

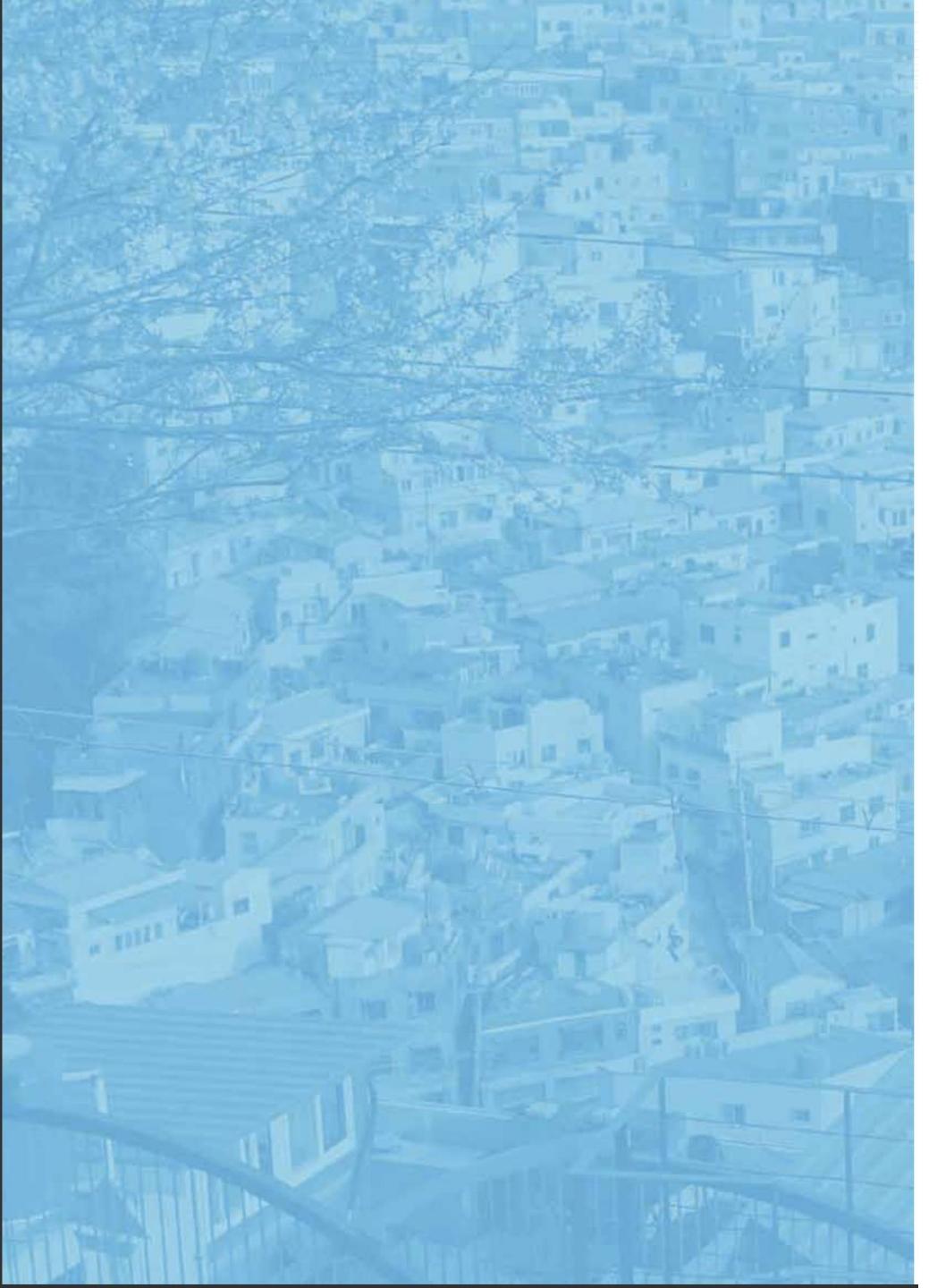
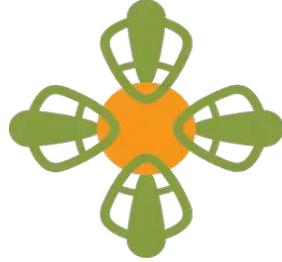
Mindfulness City Framework and Mindfulness Index

A framework for *Clean, Green, Safe and Happy City*



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Current Global Urban Situation

Cities are home to more than half of the world's 7.9 billion people, and by 2050, an additional three billion are expected to live in urban areas. As engines of productivity and innovation, cities have developed systems and solutions that significantly improve quality of life. At the same time, rapid urban growth is creating serious vulnerabilities. Expanding cities increasingly face economic disruption, social fragmentation, environmental risks, cultural decline, and growing challenges to safety and security."

- The World Bank Urban Sustainability Framework 2018





Gelephu Mindfulness City (GMC)

