

# Transforming Thimphu

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## The Context

I first travelled to Bhutan in 1982, trekking with the renowned Himalayan climber, Tenzing Norgay. We experienced a pure Buddhist-grounded, place-based culture of villagers and herders, living in deep alignment with nature and communal reciprocity. Children living in comfortable, multigenerational homes always had someone to attend to them. The elderly were respected and had important roles, especially in imparting wisdom. Families worked hard during the planting and harvesting seasons, but from late fall to mid-spring, they spent time meditating, playing archery, visiting friends, and relaxing.

In 1979, the 4th King of Bhutan, Jigme Singye Wangchuck, described this comprehensive quality of life as “Gross National Happiness,” (GNH) a pun on the Western economic focus on Gross National Product (which later became Gross Domestic Product). This was not a new idea – in 1629 Bhutan’s legal code stated that “if the government cannot create happiness for its people, then there is no purpose for government to exist”<sup>1</sup>. And it went on to note, that in accordance with Buddhist philosophy, this purpose extended beyond humans to the wellbeing of all sentient beings.

In 2008, when Bhutan transitioned towards a democracy, Article 9 of its Constitution enshrined GNH as a national principle, stating “The State shall strive to promote those conditions that will enable the pursuit of Gross National Happiness.”<sup>2</sup> In the 2000’s, a GNH index was developed by the Centre for Bhutan Studies, to advance and measure the state of GNH in the nation. It defined GNH with nine domains: psychological wellbeing; health; education; time use; cultural diversity and resilience; good governance; community vitality; ecological diversity and resilience; and living standards.

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1 <https://www.gnhcentrebbhutan.org/history-of-gnh/>

2 <https://www.gnhcentrebbhutan.org/history-of-gnh/#:~:text=Four%20decades%20later%2C%20Bhutan%20embraced,National%20Happiness.%20Therefore%2C%20Bhutan>

Soon after my 1982 trip, Bhutan opened an airport, permitted television, and became more engaged with the developed world. In many ways, its quality of life has improved. Today almost every residence, from city blocks to remote huts of yak herders, has hydro-powered, fossil-fuel-free electricity. All children are provided with free education. A total of 1,395 community health centres<sup>3</sup> serve a country the size of Switzerland. During the Covid 19 pandemic, Bhutan had the lowest death rate of any nation in the world, and the highest and fastest vaccination rate, inoculating its entire population in just nine days.

But at the same time, the quality of life in cities, especially Thimphu and its neighbor Paro, has declined. Thimphu is now filled with a jumble of poorly planned apartment buildings whose landlords charge up to 70% of the local workers' salaries for rent. The valley's magnificent temples are surrounded by construction. Streets are clogged with cars, making it hard for children to walk to school. The city's streams are buried in pipes or filled with trash. Mental health issues are on the rise. Youth unemployment is so high that many young people now seek visas to go to Australia, where they can earn 10 times more in a menial job than they can in a professional job in Thimphu. The current situation is untenable - a new plan and course of action are needed. Thimphu needs to be transformed.

In 2017, His Majesty the King of Bhutan read my book, *The Well Tempered City*, and was inspired by its vision of a better form of urbanism. He bought copies and sent them to key leaders throughout the nation and invited me to advise him on how to rectify Bhutan's poorly aligned urbanism.

## **Issues of Developing Urban Areas**

Thimphu's urban issues are common to many developing nations: insufficient clean water, wastewater, and transportation infrastructure; a lack of affordable housing; youth under-employment; and environmental issues such as air pollution, and disconnection from nature. Unsustainable construction systems are depleting non-renewable natural resources. Poorly regulated development has permitted buildings in areas vulnerable to earthquakes, floods, and forest fires. An outdated building code has produced buildings that are energy inefficient and seismically vulnerable.

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3 <https://www.moice.gov.bt/wp-content/uploads/2023/10/Policy-Brief-Final-Copy.pdf>

But Thimphu has so far avoided some of the issues of many other developing cities - although it needs a great deal more affordable housing, it has no slums, and only sporadic shanties housing immigrant construction workers. And it is blessed with all its electricity produced by hydropower. Perhaps its greatest risk is the decline of Bhutan's distinctive collaborative culture, which evolved in its rural communities.

