



The Rockefeller Foundation

City Resilience Index Shimla, India

April 2016



ARUP

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(Cover Photo)

The Ridge, Shimla
India 2015



© Map Wagner

Buiding a Global Model

Researchers across the world, from cities of every type and scale, have contributed to the CRI's underlying data, insights and thinking.

Introduction

Internationally, cities are facing increasing risk as a result of rapid urbanisation, concentration of assets, and a range of natural and man-made pressures – including climate change, terrorism, and increasing vulnerability to natural hazards. Many of these pressures are complex, interrelated, and difficult to predict with any accuracy into the future; leading to a growing interest in the notion of resilience and the capacity of cities to survive and thrive no matter what shocks and stresses they face.

The City Resilience Index (CRI) is being developed by Arup with support from The Rockefeller Foundation in order to help city administrations, investors and other stakeholders to measure and understand the systems, processes and functions that shape their resilience profile. The CRI operationalises extensive research undertaken by Arup to establish an accessible, evidence-based definition of urban resilience; published in 2014 as the City Resilience Framework (CRF)¹.

The CRI generates Qualitative and Quantitative Resilience Profiles based on assessments of 156 Scenarios and 156 Metrics, respectively. The detailed results are aggregated to summarise the cities performance across 58 Indicators within 12 Goals.

Piloting the CRI

From July - October 2015, the CRI was piloted in the cities of Hong Kong, China; Liverpool, England; Arusha, Tanzania; Concepción, Chile; and Shimla, India. The purpose of the Pilot program was to validate the content of the CRI (scenarios and metrics), to test the proposed assessment approach and to inform finalisation of the CRI Online Platform (beta-version). The Pilot program was designed around a set of research questions to test both the usability and effectiveness of the CRI.

Arup undertook up to three weeks of fieldwork in each city in partnership with city governments and a range of local organisations. The assessment approach in each city was customised to suit the local context, but based upon a standardised methodology which involved extensive multi-stakeholder engagement.

This report provides an overview of assessment findings from Shimla, where an assessment was carried out by Arup and Shimla Municipal Corporation (MCS) with support from ICLEI South Asia. The findings from this assessment provide valuable insight into city resilience challenges, strengths, and opportunities to inform future policy and planning in Shimla. The results also provide a baseline from which to understand the city's resilience trajectory over time.

(1) Arup (2014),
City Resilience
Framework.

City Resilience Framework

The City Resilience Framework provides a holistic and evidence-based lens through which city resilience can be measured and understood. The 12 goals of the Index describe the fundamental attributes of a resilient city across four key dimensions.

A Resilient City is a city where there is or are...

12. Integrated development planning

This is indicated by the presence of a vision, an integrated development strategy, and plans that are regularly reviewed and updated by crossdepartmental groups.

11 Empowered stakeholders

This is underpinned by education for all, and relies on access to up-to-date information and knowledge to enable people and organisations to take action.

10. Effective leadership and management

This is enabled by trusted individuals, multi-stakeholder consultation evidence-based decision-making and disaster risk reduction activities.

9. Reliable mobility and communications

This is enabled by diverse and affordable multi-modal transport systems and information and communication technology (ICT) networks, and contingency planning.

8. Effective provision of critical services

This results from active management and maintenance of ecosystems, and from diversity of provision, redundant capacity, and adequate maintenance of essential utility services, combined with robust contingency planning.

7. Reduced exposure and fragility

This relies on a comprehensive understanding of the hazards and risks to which a city is exposed, the extent to which this understanding that informs the development of integrated strategies to physically protect the city combining sound environmental stewardship, robust design and maintenance of man-made infrastructure, and enforcement of appropriate building codes and regulations.

1. Minimal human vulnerability

This relates to the extent to which everyone's basic needs are met.

2 Diverse livelihoods and employment

This is facilitated by access to finance, ability to accrue savings, skills

training, business support, and social welfare.

3. Effective safeguards to human health and life

This relies on integrated health facilities and services, and responsive emergency service.