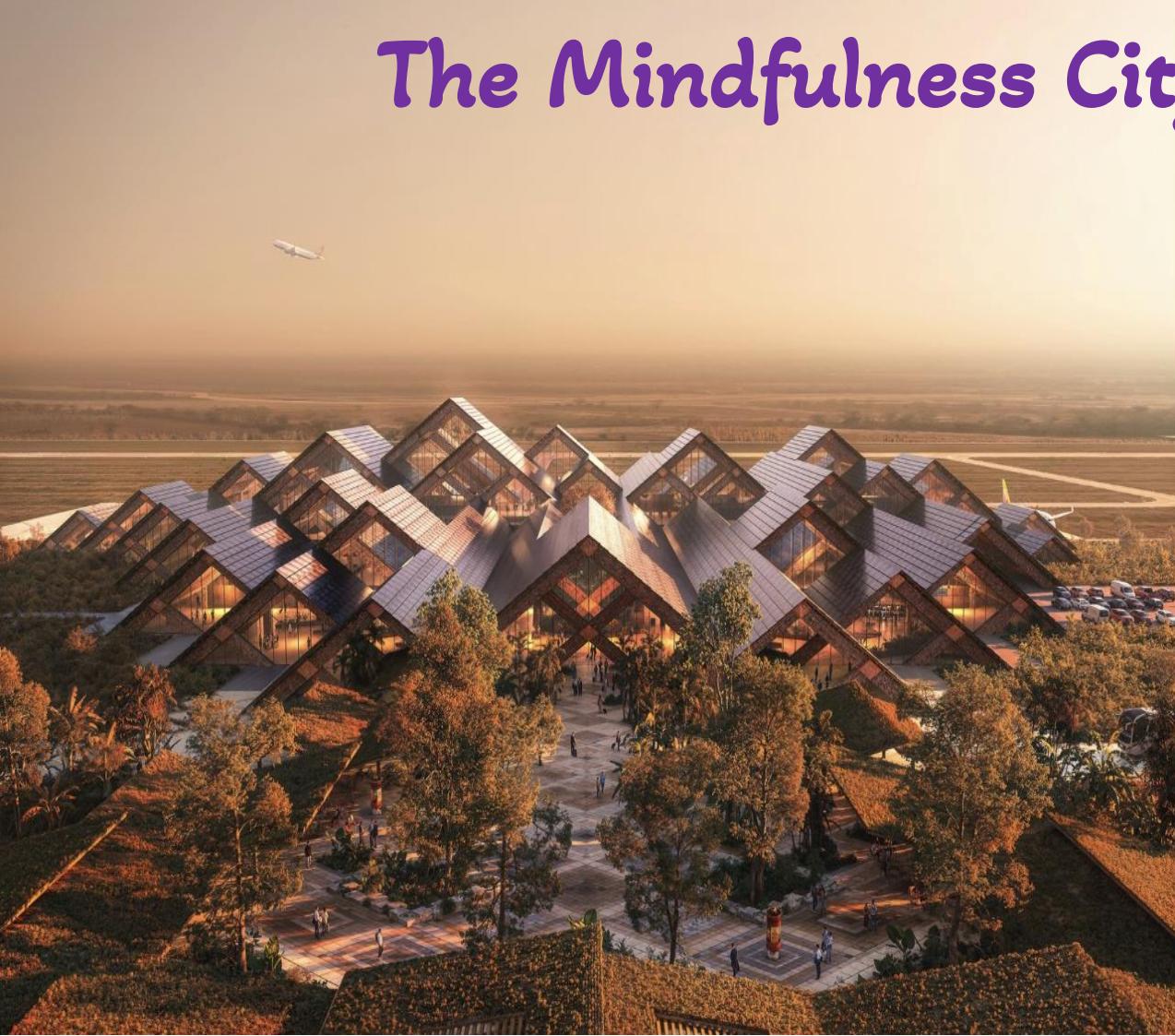


GMC is envisioned as a new model of urban development. "Established as a Special Administrative Region, it aims to create a vibrant economic hub through a conducive business environment and compelling incentives, while embedding mindfulness, sustainability, and ethical enterprise at its core. Rooted in Bhutan's Buddhist spiritual heritage and national identity, it seeks to balance innovation with tradition, economic growth with environmental stewardship, and development with the well-being of people."



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The Mindfulness City Framework



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A framework for Clean, Green, Safe and Happy City Model

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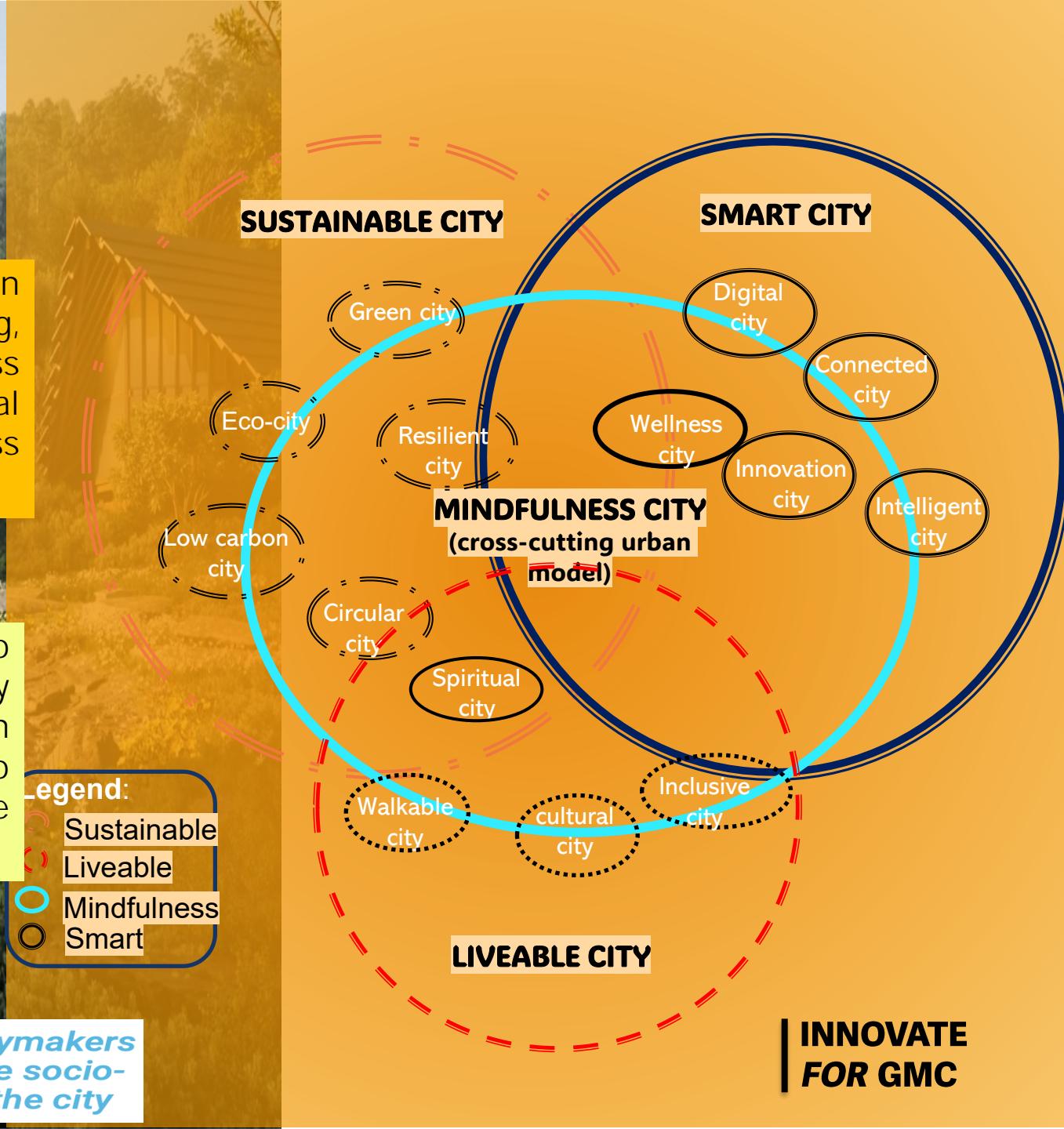


1. Background

This Mindfulness Framework defines "mindfulness city" as an inclusive urban ecosystem that supports residents' wellbeing, strengthens communities, upholds ethical governance across economic clusters, and fosters sustainability and ecological balance, ensuring a green, clean, safe, and happy city across generations.



This comprehensive and integrated framework is a tool to operationalize multi-dimensional aspirations, guide city dynamics and characteristics across four levels of urban ecosystem; micro (individual), meso (societal), exo (governance), and macro (ecological), helping them prioritize actions for a green, clean, safe, and happy city.



These tools allow city planners, city managers and policymakers to gauge general city conditions, or elements such as the socio-economic, environmental impact or competitiveness of the city

Why a Mindfulness City framework?

It aligns existing urban indices and tools with GMC aspirations and GNH spiritual values, providing a universal framework for measuring urban mindfulness.

Translates GMC's vision into measurable action by continuously monitoring individual, social, governance, and ecological dynamics across short-, medium-, and long-term timescales.



Facilitate strategic reconvergence of the Diamond Strategy.



Establish global standards and promote international "Mindfulness City" certification.

