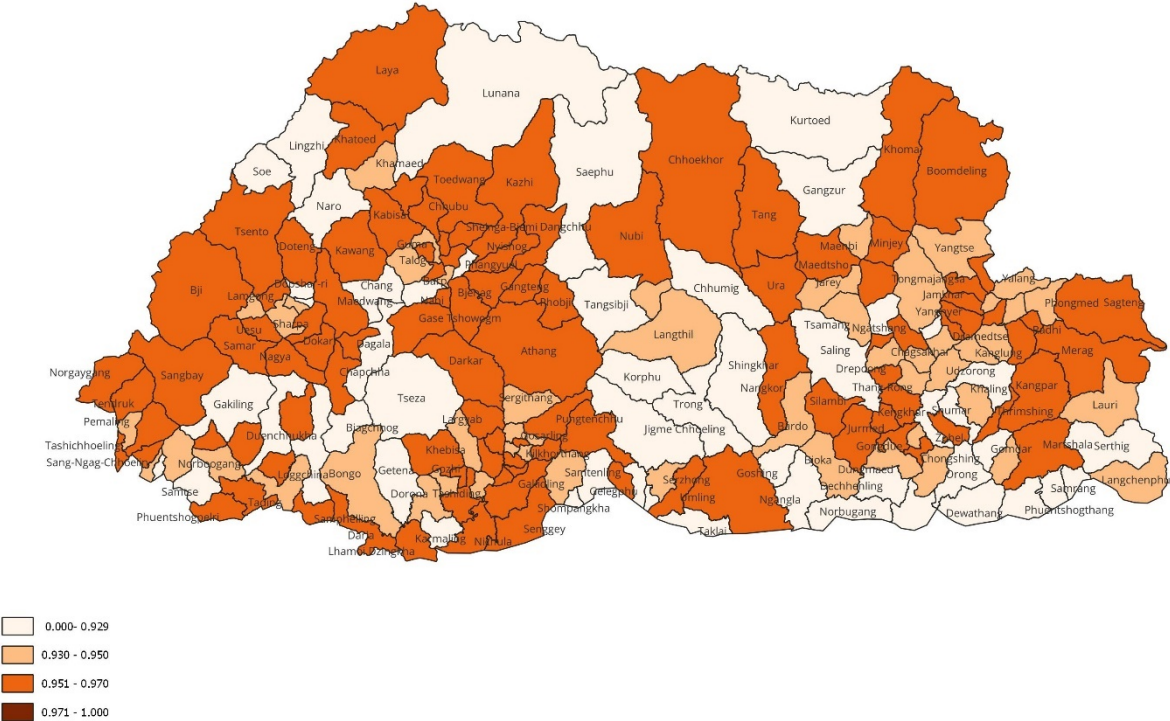
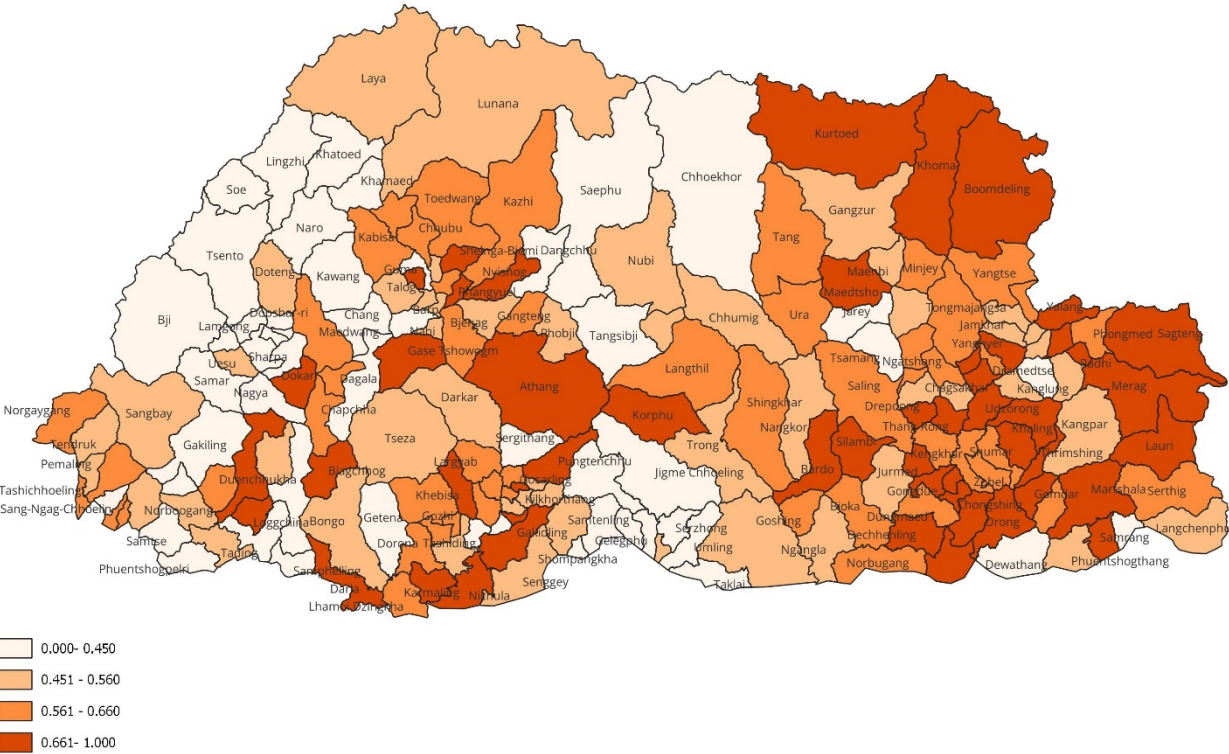


Figure 122: Percentage of people enjoying sufficiency in values indicator



Annexure II

Figure 123: Percentage of people enjoying sufficiency in donation (time and money) indicator



Annexure II

Figure 127: Percentage of people enjoying sufficiency in government performance indicator