### **Thimphu's First Structure Plan**

In 2001, Thimphu engaged Christopher Benninger, a Distinguished Professor of Planning at the Ahmedabad School of Planning, CEPT University, India. He led the Ministry of Works and Human Settlement in the development of Thimphu's first urban structure, or master plan, which was adopted in 2004.

The plan examined the topography, slopes, hydrology, biodiversity, fauna, and flora of Thimphu and proposed development controls to protect them. It concentrated growth in mixed use urban villages, connected by walking, biking paths, parks and bus systems to reduce the use of the automobile. Cultural, spiritual, and historic buildings were protected from development.<sup>4</sup> And yet, none of these noble goals was accomplished.

### **Why the Plan Failed**

In 2018, the Ministry of Works and Human Settlements published a Strategic Environmental Assessment of Thimphu's Structure Plan. It observed "increasing pressure from developmental activities as well as non-compliance and weak implementation of rules and regulations. Neighbourhood nodes (NN) intended to serve as the service and commercial centre for urban villages to help decongest the urban core while benefitting local residents have largely not materialised. The development of inappropriate infrastructures along steep slopes has resulted in slope failure and landslides, further leading to disruption of water supply, road blockages, and power disruption...."

Meanwhile, key issues related to water include irregular supply; inadequate and unequal distribution; illegal tapping and diversion; high presence of

4 <https://digitalcommons.calpoly.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1348&context=focus>

*Escherichia coli* (*E. coli*) at certain sections of the Wang Chhu; and loss of huge volumes of water due to wastage, unsustainable consumption, and an old distribution network system.

The disproportionate growth in private car ownership to public transport services has already led to traffic congestion and excessive amount of on-street parking, while also worsening air quality.

The report concluded: In all, the effective implementation of the TSP is constrained by a lack of clear governance guidelines, weak human resource capacities, as well as weak ownership of the TSP among stakeholders.<sup>5</sup>

### **Thimphu's Governance**

Thimphu is subject to three jurisdictions - the Ministry of Infrastructure and Transportation, previously called the Ministry of Works and Human Settlements, which provides urban planning services, the dzongkhag, or district, the main administrative agency for the region, and the thromde, or municipal government. The physical plan also was not accompanied by an organisational plan, to integrate the powers of these three levels, to develop the agencies necessary to oversee its implementation, to manage the city, and to provide it with sustainable financing. For example, Thimphu has no parks department. Its building department is woefully understaffed and undertrained, and so even though there is a building code that requires modest earthquake-resistant structures, it is not enforced, and thus many of its buildings are vulnerable. Regulations preventing development on steep slopes are ignored, and roads are permitted to be cut into agricultural and forest areas that should be preserved.

These issues are exacerbated by a democratic deficit- only 7,000 of Thimphu's 135,000 residents vote in Thimphu. The others, for a variety of reasons, vote in the villages that their families came from. The 7,000 voters are, by and large, landowners, and elect mayors to serve their interests.

The final issue leading to a sprawling city that failed to meet the goals of GNH was its lack of financial and project management resources. Until our recent advocacy, Bhutan's land tax system essentially taxed each residential

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<sup>5</sup> <http://www.thimphucity.bt/downloads/strategic-environmental-assessment-thimphu-structure-plan>

unit equally regardless of actual size, value, or location. Thus the city lacks sufficient income to maintain its systems or pay for an adequate staff, much less develop new systems. For example, Cambridge, UK, a City also of 144,000 people has a staff of 4,296 versus Thimphu, a city of 135,000 people and 1,450 employees.<sup>6</sup> The City also lacks the project management capacity to carry out the capital improvements that the national government funds, so that typically only 30-50% of the capital budgets are allocated.

### **Private Property Versus the Commons**

The 2004 plan also gave rise to a key mindset change- the primacy of private property rights over the public realm. The plan unleashed private development through several mechanisms. A key one was land pooling, in which neighbours who owned small, hard-to-develop parcels of land could combine them into larger parcels, allocating a portion of the land to the development of apartment buildings, and the balance to common facilities, such as roads, parks, community centers, schools, etc. The apartment buildings and the roads, water, and sewer lines to build them were eagerly financed by Bhutan's banks, and rapidly constructed. But little was done to finance or develop the common facilities. In some cases, land, required to be set aside for the communal facilities wasn't even allocated to them from the pooling landowners holdings. There was no integrative framework that, for example, connected the parks into a coherent system that could provide fingers of nature throughout the city and provide safe pathways for children to walk to school.