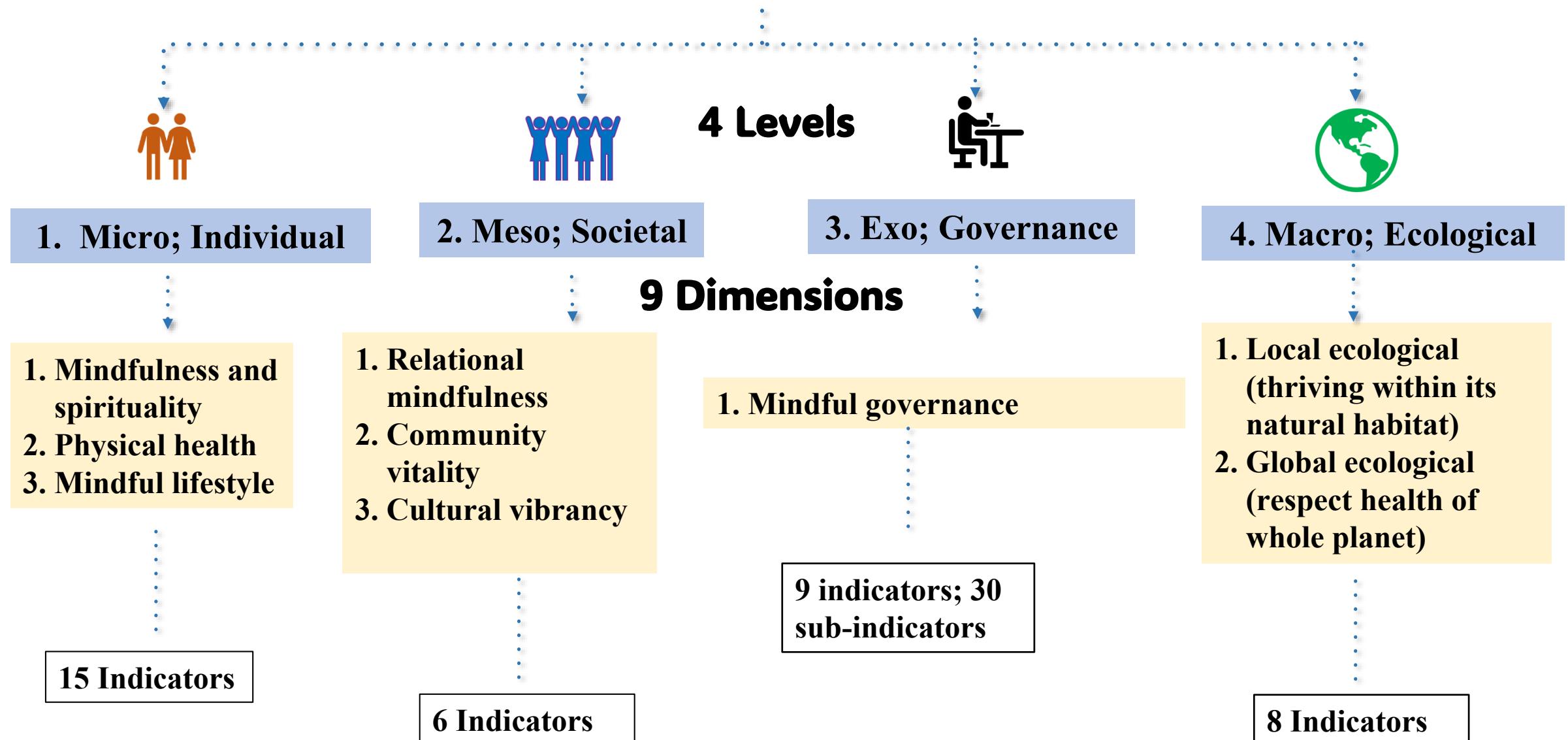


2. Mindfulness City Framework Structure

Using the Buddhist Mandala structure (representing the ideal universe) and Bronfenbrenner's Ecological Systems Theory (individual development and interconnected environmental systems), this framework **outlines 9 dimensions and 59 indicators across micro (individual), meso (society), exo (governance), and macro (ecological) levels**



Mindfulness City Framework

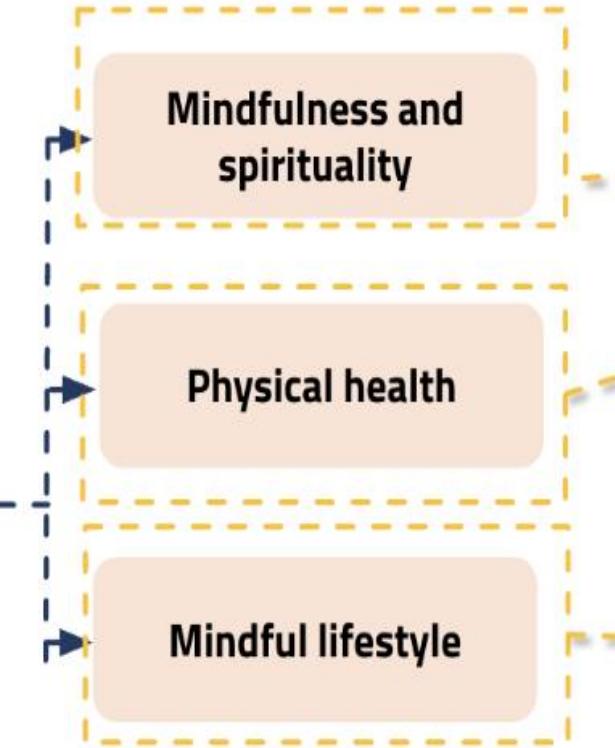


Micro (individual level of Mindfulness)



Individual level

Dimensions



Indicators

1. Present awareness, 2. Complexity awareness, 3. Mindful ethics, 4. Engagement in spiritual activities, 5. Accessibility and availability to dedicated contemplative spaces, and 6. Mental health

1. Healthy days, 2. Physical activity, 3. access to physical facilities, 4. mindful nutrition

1. Income, 2. House affordability and quality, 3. Education, 4. Basic quality service, 5. Sustainable behaviour

How dimensions and indicators were selected?

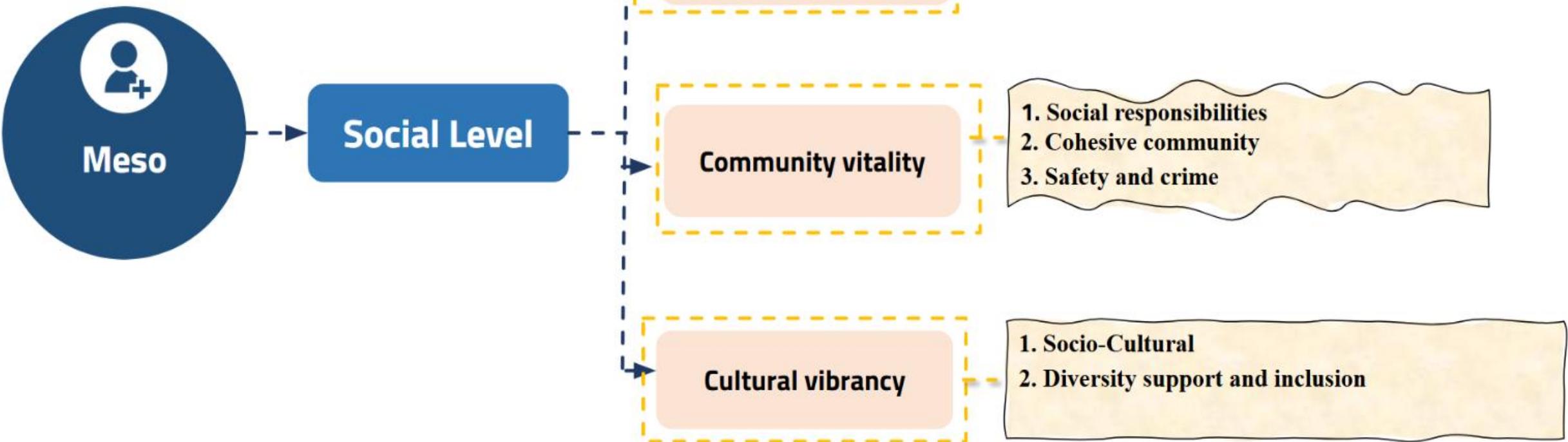
By the team based on GMCA sessions covering core city functions and aspirations, and GMC-related public communications.