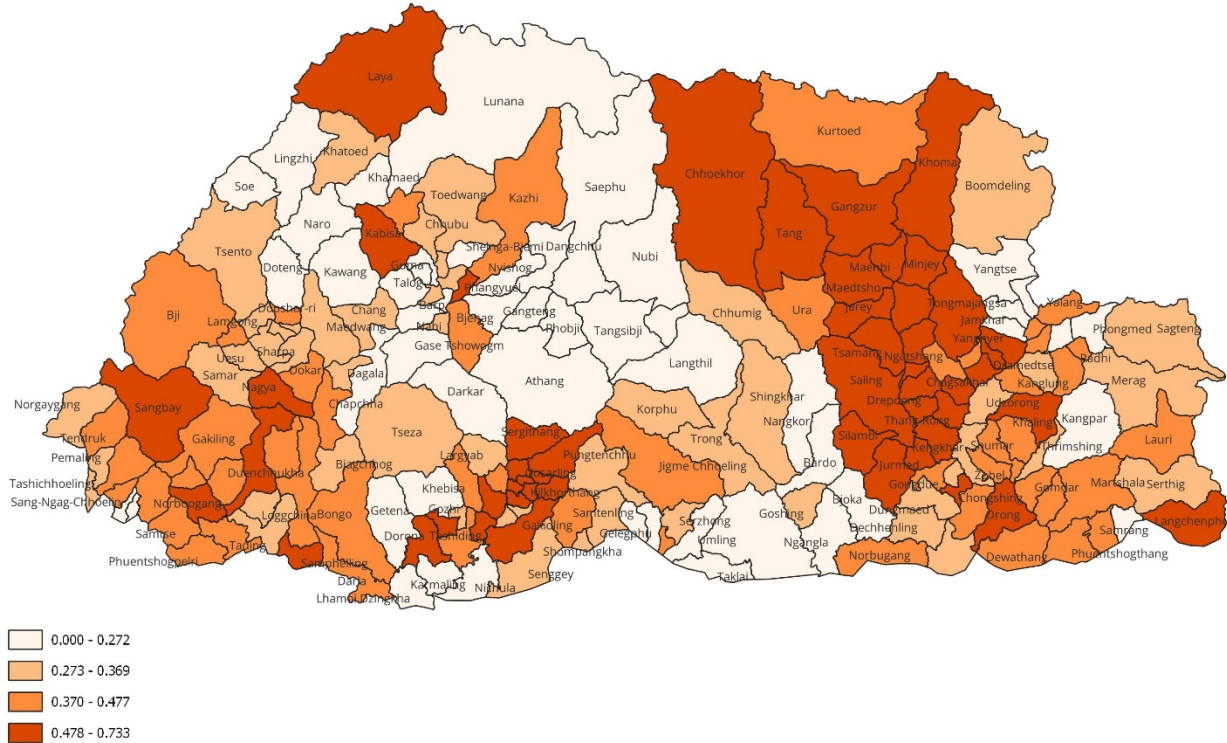
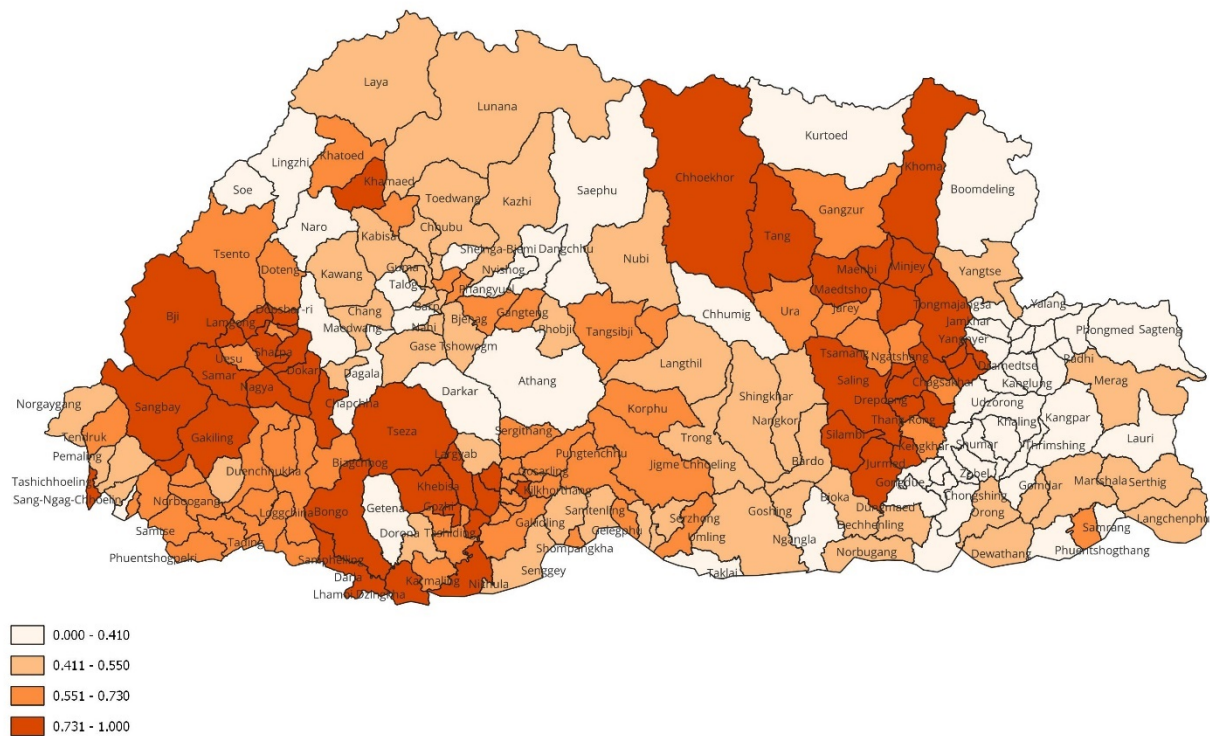


Figure 128: Percentage of people enjoying sufficiency in fundamental rights indicator



Annexure II

Figure 129: Percentage of people enjoying sufficiency in services indicator

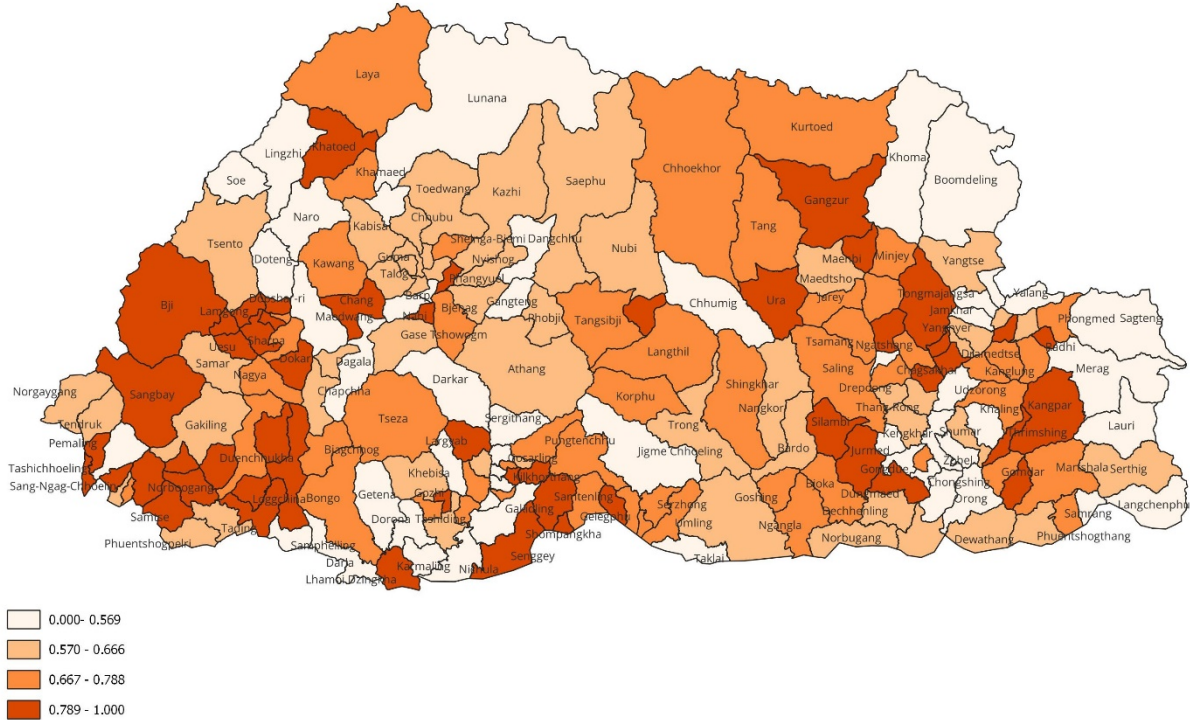


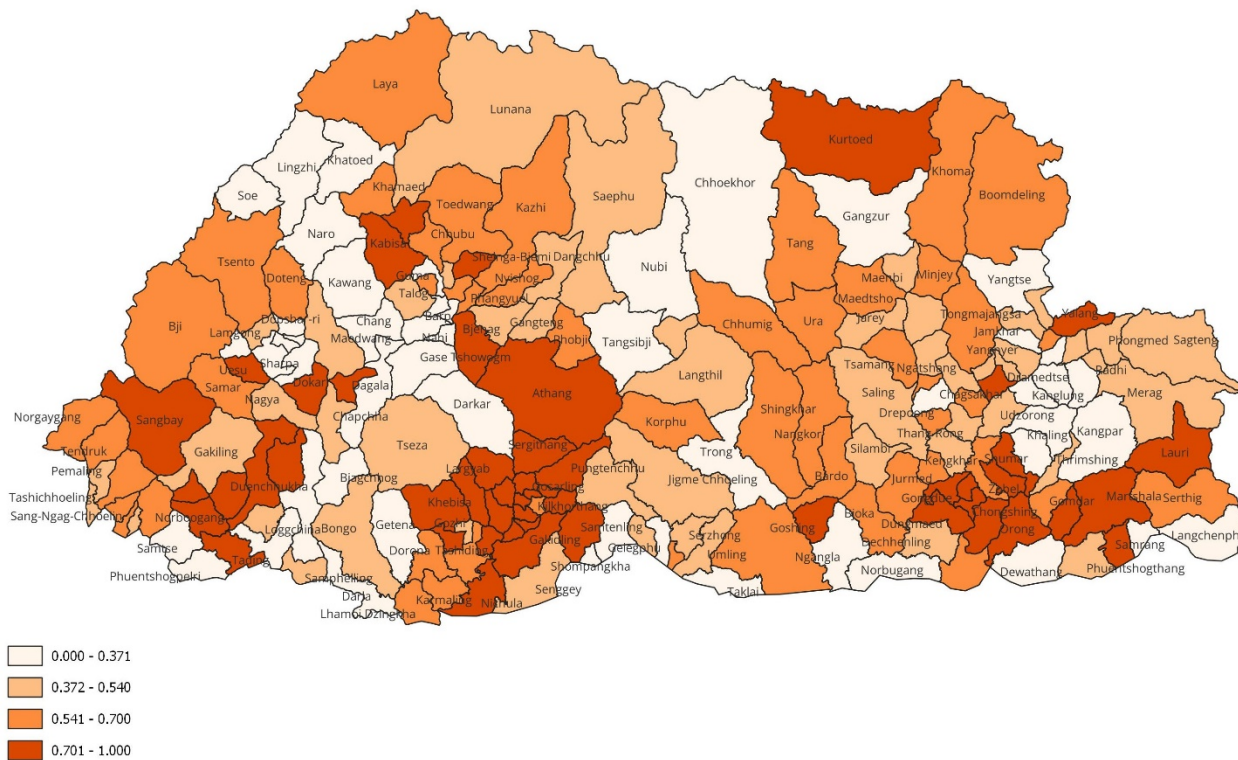
Figure 130: Percentage of people enjoying sufficiency in political participation indicator