4. Collective identity and community support

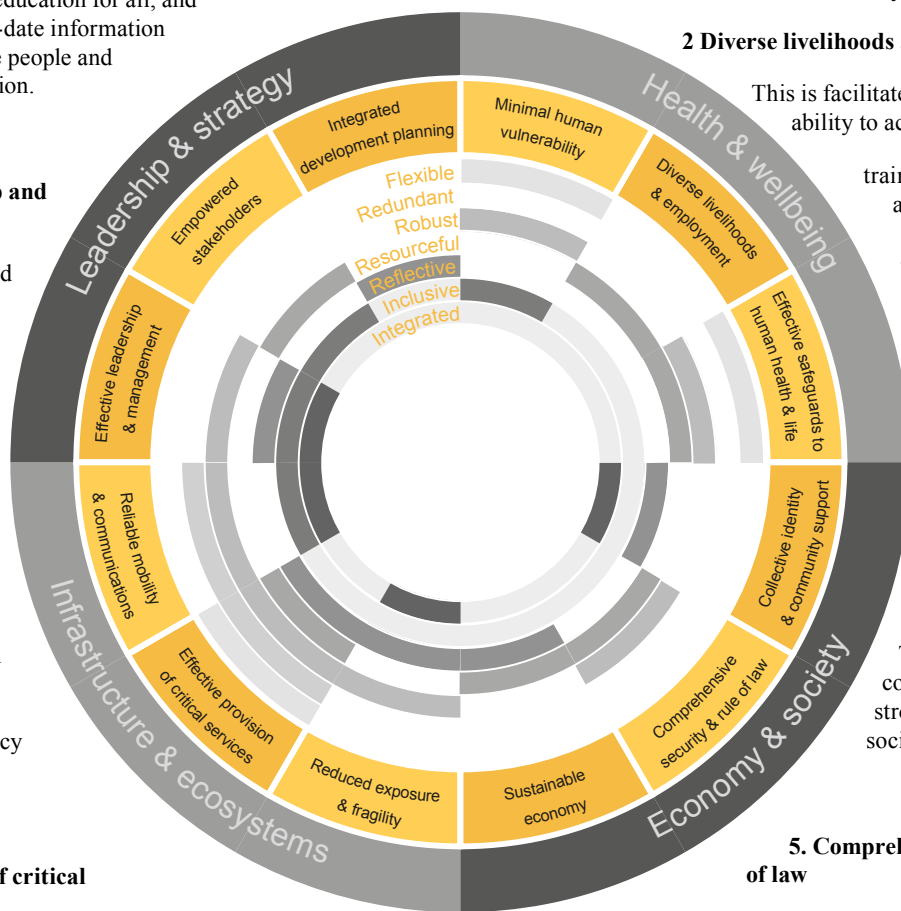
This is observed as active community engagement, strong social networks and social integration.

5. Comprehensive security and rule of law

This includes law enforcement, fair justice, and prevention of crime and corruption.

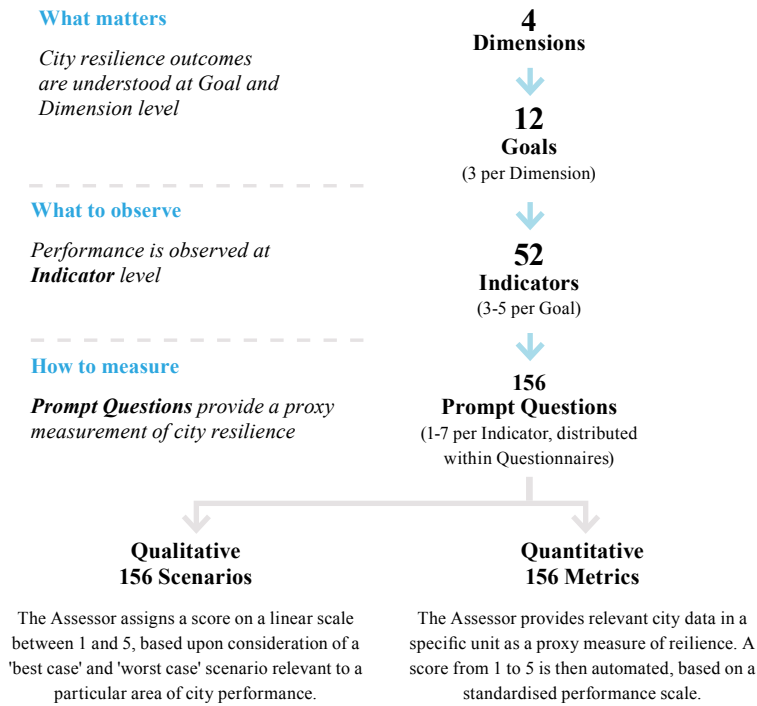
6. Sustainable economy

This is observed in sound management of city finances, diverse revenue streams, and the ability to attract business investment, allocate capital, and build emergency funds.