Extensive international research on holistic urban sustainability frameworks.

Refined using feedback from relevant experts and insights gained from pilot testing.

Level	Dimensions	Indicators	Description	Source	Scale	Threshold
1 Micro; Individual mindfulness	1. Mindfulness and spirituality	1. Present awareness	The ability to remain consciously aware of one's thoughts, actions, and emotions in the present moment	Vajrayana Buddhism (Dorjee et al., 2022; Gethin, 2015); Inner Development Goals framework	1 (not at all) to 5 (regularly)	>4 (often & regularly)
		2. Complexity awareness	Understanding of and skills in working with complex and systemic conditions and casualties.	GNH framework; inner Development Goals framework	1 (not at all) to 5 (regularly)	>4 (often & regularly)
		3. Mindful ethics	Acting with moral clarity, self-reflection, and ethical responsibility.	vajrayana buddhism (Gethin, 2015; Chems-Maarif et al., 2025)	1 (not at all) to 5 (regularly)	>4 (often & regularly)
		4. Engagement in spiritual activities	Participation in spiritual or contemplative practices (e.g. prayer, meditation, rituals, reflective gatherings).	GNH framework+Buddhism (Ura et al., 2012; Dorjee et al., 2022); inner Development Goals framework	1 (not at all) to 5 (regularly)	>4 (often & very often/regularly)
		5. Accessibility and availability to dedicated contemplative spaces	Access to spaces like temples or meditation centers, meditation parks, contemplative walkways	Vajrayana Buddhism (Weng et al., 2019); Makwana & Elizabeth (Druk Journal)	objective (in meter)	<15 mins
		6. Mental health	State of emotional and psychological well-being with low anxiety and stress.	GNH framework	objective	number of patients reported
	2. Physical health	1. Healthy days	Number of physically healthy days in a month.	GNH framework	objective (in days)	26
		2. Physical activity and quality healthcare	Engagement in walking, exercise, or yoga, adequate access to healthcare centers		objective (minutes)	150-300min of moderate-intensity
		3. access to physical facilities	Availability of gyms, parks, and walking spaces		objective (in meter)	<1000m (15mins)
		4. mindful nutrition	Conscious and balanced eating habits	FAO & WHO 2019; GNH	objective in g/day	<5 g/day salt, 400g of fruits/veg, <30% of energy intake fat
	3. Mindful lifestyle	1. Income	Level of income sufficient to meet basic needs and ensure well-being.	GNH framework; ISO37120); Human development index		
		2. House affordability and quality	Housing Rent; Living in a structurally sound, safe, and comfortable home	WHO Housing and Health Guidelines (2018); Liveable city index; GNH framework	objective	≥ 10 m ² per person, >26–50%
		3. Education	Formal or informal education fostering inner values, critical thinking, and emotional awareness.	GNH framework	objective	> 2km(school) (7-12 years edu); >4 (mostly, always)
		4. Basic quality service (waste, water, electricity, education)	Availability and reliability of essential services	GMC, GNH, ISO37120, Corporate sustainability index; SDG 6.1.1 ; SDG 1.4.1	knights	100-105l water/capita/day, 100% waste managed within GMC; 3km School
		5. Sustainable behaviour	Use of public transport, segregation and proper waste disposal		objective	

Meso (Society level of mindfulness)