Without rigorous building plan reviews, approvals, and denials, land owners were able to develop cheap, six-story concrete buildings, some on sites that the plan had determined should be preserved, and the banks financed the development, including the State-owned Bank of Bhutan.

A key lesson is that the invisible hand of poorly regulated private property development creates mediocre cities. Human settlements at all scales, from villages to cities, must be designed to optimise the social, economic, and ecological commons. To do so requires the adoption of commons enhancing governance and ownership systems, as exemplified in rural Bhutan.

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6 [https://www.rcsc.gov.bt/wp-content/uploads/2022/03/CSS\\_2021\\_finalupload.pdf](https://www.rcsc.gov.bt/wp-content/uploads/2022/03/CSS_2021_finalupload.pdf)

## The 2023 Thimphu Regional Strategy: Good Growth in the Right Places

The assessment made it clear that a new plan was needed, and to carry out the plan, we needed a great planner. Fortunately, I knew an extraordinary architect and urban planner, who had designed a beautiful, green award-winning project in the Himalayas, understood Buddhist culture, and public-private partnerships. His name was also Jonathan Rose, of Prior+Partners. (To keep us separate, we call me Jonathan FP and him Jonathan UK) He introduced Rory McGowan, a senior leader of Arup, our engineering firm, and Tom Marshall, our economic consultant from Gerald Eve. Along with their associates, and an extraordinary group of Bhutanese planners led by Tashi Penjor, the director of the Department of Human Settlement, we had a team.

Jonathan UK proposed that our work be advised by an international advisory board of distinguished urbanists.<sup>7</sup>

Advisory board member Alison Nimmo's first advice to us was to ask His Majesty to designate an independent body to oversee our work, so that approval would be removed from politics. His Majesty agreed, and formed the Royal Commission for Urban Development, to oversee and approve the plan.<sup>8</sup> (list in the footnotes)

We began by developing a Thimphu- Paro regional strategy, with which to place the plan. Covid 19 had much of the world locked down. We could only accomplish so much by Zoom, and so in the winter of 2021, the entire team of foreign planners, Bhutanese planners, and members of the Royal Commission were sequestered in a hotel in Paro for 14 days, to hammer out the assumptions of population growth and economic development. The Western team, which had seen the deleterious effects of sprawl, and

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7 The advisory board includes artist Antony Gormley, Jeanette Sadik Kahn, of Bloomberg Associates, Paul King, the founding CEO of the UK Green Building Council who had actually lived and worked in Bhutan, Dame Alison Nimmo, former Chief Executive of the British Crown Estate, economist Kate Raworth, and Marilyn Taylor, a previous CEO of , Global Chair of the Urban Land Institute Board and Dean of the University of Pennsylvania Design School to join.

8 The members are Chencho, Director, Cabinet Secretary, Geley Norbu, Director, Department of Land Administration in the National Land Commission, Karma Namgyal, Executive Secretary of the Thimphu Thromde, Dasho Karma Yezer Raydi, CEO of Druk Holdings, Karma Yonten from His Majesties Secretariat, Kunzang Dorji, Zimpon Won, office of the Gyalpoi Zimpon, and Tashi Penjor of the Department of Human Settlement.

knew how threatened Bhutan's cultural and agricultural landscapes were, advocated for urban growth boundaries, green belts, and denser villages. The Royal Commission members reminded us that many Bhutanese aspired to be able to develop their land. We settled on the idea of good growth in the right places.

### **The Thimphu Structure Plan**

We began with an intensive analysis of the existing conditions of each of Thimphu's neighborhoods, thoughtfully carried out by the Bhutanese team. We then formed an overall urban structure plan, to restore the commons, informed by the need for a thriving economy, sufficient affordable housing, neighborhood-based community facilities, parks, fingers of nature and green infrastructure, a truly effective mass transportation, walking and biking plan, an efficient water, wastewater and storm sewer system, and other utilities.