Approach

Structure of assessment



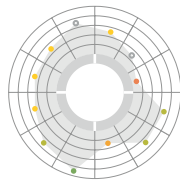
Visual outputs

The City Resilience Index is composed of four complementary perspectives that enable cities to develop a deeper understanding of the systems, processes and functions that shape a city's resilience profile. Armed with this knowledge, they will be able to understand their current performance and assess their future trajectories, identify appropriate action to strengthen resilience and monitor progress over time.



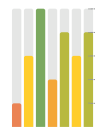
Qualitative Profile

The qualitative profile is generated by city responses to qualitative questions that were scored based on guidance identifying worst and best case scenario.



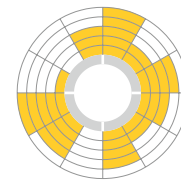
Quantitative Profile

The quantitative profile is generated by the data supplied in response to our quantitative questions.



Qualities

The qualities profile represents a set of qualities that describes the behaviour or performance of the urban systems in relation to resilience. These qualities enable cities to withstand, respond and adapt more readily to shocks and stresses.



Completeness

The completeness diagram shows the extent to which the city provided answers and data in order to generate the quantitative profile.

Pilot overview

Pilot duration	9 weeks
Fieldwork duration	3 weeks
City partner	Municipal Corporation of Shimla (MCS)
Local partner	ICLEI South Asia
No. of Arup fieldwork staff	2
No. of ICLEI fieldwork staff	4
No. of government participants	55
No. of departments engaged in pilot	35 (from city and state government, academia and NGOs)



Undertaking the assessment

The CRI pilot was launched in Shimla in September of 2015. The Municipal Corporation of Shimla demonstrated strong commitment to the pilot process. The Mayor provided a letter of written endorsement which improved access to stakeholders and data sources, and the Deputy Mayor acted as a champion or 'lead' for the pilot.

Arup's time in Shimla was extended from two to three weeks, largely due to the time required for stakeholder engagement and a need to provide greater levels of support to help government assessors interpret and complete questionnaires in hard copy. ICLEI South Asia played an important role in identifying local stakeholders and data sources, coordinating meetings, collecting data and way finding.

Outcomes

The CRI pilot in Shimla achieved strong levels of engagement across all stakeholders, and was successful in developing a comprehensive, holistic resilience profile for the city.

Data collection gathered momentum once City Assessors were provided with support to understand different components of questions and advice regarding how answers might be calculated from multiple sources.

The pilot was successful in obtaining input from 35 departments in city and state government along with civil society and academic stakeholders. The range of this multi-stakeholder engagement was unprecedented in the city's experience.

Challenges

In a few cases, identifying the appropriate government personnel with the right experience and technical expertise to obtain quantitative data.

Identifying data sources to complete the quantitative assessments – often data was from sourced from informal records or expert opinion.

Overcoming strong silos between different government departments to gather data and expert opinions.



Resilience Workshop

In order to understand a greater variety of perspectives on resilience, a Workshop was held on 30 September. This was attended by 42 stakeholders from government, NGOs and development organisations. Through interactive discussions, participants collectively completed high level qualitative resilience assessments of the city. They were also provided with the opportunity to reflect on the Resilience Profile that was produced by the city Assessors.

Key themes which emerged during the workshop related to Livelihoods and employment and Integrated development planning. Similar to feedback provided by government assessors, these scores reflect local challenges in planning, zoning, and poor economic diversity. Discussion around these issues was valuable in unpacking complexities and resilience outcomes associated with this issue.

Other emerging themes included a need for proactive interdepartmental coordination within government, and improved provision of critical services.

In general, workshop participants endorsed the scores provided by government assessors and there was strong overall alignment between views on city resilience. Participants provided positive feedback in relation to the value of the assessment process. They suggested that the level of engagement and cooperation would not have been possible just ten years earlier, and that it demonstrates a 'city in the making.' Participants also suggested that reassessing over time will be useful to understand the impact of forthcoming urban development initiatives such as the Atal Mission for Rejuvenation and Urban Transformation (AMRUT).