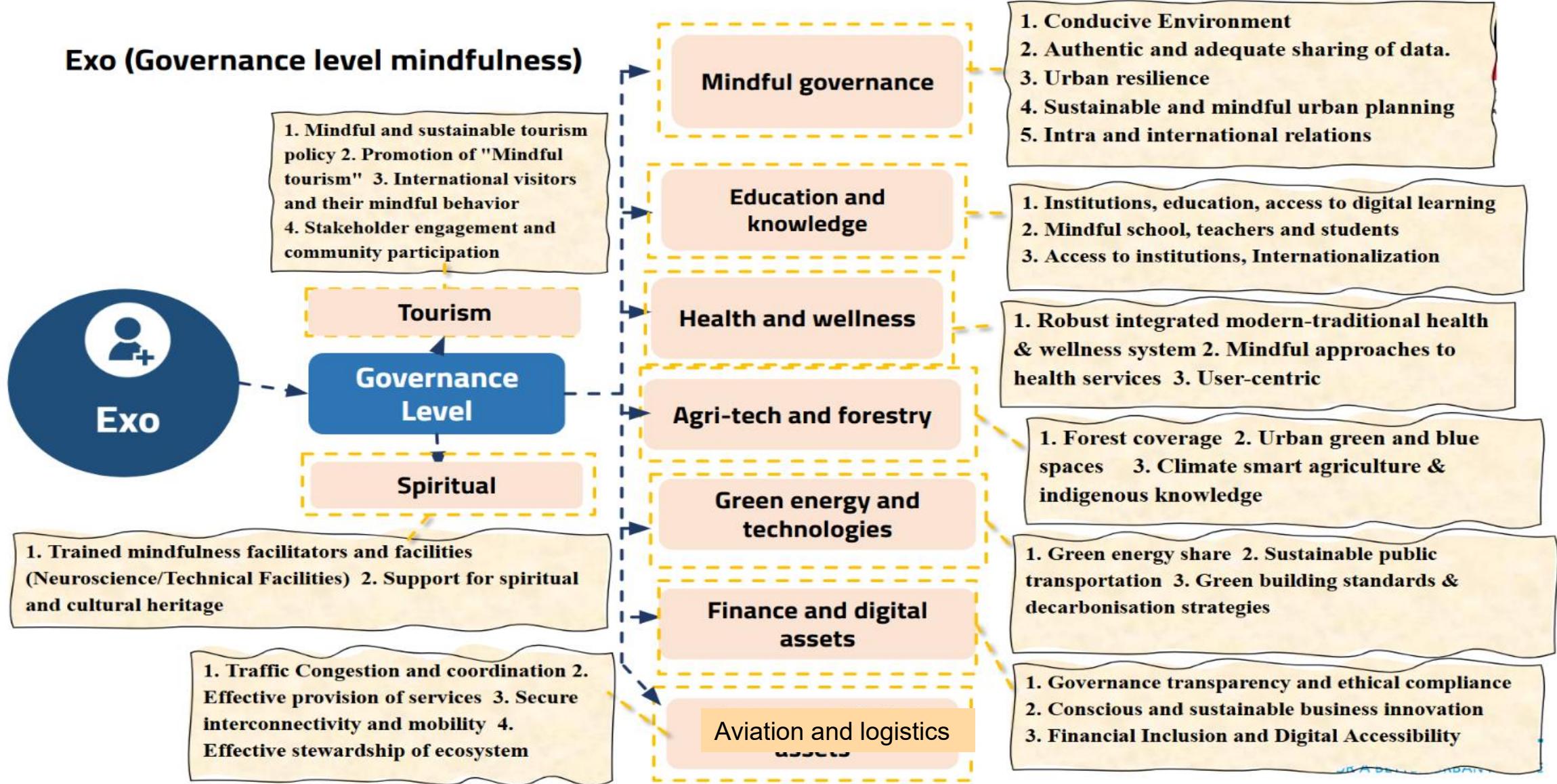




2 Meso; social mindfulness	1. Relational mindfulness	1. Relational mindfulness	The extent resident embody relational mindfulness values (Compassion, right speech, gratitude, loving kindness, patience) in daily interactions	Vajrayana Buddhism (8 fold path)	1 (not at all) to 5 (regularly) across 5 values	20
	2. Community vitality	1. Social responsibilities	Number of volunteer days and voluntary contribution (spiritual, environmental)	GNH framework	objective	<5 days, <10% income
		2. Cohesive community	Sense of belonging, neighbour trust, social harmony and co-creation	GNH framework; Happy city index; inner Development Goals framework		8 (strong & very strong,)
		3. Safety and crime	Perceived safety, absence of crime, and community vigilance	GMC police presentation; Liveable City Index; Personal Wellbeing Index ; SDG 16.1.4	objective	100% (safe & very safe)
	3. Cultural vibrancy	1. Socio-Cultural	Adequate cultural facilities, people participation in community rituals, festivals and cultural program	GNH framework; Global urban monitoring framework; Siemens Green City Index; Makwana & Elizabeth (Druk Journal)	objective	> 6days/year
		2. Diversity support and inclusion	Support for people with disabilities and elderly, linguistic accessibility, and cosmopolitanism inclusiveness	Happy city index; Doughnut economics		9 (strongly & very strongly)

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Exo (Governance level mindfulness)



Note: light pink colors reflect indicators and light brown represents its sub-indicators.

3. Exosystem; governance mindfulness	1. Mindful governance	1. Conducive Environment	Aware and present in their work, foster a safe, respectful, and mutually beneficial culture, measures of corruption, crime, and administrative effectiveness.	Happy city index; SDG 16.10
		2. Authentic and adequate sharing of data.	City operations and decisions are shared accurately, adequately, and accessibly.	ISO37120; liveable city index; The Mindfulness Initiative organisation.
		3. Urban resilience	Disaster risk reduction strategies and city adaptability.	urban sustainability framework (world bank); global urban monitoring framework
		4. Sustainable and mindful urban planning	Planning aligns with city vision and involves inclusion, equity.	Jablonska (2025); Arup city Resilience Framework
		5. Intra and international residents and relations	Number of Foreign Residents and collaboration with other countries	ISO37120; GMC; Livable city index
	2. Education and knowledge	1. Academic Resources	Adequate mindfulness related institutes, embedding and implementing mindfulness within whole school approach.	ISO 37120; the mindfulness initiative organization; SDG 12.8.1
		2. Research and innovations	Research and Development, Number of Startups, Patents	The Mindfulness Initiative organisation.
		3. Access to institutions, Internationalization	Institutions of various levels, international students attraction, accessible /partnership with wider global institutions.	WHO Health System Framework; GNH framework (Ura et al., 2012)
	3. Health and wellness	1. Robust integrated modern-traditional health & wellness system	Adequate physical and mental health facilities (public & private), traditional and modern (% of areas within 8000 m of healthcare facilities), adequate health-mindfulness research institutes and digital tools, and physician / mindfulness facilitator	Governor; sustainable city index (Haksevenler, B. H. G., Senik, B., Sengul, Z., & Sorhun, E. (2025). Developing a framework for a sustainable city index: A comprehensive approach to urba
		2. Mindful approaches to health services	Specifically adapted mindfulness interventions (mindfulness based therapies beside modern)	The Mindfulness Initiative organisation.
		3. User-centric	Accessibility, affordability and sustained system.	ISO45001; ILO Decent Work Indicators; sustainable city index (Haksevenler, B. H. G., Senik, B., Sengul, Z., & Sorhun, E. (2025). Developing a framework for a sustainable city index: A comprehensive approach to urba
	4. Agri-tech and forestry	1. Forest coverage	% of city area covered by forest	GMC; Nedup (20225)
		2. Urban green and blue spaces	Green areas accessible within a 15-minute walk; adequate blue spaces	SDG 11.7.1 ; Nedup (2025); ISO 37120; Arcadis Sustainable cities index; urban sustainability framework
		3. Climate smart agriculture & indigenous knowledge	High value crops, adoption of sustainable farming and traditional practices.	GMC document
	5. Green energy and technologies	1. Green energy share	Share of city electricity from renewable sources	GMC; Sustainable Cities Index; SDG 7.2.1
		2. Sustainable public transportation	Use of EVs and eco-friendly transport systems.	GMC
		3. Green building standards & decarbonisation strategies	Adoption of sustainable building standards and efforts to reduce emissions.	WELL building standard; Siemens Green city index
	6. Finance and digital assets	1. Governance transparency and ethical compliance	How openly financial and digital asset institutions disclose operations, risks, and environmental or social impacts.	World bank index; Arcadis sustainable cities index; Oxford Economics Global cities Index
		2. Conscious and sustainable business innovation	Budget allocation in diverse industries, R&D spending, and sustainable business model (high value goods and services)	Innovative city index Japan
		3. Financial Inclusion and Digital Accessibility	Digital finance systems provide equitable access for all users	Financial inclusion framework; National Financial Inclusion Strategy
	7. Aviation and logistics	1. Transport Comfortability	traffic congestion and coordination; Commuting Time (Percentage of areas within 400m of stops and service quality) Ease of Mobility by public transport and bicycle.	TomTom Traffic Index; Arcadis sustainable cities index; Siemens green city index; Livable city index
		3. Air transport capacity, secure interconnectivity and mobility	Number of air passengers, international network and logistics hub networks.	SDG 11; urban sustainability framework WB
		4. Effective stewardship of ecosystem	Robust mechanisms to maintain/enhance nature services	GMCA
	8. Tourism	1. Mindful and sustainable tourism policy	Presence and implementation of tourism policy in line with GMC aspiration	
		2. Promotion of "medical tourism"	Development of tourism attractions related to Mindfulness and medicine	
		2. International Interaction	International visitors per year; portion of tourist using eco-friendly accommodation, satisfaction etc...	Nedup (2025); GMC tourism presentation; Arcadis Sustainable cities index
	9. Spiritual	3. Stakeholder engagement and community participation	Adequate tourism resources; Inclusion of local communities, NGOs, benefit-sharing.	Arcadis Sustainable cities index; TCB
		1. Trained mindfulness facilitators and facilities (Neuroscience/Technical Facilities)	Number of trained mindfulness facilitators/ facilities per 1,000 residents.	Mental Health ATLAS 2020; GNH framework
		2. Trendsetting Potential	Level of government support for preserving and promoting spiritual sites, rituals, festivals, and cultural practices (including cultural Content Export Value) that nurture inner values and community cohesion.	Global Power City Index
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Macro (Ecological level of Mindfulness)