Figure 131: Percentage of people enjoying sufficiency in native language indicator

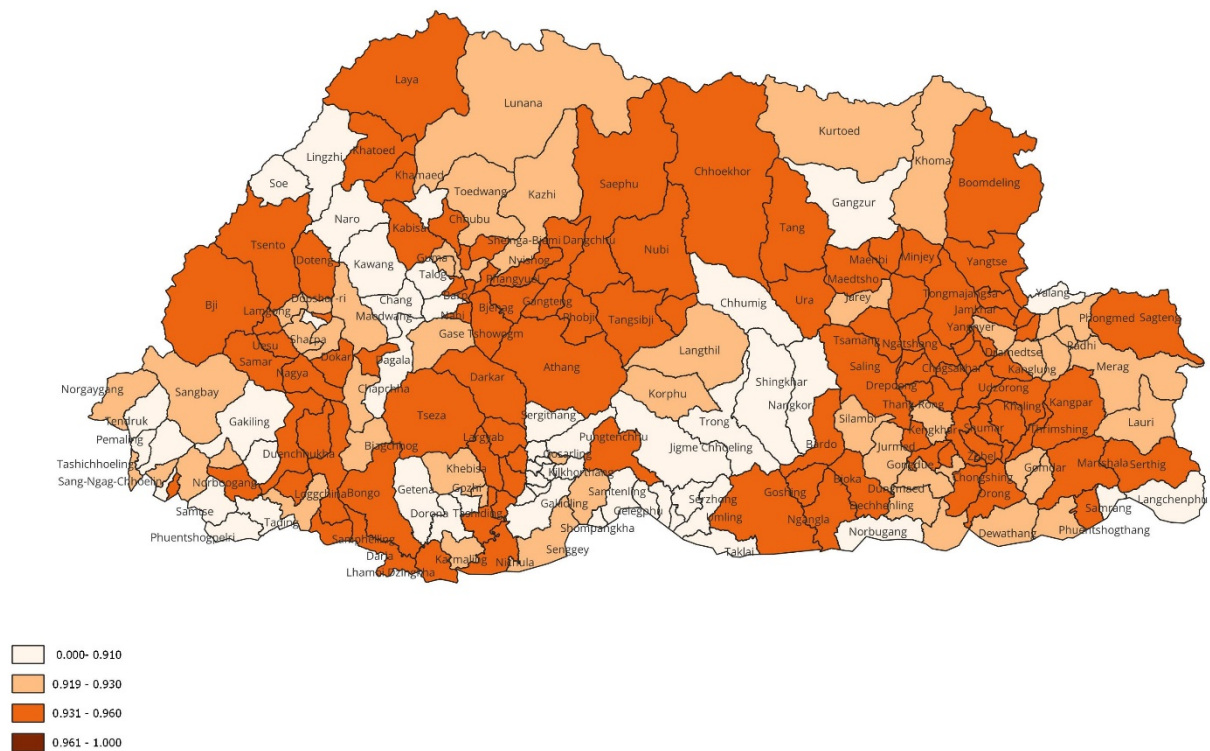
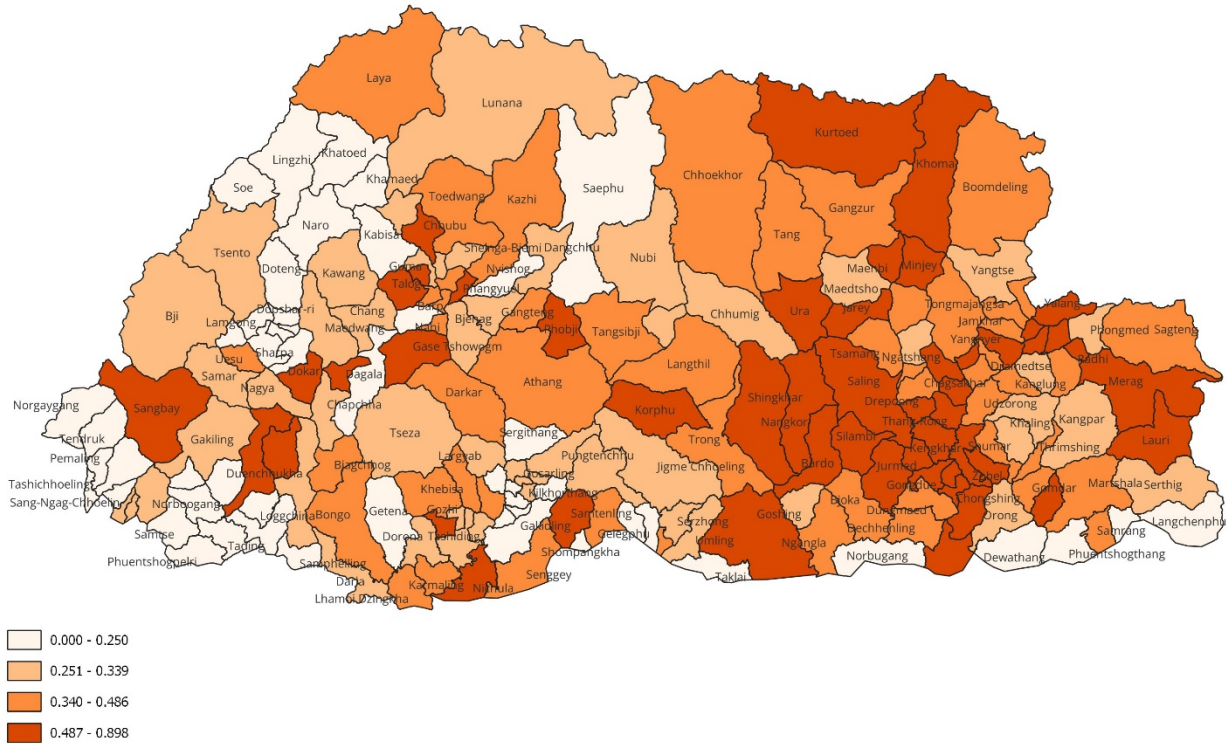


Figure 132: Percentage of people enjoying sufficiency in cultural participation indicator