City Resilience Index

Shimla Resilience Profile



City context

Shimla is the capital of Himachal Pradesh in Northern India. The city was the ‘summer capital’ of India under the British rule, situated in the south-western ranges of the Himalayas. Located on hilly terrain at an average elevation of 2200 meters above sea level, Shimla enjoys a sub-tropical highland climate which is an ideal vacation destination for Indian and international tourism.

Key sources of local employment are government and tourism. The population of the city was 169,578 as of the 2011 census, and there is an additional floating population of around 76,000 workers during peak summer tourist periods to cope with the demand of over 4 million tourists per year. For the purposes of the pilot, the city as defined as the 378 square kilometre area which is under the jurisdiction of Municipal Corporation of Shimla (MCS), including New Shimla, Totu and Dhalli.

The city is vulnerable to several shocks and stresses due to its geographical location, topography and economy. Shimla, along with the rest of the State, lies in an active seismic zone. The region frequently experiences earthquakes; some of which lead to infrastructure damage, landslides and subsistence. Besides loss to buildings and human life, landslides often cause severe disruption to city transport corridors, which consist of networks of narrow roads along steep terrains. The frequency and impact of landslides is increasing as unplanned building activity reduces green cover to make way for high density, unregulated buildings on steep slopes.

Shocks and Stresses in Shimla

Earthquake

Landslide and subsistence

Traffic infrastructure

Storms and flash floods

Livelihood diversity

Solid waste and water infrastructure

(Photo across)

Hillside, Shimla
Municipal
Corporation Area,
2015

Qualitative resilience profile



The Qualitative Resilience Profile provides a diagnostic summary of city perspectives on resilience.

Dimensions

Shimla’s profile demonstrates moderate outcomes across all Dimensions. In relation to Infrastructure & environment, participants emphasised that Shimla (alongside many other Indian cities) experiences a severe shortfall in infrastructure. Pilot Participants showed a keen interest in understanding how the CRI can help unlock issues in this area.

Goals and Indicators

The Qualitative profile for Shimla demonstrates good performance across **Minimal human vulnerability, Safeguards to human health & life, Comprehensive security & rule of law,** and

Empowered stakeholders. Assessor stakeholder feedback illustrates a city with a strong sense of community, social cohesion and wellbeing, security, and good access to basic services.

Weaker areas of performance include **Sustainable economy** and **Integrated development planning.** These scores reflect poor economic diversity and challenges in planning and zonation respectively. A combination of local governance structures and a lack of major recent shocks (e.g. physical, economic) may contribute to the city’s limited consideration of safeguards and risk reduction in planning and policy is limited.

At Indicator level, inconsistent results are observed within **Effective leadership and management.** Proactive multi-stakeholder collaboration is an area particularly highlighted for improvement.

Minimum human vulnerability

- 1.1 Safe and accessible housing
- 1.2 Adequate affordable energy supply
- 1.3 Inclusive access to safe drinking water
- 1.4 Effective Sanitation
- 1.5 Sufficient affordable food supply

Diverse livelihoods and employment

- 2.1 Inclusive labour policies
- 2.2 Relevant skills and training
- 2.3 Dynamic local business development and innovation
- 2.4 Supportive financing mechanisms
- 2.5 Diverse protection of livelihoods following a shock

Effective safeguards to human health and life

- 3.1 Robust public health systems
- 3.2 Adequate access to quality healthcare
- 3.3 Emergency medical care
- 3.4 Effective emergency response services

Collective identity and mutual support

- 4.1 Local Community Support
- 4.2 Cohesive communities
- 4.3 Strong city-wide identity and culture
- 4.4 Actively engaged citizens

Comprehensive security and rule of law

- 5.1 Effective systems to deter crime
- 5.2 Proactive corruption prevention
- 5.3 Competent policing
- 5.4 Accessible criminal and civil justice

Sustainable economy

- 6.1 Well-managed public finances
- 6.2 Comprehensive business continuity planning
- 6.3 Diverse economic base
- 6.4 Attractive business environment
- 6.5 Strong integration with regional and global economies

Reduced exposure & fragility

- 7.1 Comprehensive hazard and exposure mapping
- 7.2 Appropriate codes, standards and enforcement
- 7.3 Effectively managed protective ecosystems
- 7.4 Robust protective infrastructure

Effective provision of critical services

- 8.1 Effective stewardship of ecosystems
- 8.2 Flexible infrastructure
- 8.3 Retained spare capacity
- 8.4 Diligent maintenance and continuity
- 8.5 Adequate continuity for critical assets and services