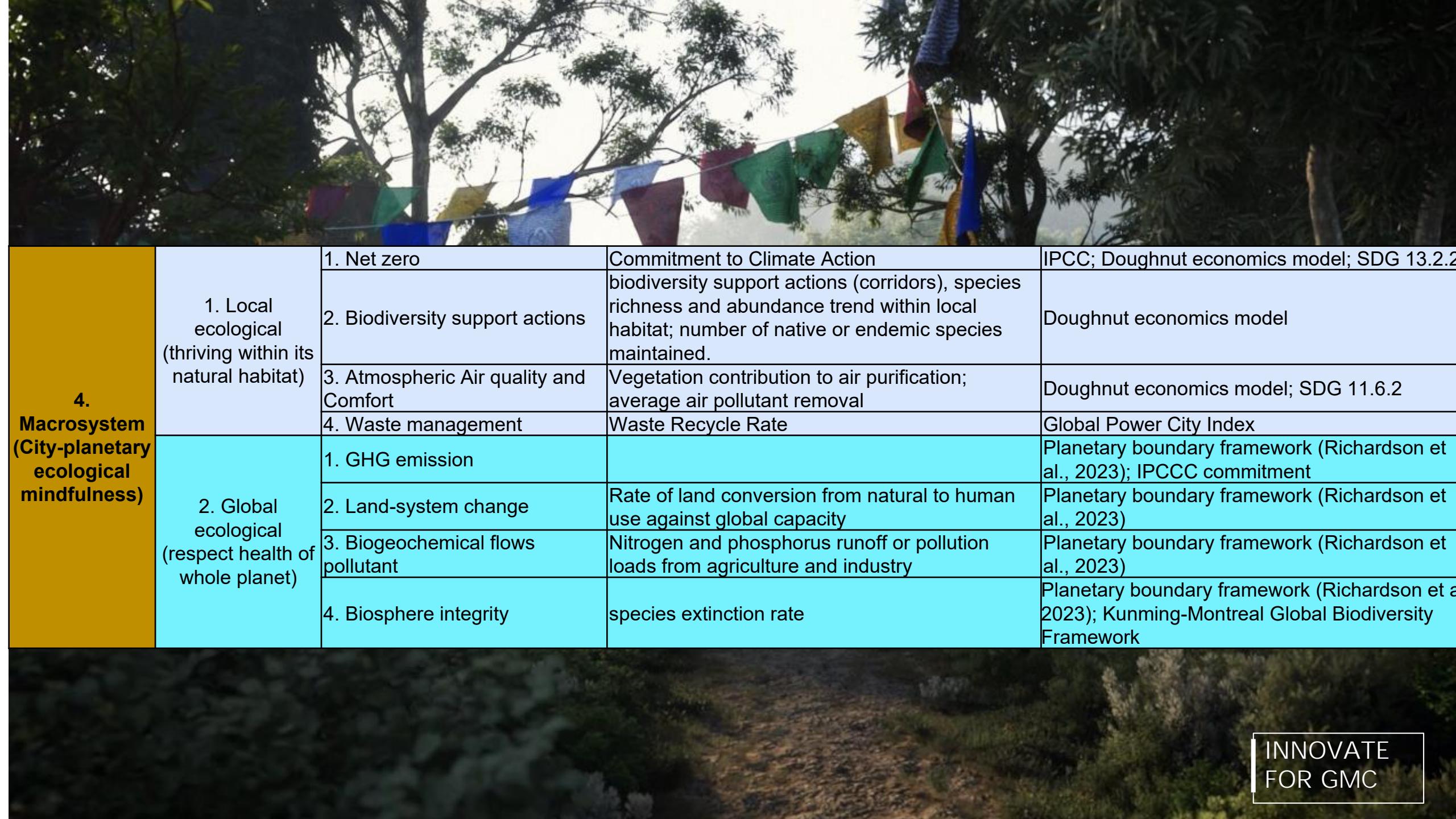
Ecological level

Local ecological
(thriving within its
natural habitat)

1. Net zero
2. Biodiversity support actions
3. Air quality
4. Waste management

Global ecological
(respect health of
whole planet)

1. GHG emission
2. Land-system change
3. Biogeochemical flows
4. Pollutant Biosphere integrity



4. Macrosystem (City-planetary ecological mindfulness)	1. Local ecological (thriving within its natural habitat)	1. Net zero	Commitment to Climate Action	IPCC; Doughnut economics model; SDG 13.2.2
		2. Biodiversity support actions	biodiversity support actions (corridors), species richness and abundance trend within local habitat; number of native or endemic species maintained.	Doughnut economics model
		3. Atmospheric Air quality and Comfort	Vegetation contribution to air purification; average air pollutant removal	Doughnut economics model; SDG 11.6.2
		4. Waste management	Waste Recycle Rate	Global Power City Index
	2. Global ecological (respect health of whole planet)	1. GHG emission		Planetary boundary framework (Richardson et al., 2023); IPCC commitment
		2. Land-system change	Rate of land conversion from natural to human use against global capacity	Planetary boundary framework (Richardson et al., 2023)
		3. Biogeochemical flows pollutant	Nitrogen and phosphorus runoff or pollution loads from agriculture and industry	Planetary boundary framework (Richardson et al., 2023)
		4. Biosphere integrity	species extinction rate	Planetary boundary framework (Richardson et al., 2023); Kunming-Montreal Global Biodiversity Framework

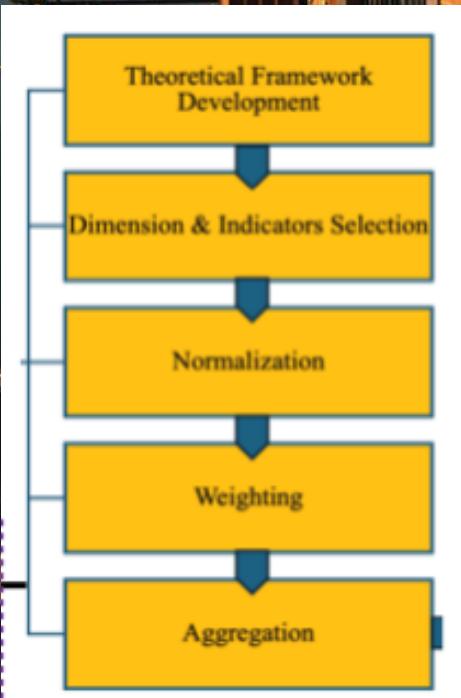
3. Mindfulness City Index

In this approach, the synthetic index is composed of 4 interconnected levels (individual, society, governance, ecological). The index construction method followed OECD (2008) [Handbook on Constructing Composite Indicators](#) and UN-Habitat's [the global urban monitoring framework \(2022\)](#).

The index value transform range of levels, dimensions and indicators into single value allowing comparision across cities and countries.

$$I = \sum_{k=1}^4 \mu_k \sum_{i=1}^9 \omega_i \sum_{j=1}^{M_i} \omega_{ik}^j \nu_{ik}^j$$

- $k = 1, \dots, 4 \rightarrow$ Levels
- $i = 1, \dots, 9 \rightarrow$ Dimensions
- $j = 1, \dots, M_i \rightarrow$ Indicators under each dimension
- $\mu_k \rightarrow$ Weight of level k
- $\omega_i \rightarrow$ Weight of dimension i
- $\omega_{ik}^j \rightarrow$ Weight of indicator j under dimension i and level k
- $\nu_{ik}^j \rightarrow$ Normalized indicator score



Weighting

This step assigns relative importance to individual components, defining how strongly each level and dimensions influences the overall development of a Mindfulness City. Here, weightage across levels and dimensions are allocated based on 23 experts judgement through Analytic hierarchy process, a structured decision-making method.

Expert background	Number of experts
Spiritual	1
Policy/planning	7
Education	4
Economics	8
Environment	2
Agriculture	1
Engineer/tech	5

23 experts from diverse background and workplace participated.