The plan creates a hierarchy of centres, balancing places to work and places to live, with a strong central city plan to transform the disparate public and private assets in Thimphu's center into a cohesive whole.

In this process, we discovered that there was a great deal of inefficiently used land in Thimphu. By enabling individuals to develop their own buildings, but limiting them to 40 percent lot coverage, 60 percent of the land was essentially wasted, resulting in unloved sides and backyards. If these sporadic land uses were coherently organised, a regenerating Thimphu actually have sufficient land to accommodate all of its future growth and be a better city, without the need to sprawl onto historic agricultural lands, which will be needed for food security

One of the issues with the first plan was that it set Thimphu off on the wrong course and was not reviewed or adjusted. We proposed that the conditions of Thimphu be assessed every five years and that the plan be adjusted as needed.

The TSP aims to be far more distributive, sharing the economic and social benefits it creates with as many residents as possible, rather than concentrating its rewards for a few, and regenerative, working with the natural cycles of living systems. One of our going-forward tasks is to

really figure out how to measure these qualities. We propose to do so by combining GNH with the Doughnut Economics framework. The Doughnut Economics framework was created by Kate Raworth, and being applied to cities by her colleague Leonora Grcheva. It provides an integrative way of thinking about economic development that attends to the need for a sufficient economy to provide a strong social foundation for its people, but at the same time, respects the ecological limits that so many developed economies over-shoot.

While we think it makes sense to extend the boundaries of Thimphu in its south, particularly to provide locations for industry and a Science, Technology, and Innovation park, it is essential to protect the Kabesa Valley to the north of the city at the same time.

The valley is a special cultural/ ecological landscape to be preserved, both a critical agricultural area, as well as home to some of Bhutan's most important monasteries. It has been partially protected from development by a moratorium, but thousands of tiny lots of land have been sold in anticipation of the moratorium being lifted. However, the area lacks the roads, water, and wastewater treatment systems to accommodate the potential development. We suspect that every lot owner imagines their own future home in the current pristine environment, rather than living amongst vast, incompatible, and un-environmental development.

To resolve this we propose the transfer of Kabesa's development rights to the areas of Thimphu that should be developed. This economic structure, called "transfer of development rights" requires someone who wants to develop more densely in Thimphu to buy the development rights for higher density from someone whose land is being preserved as agricultural, cultural, or open space in the Kabesa Valley. This has worked all over the world and could be a key tool to shifting good growth to the right places in Bhutan.

The Thimphu Structure plan is only the first of many systems needed to put Thimphu on a regenerative and distributive path. The next is to adopt a Design Code, which has been finalised by the team, but not yet adopted. Also, the recent Bhutan Development Regulations which were adopted in 2023, to regulate development outside of Thimphu need to be revised to provide for stricter environmental protections and more rigorous control of development.



## Implementing the Plan

One of the reasons that the last plan was not well implemented was that Bhutan lacked the experienced institutions needed to properly carry out its goals. We strongly recommend that Bhutan develop a super competent project management office, to oversee the design, bidding, construction, and commissioning of the billion dollars of infrastructure needed. This office should be set up with international partners who can train Bhutanese in global standards of best practices. It must function transparently and be corruption free.

Bhutan also needs to form a sophisticated public/private development company. Almost all of Thimphu was developed by amateur developers, many of whom just developed one or two projects on the land they own. The TSP proposes much more sophisticated mixed-use, mixed-income development on larger parcels. For example, there are many government offices in outmoded buildings surrounded by parking lots and enclosed with walls. These can be combined into larger sites that could not only accommodate all of the offices needed in much more modern, green buildings but also integrate market rate and affordable housing, offices, for the private sector and retail at the street level. These lands should remain in the public sector's hands in perpetuity but in partnership with private sector developers who can bring the best practices from around the world to the projects.

## Regenerative Bhutan

As we advanced the plan, it became clear that the issues of Thimphu came from not only what had been built, but how it had been built. Its concrete buildings use extractive, mineral-based, and energy and emissions-intensive building materials, that don't meet contemporary energy or seismic codes and have been built with low-cost imported labor. This way of building is neither regenerative nor distributive. If Thimphu is truly to be a GNH city, it needs to be built in a new way. And there is a new way, called Mass Timber and biological-based materials.