Annexure II

Figure 135: Percentage of people enjoying sufficiency in assets indicator

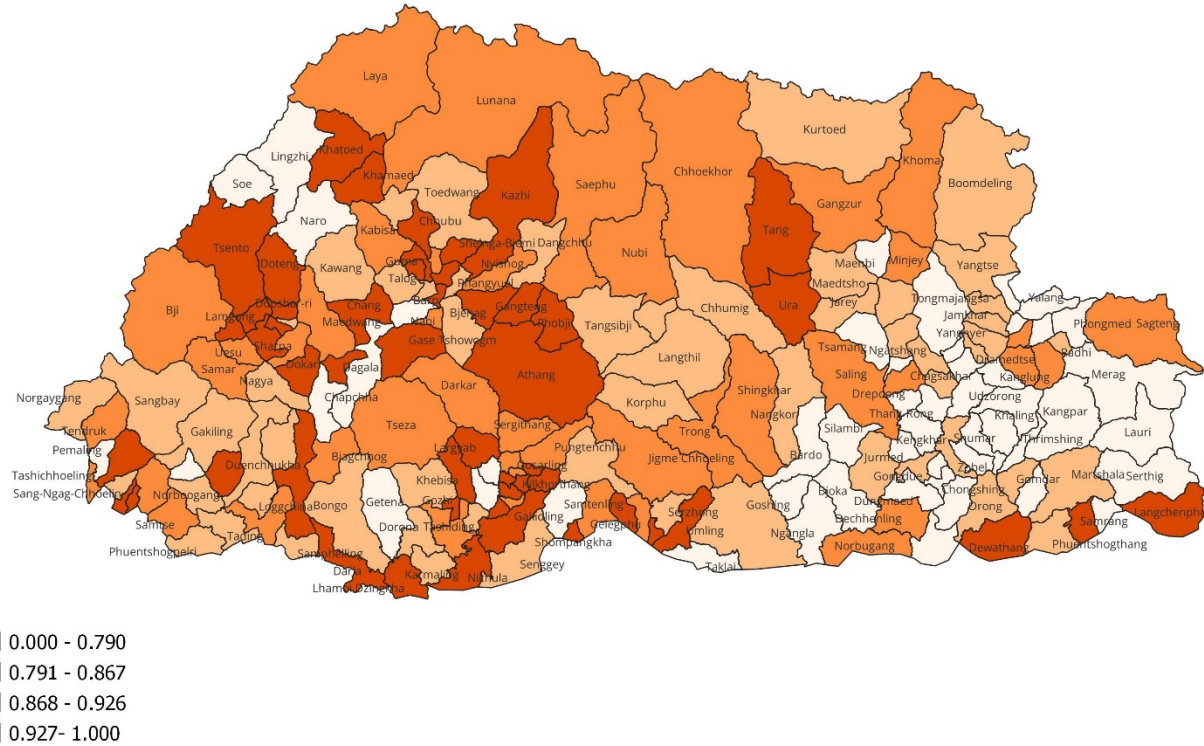
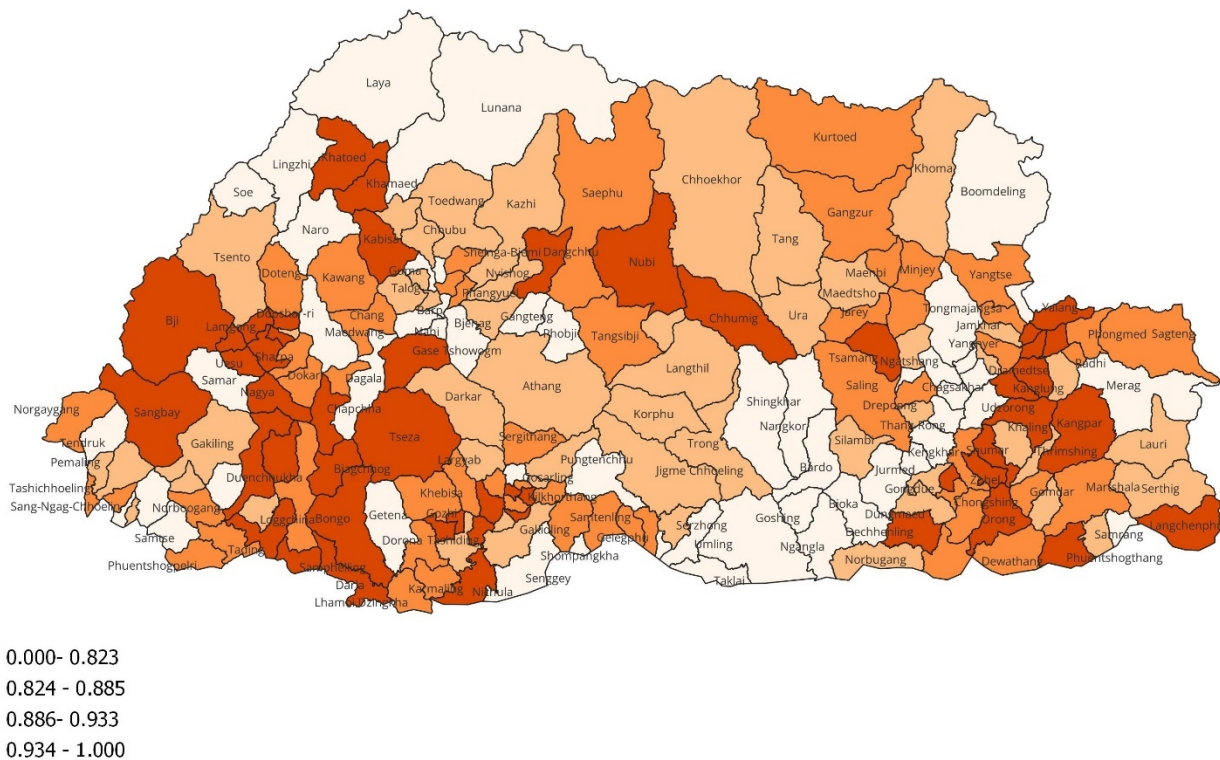


Figure 136: Percentage of people enjoying sufficiency in housing indicator



Annexure II

Figure 137: Percentage of people enjoying sufficiency in household per capita income indicator

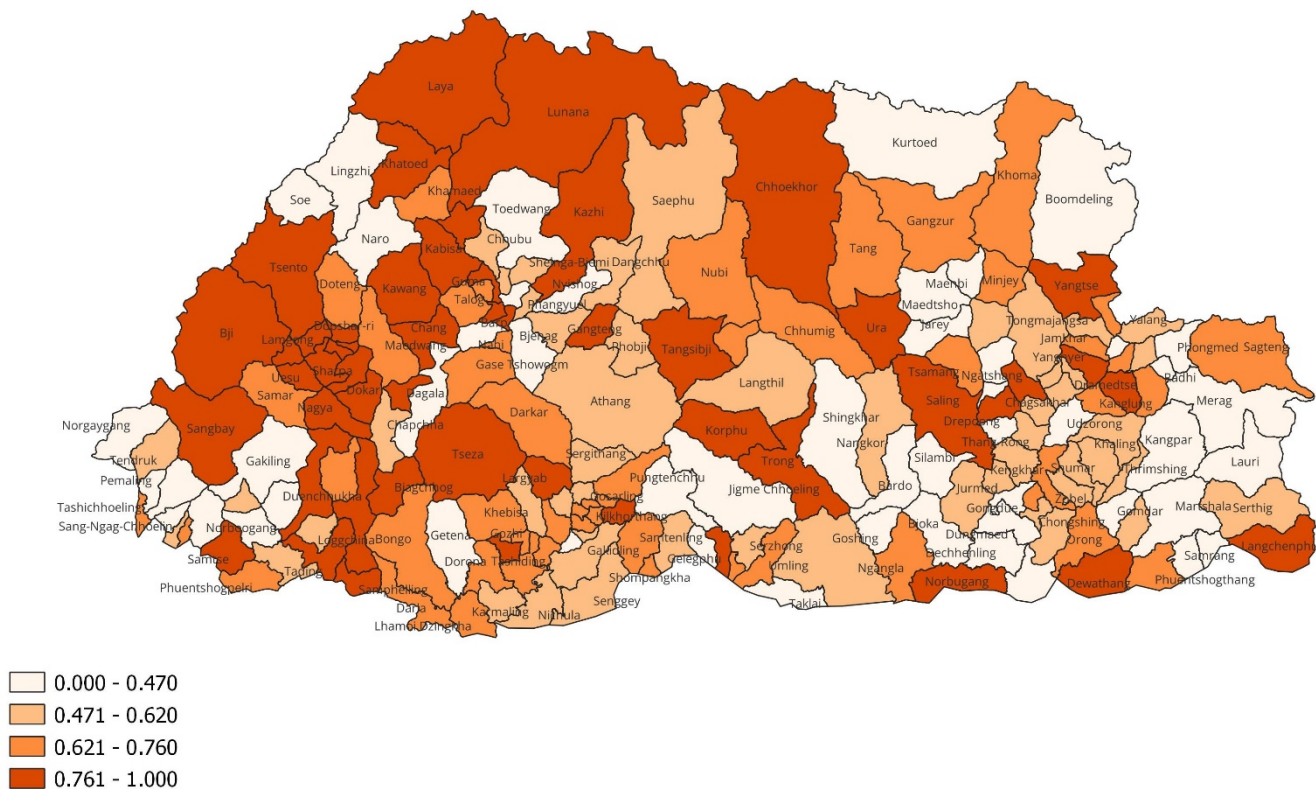
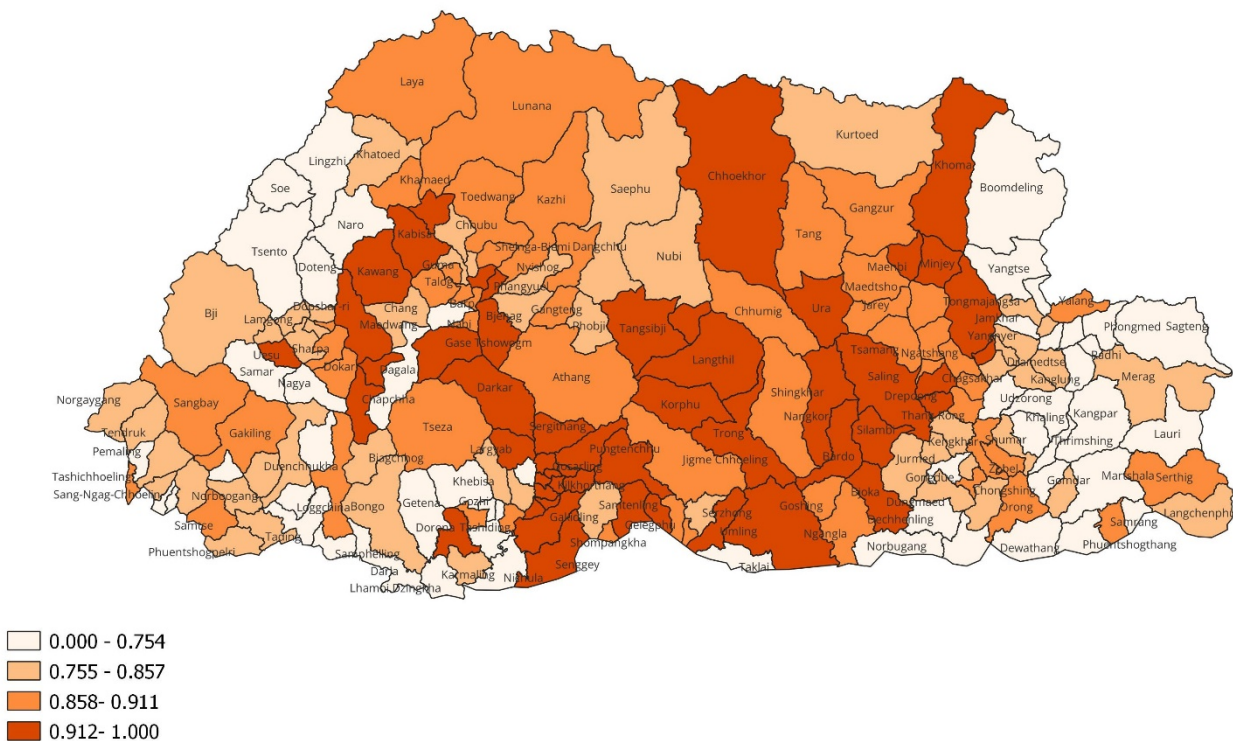