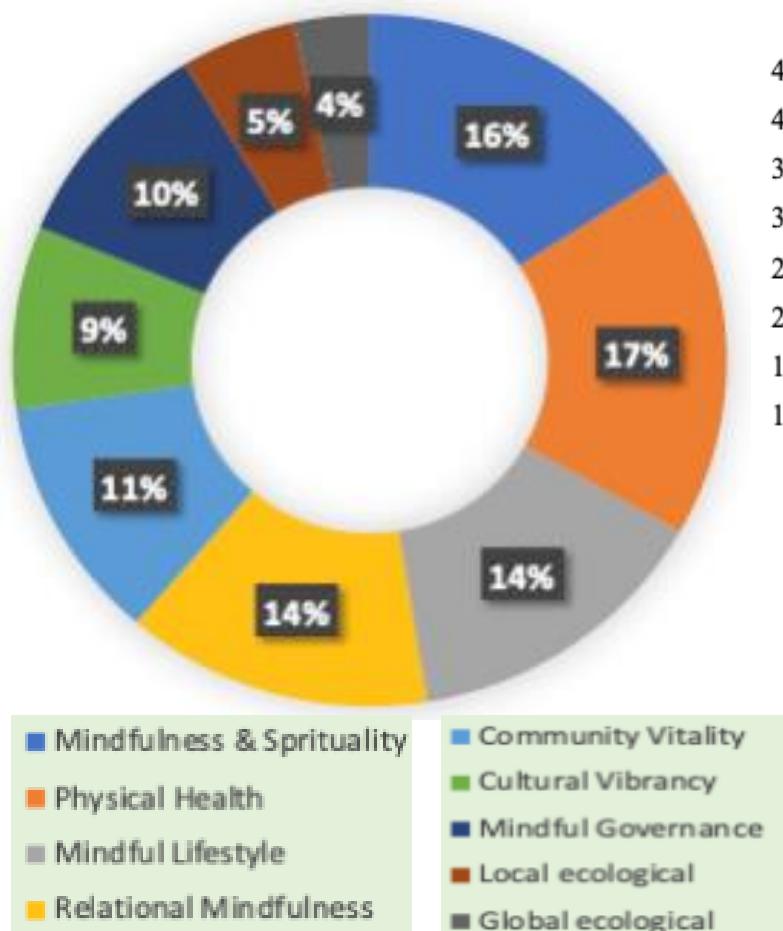


Fig. Weight across dimensions (%)

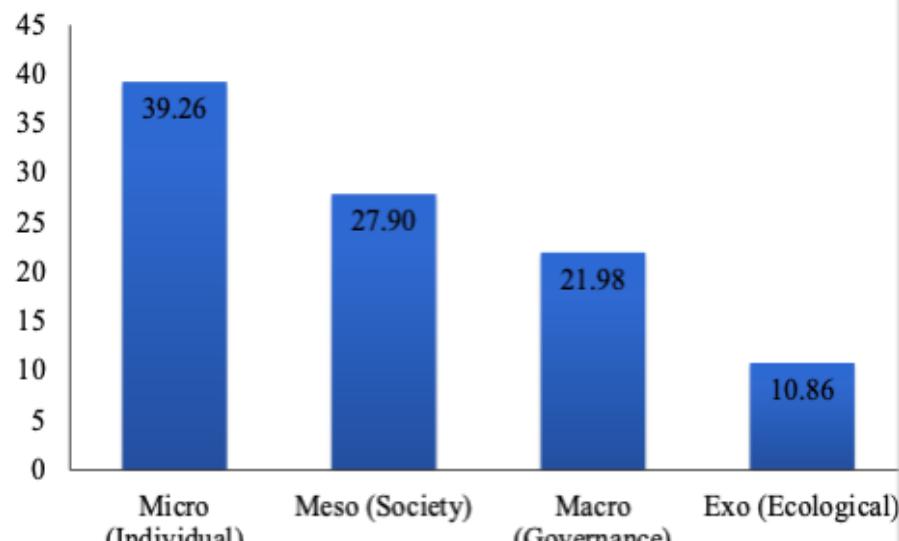


Fig. Weight across levels (%)

Weighting: Instruction to experts

Instructions for Expert Judgment on Mindfulness City Dimensions (AHP Method)

Purpose:

This project, initiated under the [Innovate for GMC \(Pelsung\) Program](#), aims to develop a [Mindful City Framework for GMC](#). The framework conceptualizes GMC's level of mindfulness as the integration of four interconnected mindfulness levels: *inner awareness, collective well-being, ethical governance, and harmony with both urban and planetary health*. As a GMC Mindfulness Monitoring Framework, it will ensure that GMC remains aligned with its mindfulness aspirations and commitments over time.

Levels to compare:

1. Microsystem – Individual level of mindfulness 
2. Mesosystem – Relational or social level of mindfulness
3. Exosystem – governance or institutional level of mindfulness
4. Macrosystem – City-Planetary Ecological level of mindfulness

Definitions and indicators for each indicators are provided in the sheet labeled 'Definition'.

Your Task:

You are requested to compare each pair of dimensions and assign a value based on their relative importance for a mindful city, and by how much using Saaty's 1–9 scale below:

Scale Value	Interpretation	Description
1	Equal importance	Two activities contribute equally to the objective
3	Moderate importance	Experience and judgement slightly favour one activity over another
5	Strong importance	Experience and judgement strongly favour one activity over another
7	Very strong importance	An activity is favoured very strongly over another; its dominance demonstrated in practice
9	Extreme importance	The evidence favouring one activity over another is of the highest possible order of affirmation
2,4,6,8	Intermediate values	Used to express a compromise judgment between the preferences given by the adjacent values (e.g., between moderate and strong importance).

Instructions for Completing the AHP Matrix

1. Open the attached Excel file and go to the sheet labeled 'AHP Matrix'.
2. In the upper triangle (above the diagonal with green-filled cell), enter values from the Saaty scale (1–9)
3. The comparison should reflect: "How much more important is the row dimension compared to the column dimension?"

Example:

If microsystem level of mindfulness (individual mindfulness) is moderately more important than Meso system (social or relational mindfulness), enter 3 in the micro vs. meso cell.

Instructions

AHP Matrix

Consistency Check

Definitions

+

Weighting

Pair-wise comparision by experts; sample

1. At level

	Micro	Meso	Exo	Macro
Micro	1	3	5	7
Meso	0.33333	1	3	5
Exo	0.2	0.33333	1	3
Macro	0.14286	0.2	0.3333333	1

2. At dimension

A MATRIX	B Mindfulness & Spritual	C Physical Health	D Mindful Lifestyle	E Relational Mindfulness	F Community Vitality	G Cultural Vibrancy	H Mindful Governance	I Local Ecological	J Global Ecological
Mindfulness & Sprituality	1	1	1	2	2	2	3	3	5
Physical Health	1	1	2	1	1	2	3	4	5
Mindful Lifestyle	1	0.5	1	2	2	1	1	3	5
Relational Mindfulness	0.5	1	0.5	1	4	3	5	6	8
Community Vitality	0.5	1	0.5	0.25	1	2	5	6	8
Cultural Vibrancy	0.5	0.5	1	0.333333333	0.5	1	5	6	8
Mindful Governance	0.333333333	0.333333333	1	0.2	0.2	0.2	1	4	3
Local ecological	0.333333333	0.25	0.333333333	0.166666667	0.166666667	0.166666667	0.25	1	3
Global ecological	0.2	0.2	0.2	0.125	0.125	0.125	0.333333333	0.333333333	1