Reliable mobility & communications

- 9.1 Diverse and affordable transport networks
- 9.2 Effective transport operation & maintenance
- 9.3 Reliable communications technology
- 9.4 Secure technology networks

Effective leadership & management

- 10.1 Appropriate government decision-making
- 10.2 Effective co-ordination with other government bodies
- 10.3 Proactive multi-stakeholder collaboration
- 10.4 Comprehensive hazard monitoring and risk assessment
- 10.5 Comprehensive government emergency management

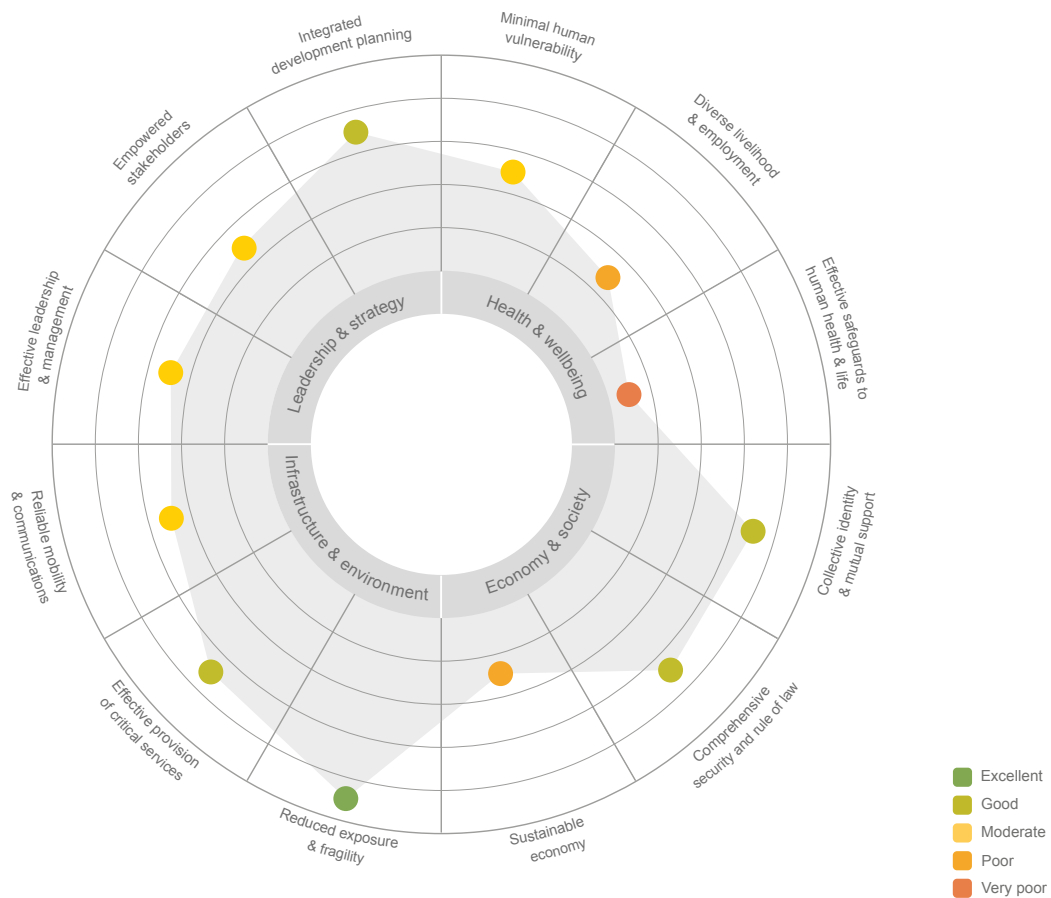
Empowered stakeholders

- 11.1 Adequate education for all
- 11.2 Widespread community awareness and preparedness
- 11.3 Effective mechanisms for communities to engage with government

Integrated development planning

- 12.1 Comprehensive city monitoring and data management
- 12.2 Consultative planning process
- 12.3 Appropriate land use and zoning
- 12.4 Robust planning approval process

Quantitative resilience profile



The *Quantitative Resilience Profile* provides a baseline from which to understand the city's resilience trajectory over time.

Dimensions

The Quantitative Profile illustrates poor performance across the Health & wellbeing Dimension, and moderate or varied results across other dimensions.