Figure 138: Percentage of people enjoying sufficiency in responsibility towards environment indicator



Annexure II

Figure 139: Percentage of people enjoying sufficiency in wildlife damage indicator

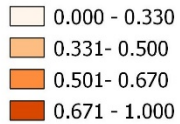
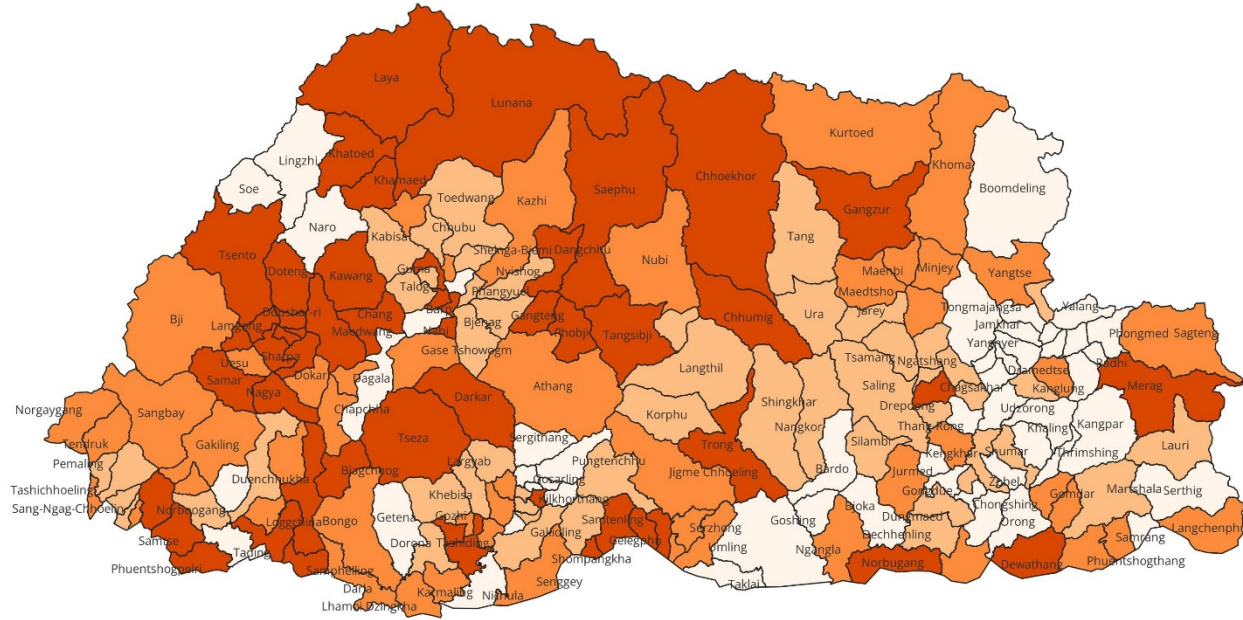
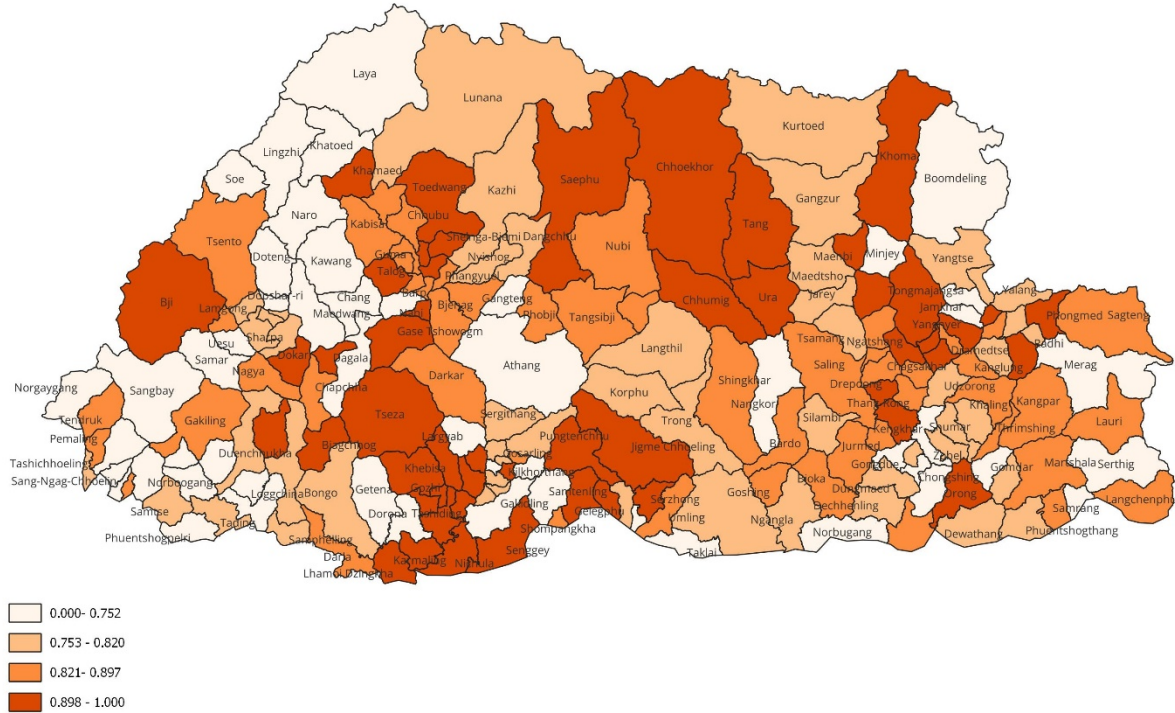


Figure 140: Percentage of people enjoying sufficiency in urbanization issues indicator