Weighting

Consistency check and weighting

Dimension	Geometric Mean	Weight	Consistency Vector
Micro	3.20	0.56	4.13
Meso	1.50	0.26	4.10
Exo	0.67	0.12	4.10
Macro	0.31	0.06	4.13

	Dimension	Geometric Mean	Normalized Weight	λ
λ_{max}	Mindfulness and Spritual	1.92	0.17	9.83
Consistency Index (CI)	Physical Health	1.84	0.16	9.35
Random Index (RI)	Mindful Lifestyle	1.46	0.13	10.61
Consistency Ratio (CR)	Relational Mindfulness	2.08	0.18	10.74
Validation	Community Vitality	1.46	0.13	10.34
	Cultural Vibrancy	1.29	0.11	10.11
	Mindful Governance	0.60	0.05	10.60
	Local Ecological	0.36	0.03	10.02
	Global Ecological	0.23	0.02	9.59

λ_{max}	10.13
Consistency Index (CI)	0.14
Random Index (RI)	1.45
Consistency Ratio (CR)	0.098
Validation	Acceptable

4. Contribution to the City Objectives

Table: Contribution of Levels (A-D) and Dimensions (1-9) to mindfulness city vision of “Green, Clean, Safe and Happy”.

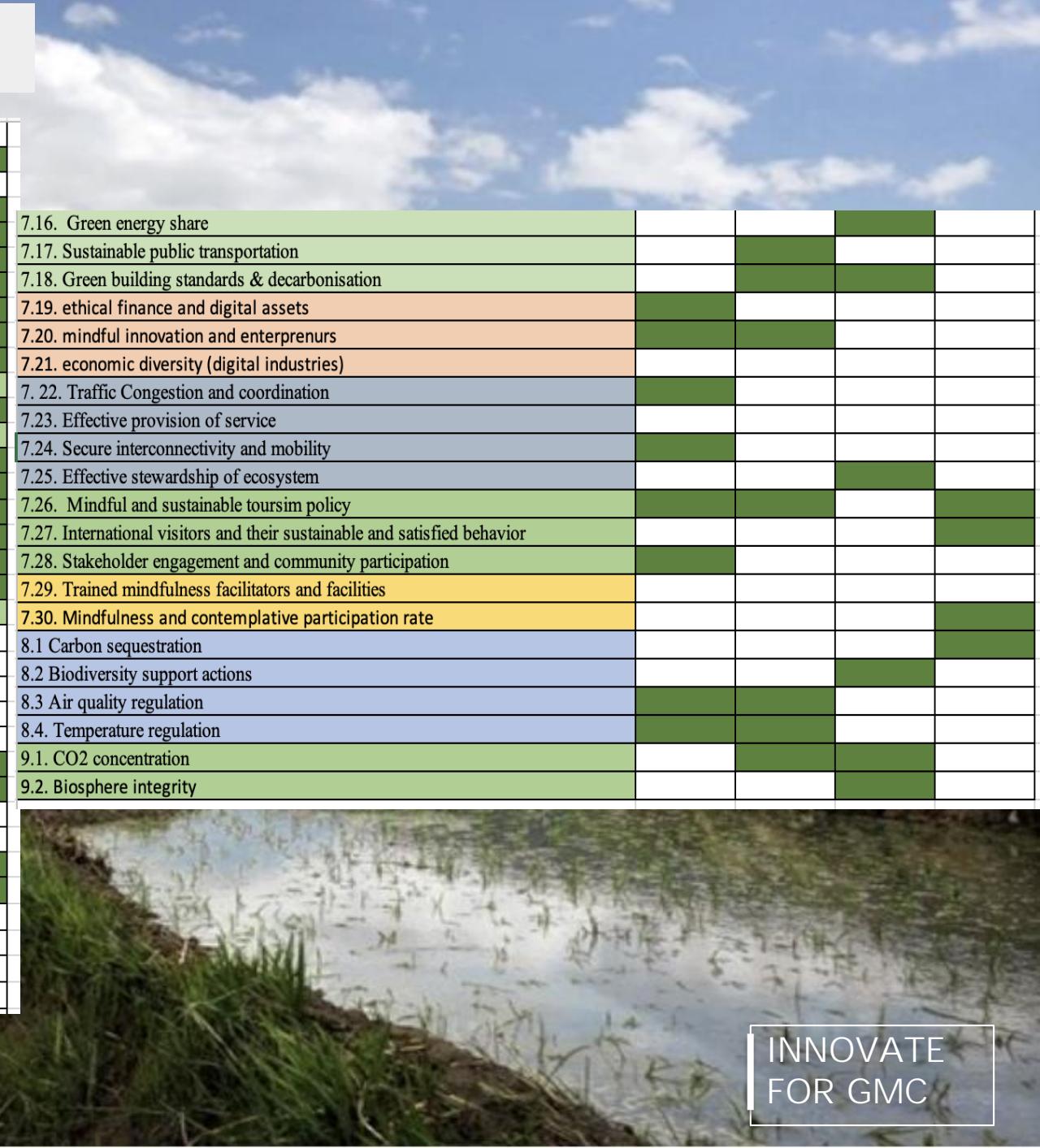
Levels	City Vision			
	Green	Clean	Safe	Happy
Micro (Individual)	A ₁ , A ₃	A ₃	A ₁ , A ₃	A ₁ , A ₂
Meso (Society)	B ₁	B ₃	B ₂ , B ₃	B ₁ , B ₂
Exo (Governance)	C ₄ , C ₅	C ₅	C ₁ , C ₂ , C ₆ , C ₇ , C ₈	C ₃ , C ₈ , C ₉
Macro (Ecological)	D ₂	D ₁ , D ₂	D ₁	

A: Micro
B: Meso

C: Exo
D: Macro

4. Contribution to the City Objectives

Indicators	Safe	Clean	Green	Happy
1.1. Present awareness				
1. 2. Balanced mind				
1. 3. Mindful ethics				
1. 4. Engagement in spiritual activities				
1. 5. Access to dedicated contemplative spaces				
1. 6. Mental health				
2. 1. Healthy days				
2. 2. Physical activity and adequate access to quality healthcare				
2. 3. access to physical facilities				
3. 1. Income				
3. 2. House affordability and quality				
3. 3. Education				
3. 4. Basic quality service (waste, water, electricity, education)				
4.1. Compassion, right speech, gratitude, loving kindness, patience				
5.1. Social support and volunteerism				
5. 2. Cohesive community				
5. 3. Safety and crime				
6. 1. Socio-cultural activities				
6. 2. Diversity support and inclusion				
7. 1. Authentic and adequate sharing of data (e-service)				
7. 2. Responsive and public safety				
7. 3. Urban resilience				
7. 4. sustainable and evidence based planning				
7. 5. Intra and international relations				
7. 6. Efficiency of primary services; water, waste, maintenance, service delivery				
7.7. Mindfulness education, access to digital learning, institutions				
7.8. Student literacy rate and student/teacher ratio				
7.9 Internationalization				
7.10. Robust Health & Mindfulness system				
7.11. Life expectancy				
7.12. Effective emergency response services				
7.13. Forest coverage				
7.14. Urban green spaces				
7.15. climate smart agriculture & indigenous knowledge				



The Mindfulness City Framework

Thank you



A framework for **Clean, Green, Safe and Happy City Model**

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