Mass Timber uses sustainably harvested timber materials to create the components of green, high-tech, beautiful buildings. The system could create well-paying rural, regional, and urban jobs for Bhutanese that align

with His Majesty's goal for a thriving, ecology-based economy. And other agricultural products can be turned into construction materials to make insulation and other building components.

To explore this idea, Bhutan's Ministry of Infrastructure and Transport formed a Mass Timber Working Group, an interdisciplinary team comprising experts in sustainable forestry, architecture, engineering, engineered timber manufacturing, and construction. The group<sup>9</sup> developed an excellent plan, Regenerative Bhutan, a bio-material pathway to healthy forests and carbon positive cities.

### **Catalytic Projects**

The team has proposed a series of catalytic projects to realise the plan. These range from simple changes to bus routes to significant investments in infrastructure that will require extensive design and engineering, financing, procurement, and construction. The project list includes a beautifully designed mass timber demonstration building on Norzin Lam.

The list of catalytic projects should be easy for the public to access and tracked quarterly for progress. These projects need to be well executed for the public to have confidence in the plan, and Thimphu's future as a preferred place to live.

### **Governance for the Common Good**

A great city begins with its commons - its grand streets, its cultural and educational institutions, and its parks. Its plan then permits individual buildings to arise as supporters of its commons.

The 2023 Thimphu Structure plan lays out a pathway to a vibrant, green, livable city. It will only be realised if Bhutan's leaders are willing to create and fund a strong urban governance system with trained staff who have the courage to enforce its rules and regulations. Too often, when visiting sites, we saw new roads being cut and buildings in agricultural lands or steep slopes where they should not have been permitted.

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<sup>9</sup> The working group is led by Architect Alan Oganschi, and includes the Good Energies Foundation's Jamie Lawrence, Arup's Rory McGowan, Tashi Penjor, members of the departments of Forests and Park Services, advisor Peter Stein and others.

As a next step, the government needs to review the many assessments that have been written of Bhutan's urban governance systems, take the best ideas, develop a strong development regulatory framework, and implement it. The roles of the thromde, dzongkhag, and ministry need to be clearly defined, and adequate resources provided for them to do their jobs. The project management office needs to be created and a public/ private development company.

### **For the Benefit of the Common Good**

Bhutan's culture, grounded in Buddhist thought, seeks to be of benefit to all sentient beings, the whole of the web of life, and of all pervasive consciousness. But Thimphu, as built today, reflects a culture overweighed towards individual human benefit.

To counter this, the legal and financial structures for more collaborative ownership forms need to be enabled, such as mutuals, co-ops, and community land trusts. These will help actualise an urban culture of reciprocity and the common good that works so well in Bhutan's rural societies to its cities. Conservation trusts or similar forms need to be created to preserve nature around the city and for critical areas such as Kabesa.

Most of Thimphu's small, single-family apartments engender a culture of isolation. One of the great strengths of rural Bhutan's village homes is the way that they support multi-generational family systems. Thimphu's hard working young parents and their children could benefit if their homes had an adjacent, connected apartment for the grandparents to live in to help with childcare and eldercare. And the grandparents would benefit if there were nearby *lhakhangs*, community centres, and gardens for them to gather, and do meaningful community work as wisdom de-suungs. Apartments also need to be designed with *choeshams* (altar rooms) to support Buddhist practice. What other design practices based on Bhutanese culture could enhance mutual relationships?

However, as we have learned, a good plan is not enough - it must be backed by the right design codes and proper enforcement. Unfortunately the proposed sub area plan for Kabesa violates every principle of the new Thimphu Structure Plan. It proposes to permit 4,946 homes in an area that currently has 383. It proposes a total population of 20,777. In a hazard zone,

it permits development on steep slopes up to 51 degrees. It permits regular septic systems which will most likely heavily pollute the groundwater. It provides no transportation system other than a taxi stand, so everyone will have to rely on cars. And it provides no new schools for the children. The miss-steps of the last plan are about to be repeated. This is a moment for the people of Bhutan to decide if they really want a more livable future, or if they will continue to approve development in ways that undermine their wellbeing. There is a plan that shows the way. Will it be followed?

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