Annexure II

Figure 141: Percentage of households who own family car by gewog

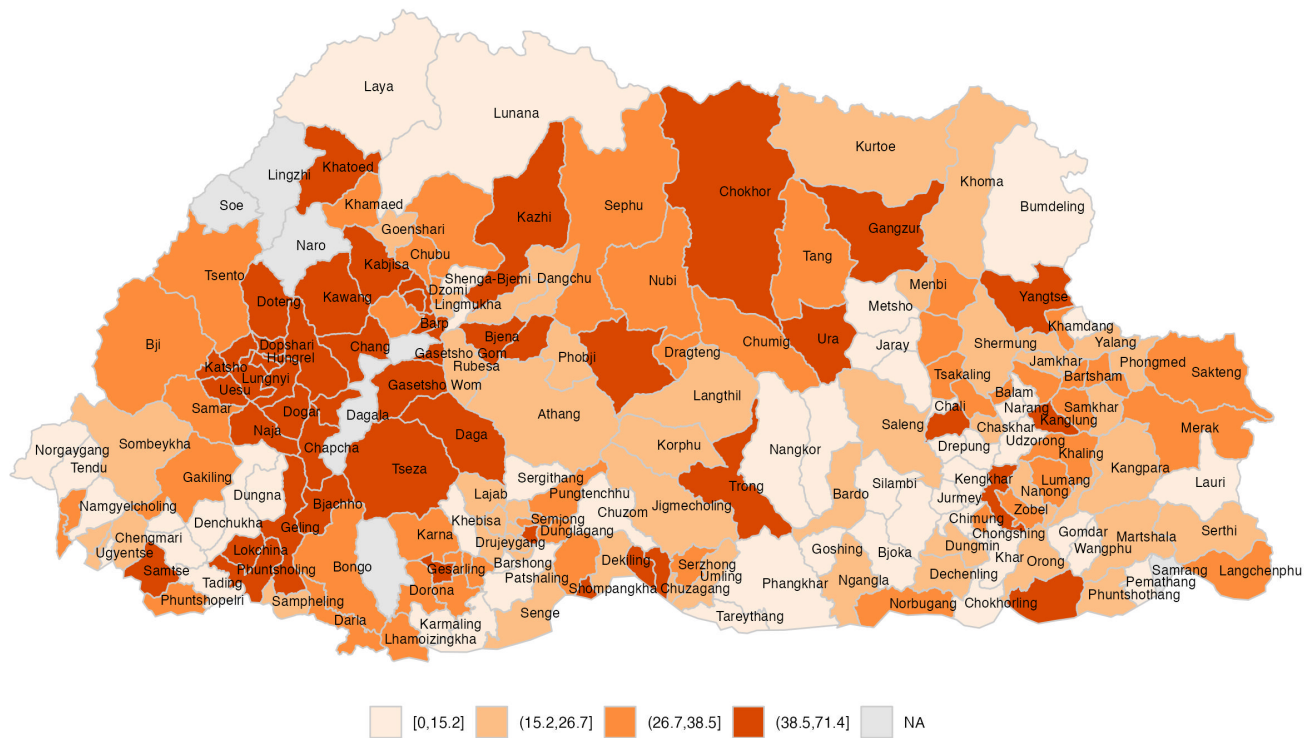
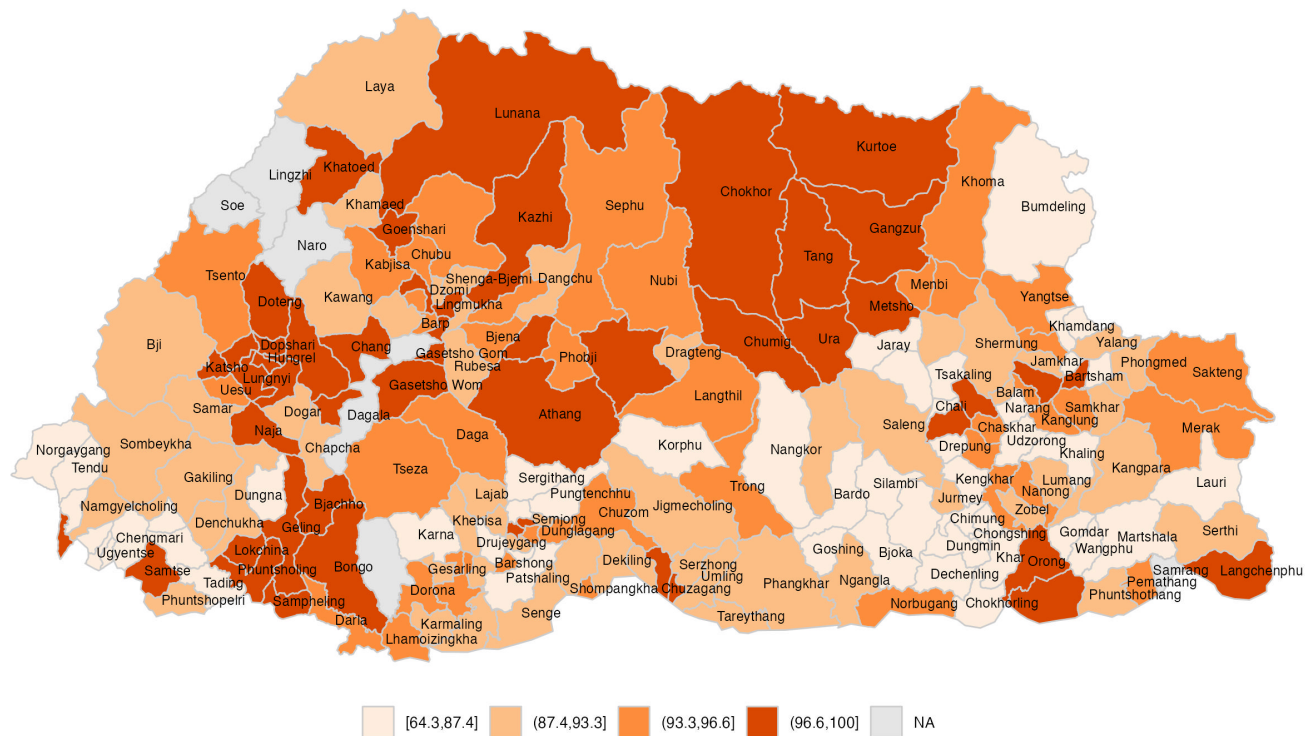


Figure 142: Percentage of households who own smartphones by gewog



Annexure II

Figure 143: Percentage of households who own basic mobile phone by gewog

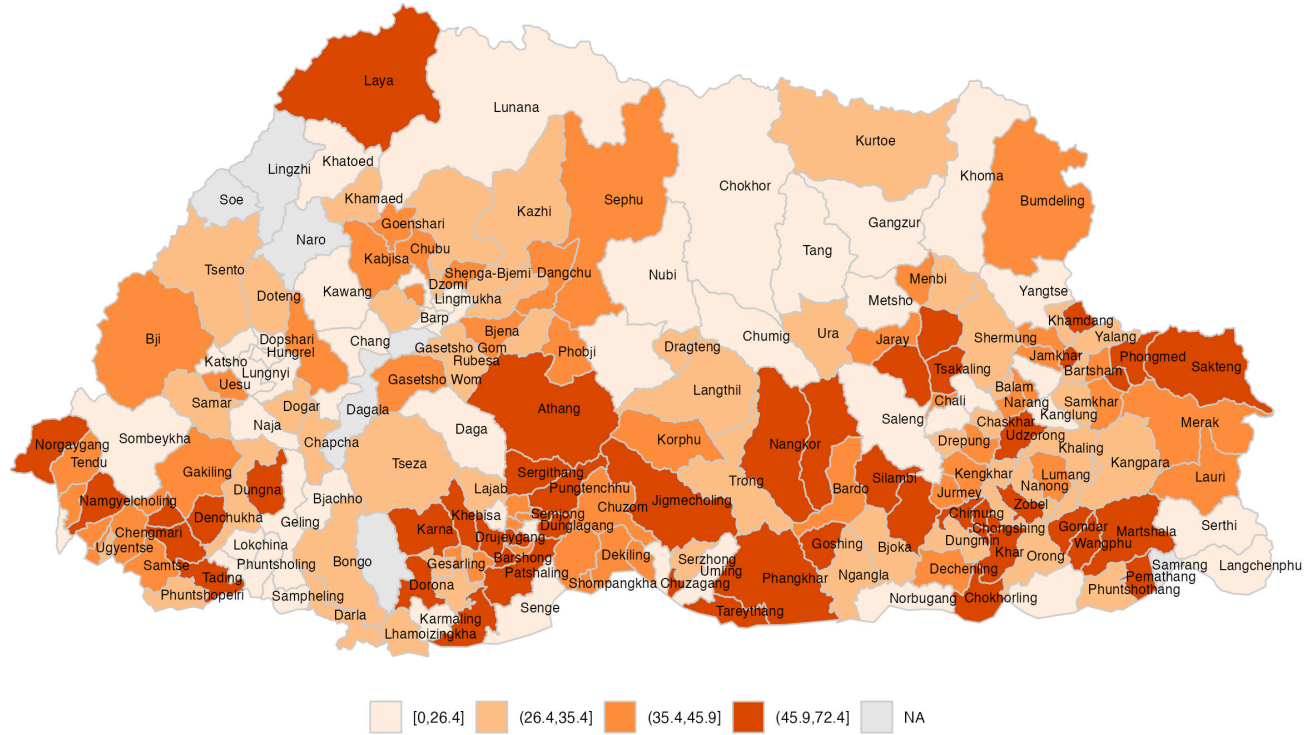
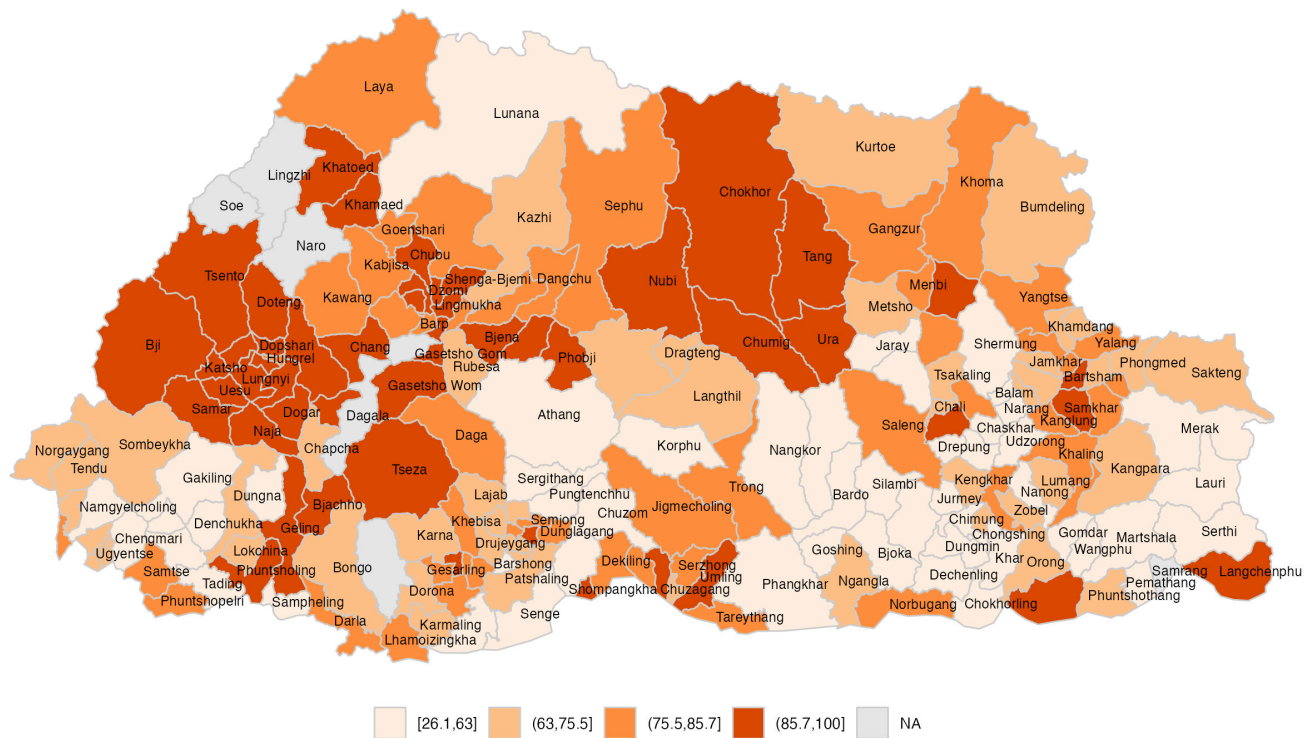


Figure 144: Percentage of households who own television by gewog



Annexure II

Figure 145: Percentage of households who own washing machine by gewog

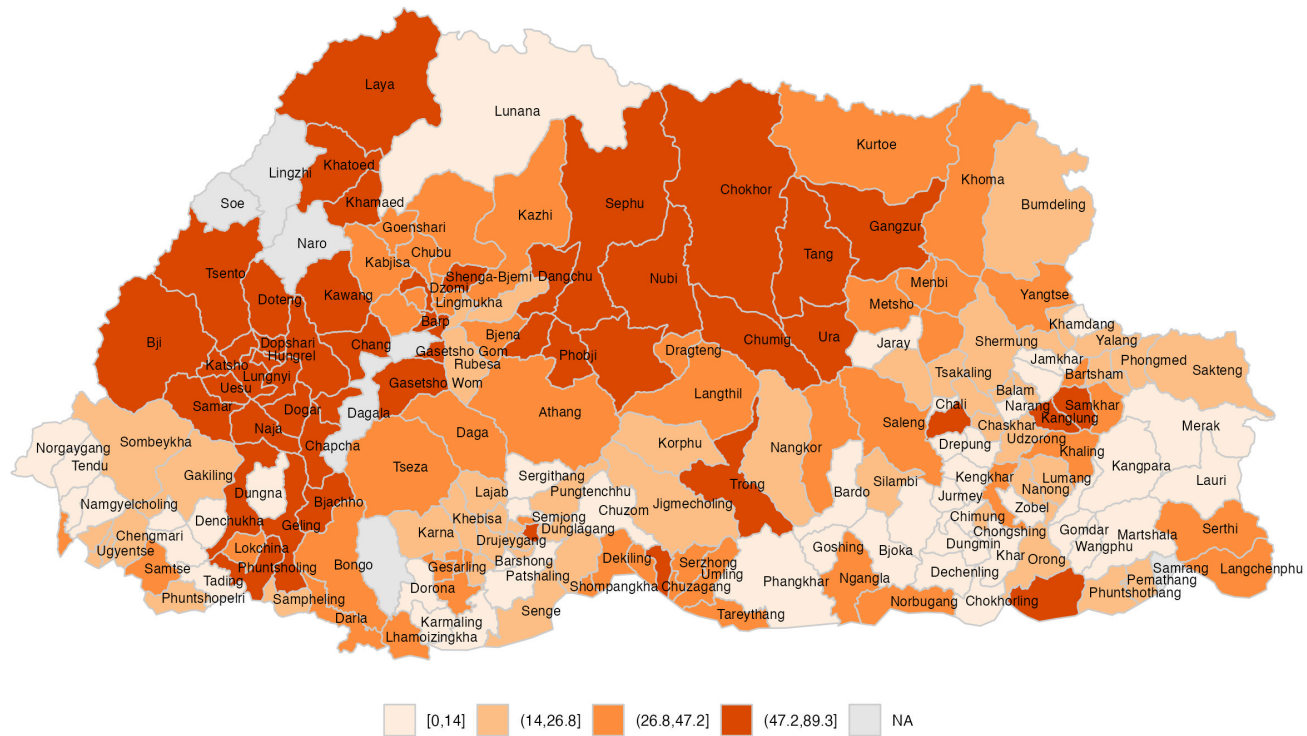
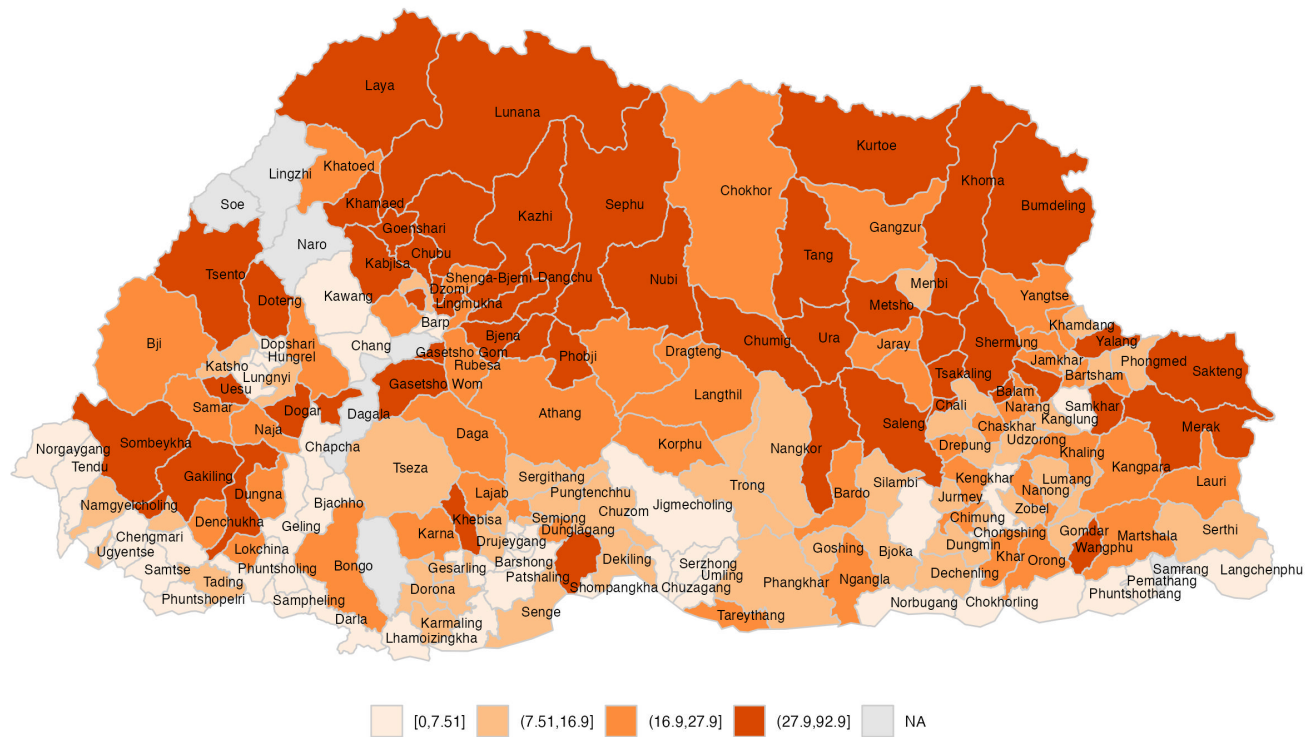


Figure 146: Percentage of households who own power chainsaw by gewog



Annexure II

Figure 147: Percentage of households who own power tiller by gewog

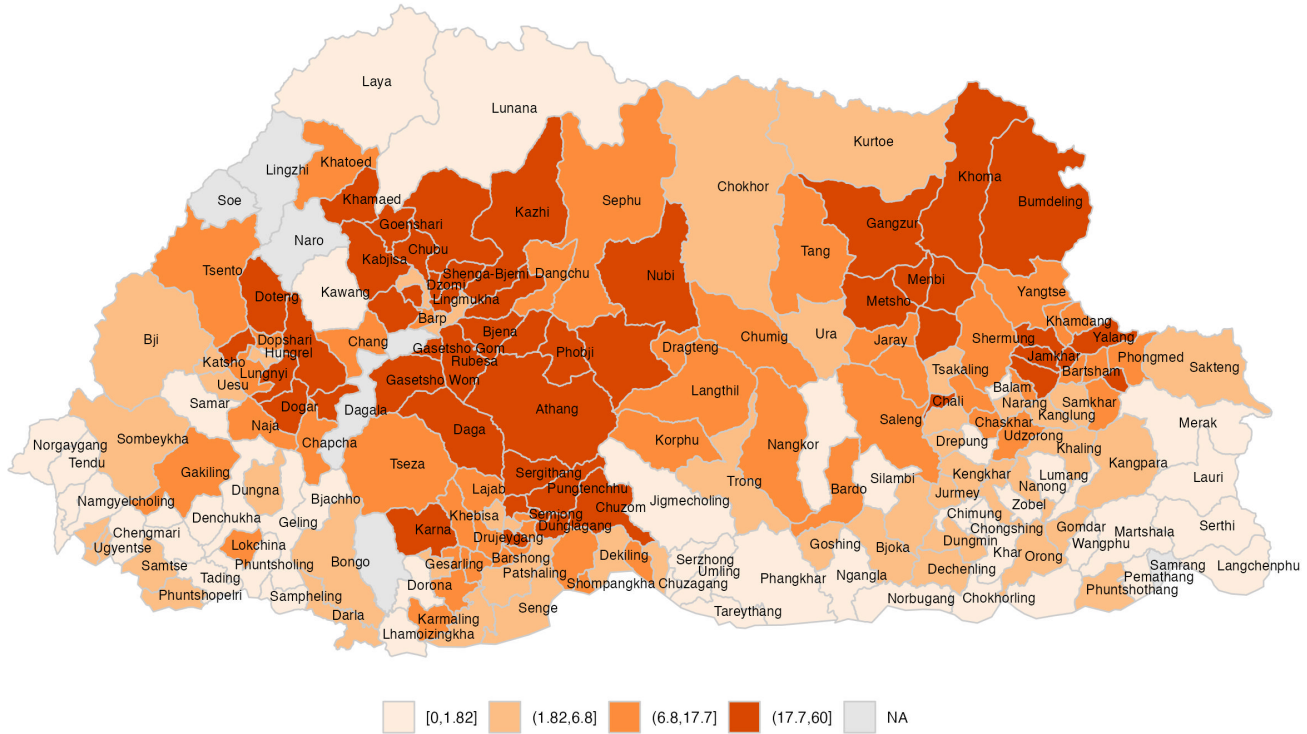
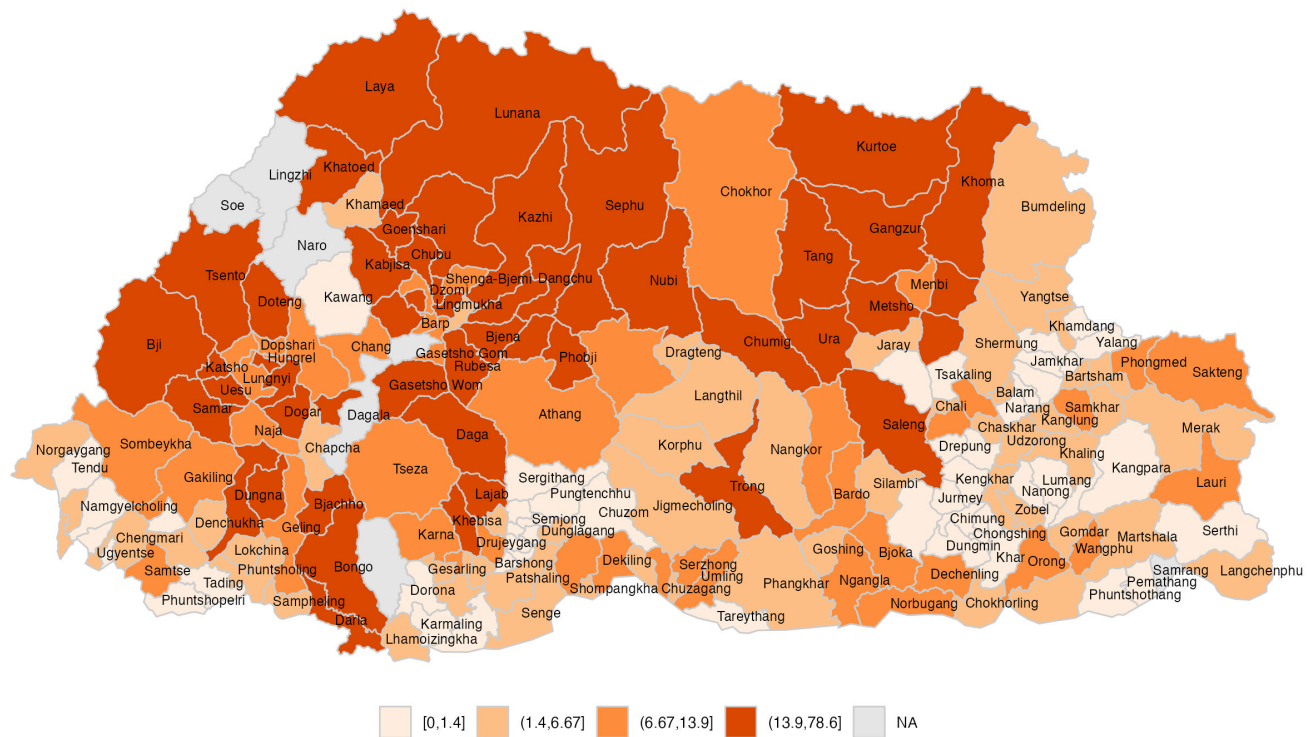


Figure 148: Percentage of households who own compound bow by gewog



Annexure II

Figure 149: Percentage of households who own sesho gho/kira by gewog