Goals and Indicators

Results are varied across the 12 CRI goals. Effective safeguards to human health & life and sustainable economy are areas of poor performance. The latter resonates with stakeholder feedback, and reflects poor diversity of livelihoods in the city.

Whilst, the Quantitative Profile has similar overall trends to the Qualitative assessor and workshop profiles, there are some key areas of variance. E.g., Safeguards to human health and life. Possible reasons for this difference may include:

1. Shimla has not experienced a major recent shock. Positive qualitative scoring may reflect limited understanding as to the appropriateness of emergency healthcare safeguards (e.g. for increased casualties and damage to hospitals).
2. There is no public data available for private healthcare. If public and private data collection were to be coordinated, metric scores for questions such as 'number of hospital beds' might improve.
3. Whilst quantitative performance for the healthcare metrics might fare well against other cities in the region, they may not do as well against other cities globally.






Regardless, healthcare may be an area for investigation, as rapid urbanisation and climate change create increased hazard likelihood and unpredictability.

Reduced exposure and fragility actually scores better quantitatively. Whilst the city rates its performance in areas such as ecosystem management as adequate, the metric score suggests strong performance.






Key

 Data not available





Minimum human vulnerability

-  1.1 Safe and accessible housing
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-  1.3 Inclusive access to safe drinking water
-  1.4 Effective Sanitation
-  1.5 Sufficient affordable food supply





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Sustainable economy

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Reduced exposure & fragility

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Effective provision of critical services

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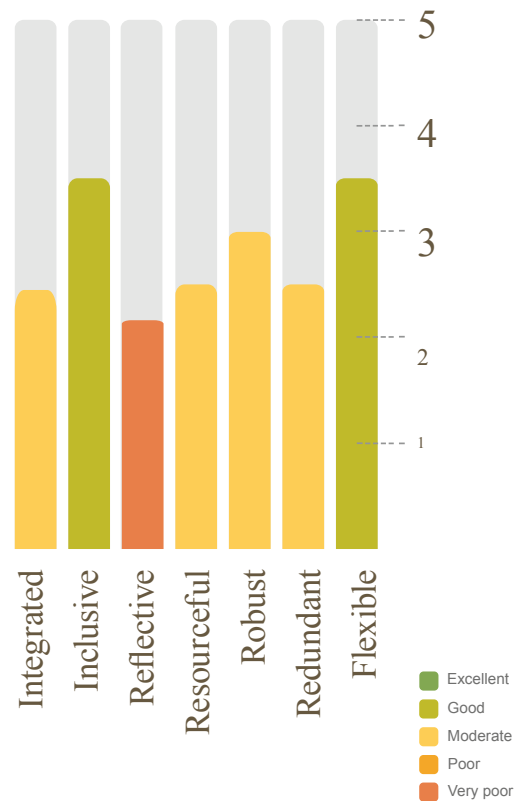
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Integrated development planning

-  12.1 Comprehensive city monitoring and data management
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-  12.3 Appropriate land use and zoning
-  12.4 Robust planning approval process

Qualities of urban systems



The Qualitative Resilience Profile provides a diagnostic summary of city perspectives on resilience.

The above profile represents a set of qualities that describes the behaviour or performance of the systems in Shimla in relation to resilience. These are the qualities our that our research suggests enable the city to withstand, respond and adapt more readily to shocks and stresses.

In the qualitative assessment completed by city assessors, no one quality particularly stands out and the city systems exhibit average performance across each of the 7 CRI qualities. However, Flexibility and Inclusivity are slightly more evident within Shimla than the other CRI qualities.

Inclusivity is also demonstrated within Shimla by the city’s ability to effectively deliver both energy and education to its citizens.

The flexibility of Shimla’s urban systems is demonstrated through a high level of performance across several indicators associated with this quality. This includes the city’s ability to provide water and energy from various supply sources, along with its production of city food supply from a combination of local and national supply chains.

Inclusion emphasises the need for broad consultation and engagement of communities, including the most vulnerable groups. Addressing the shocks or stresses faced by one sector, location, or community in isolation of others is an anathema to the notion of resilience. An inclusive approach contributes to a sense of shared ownership or a joint vision to build city resilience.

Flexibility implies that systems can change, evolve and adapt in response to changing circumstances. This may favour decentralised and modular approaches to infrastructure or ecosystem management. Flexibility can be achieved through the introduction of new knowledge and technologies, as needed. It also means considering and incorporating indigenous or traditional knowledge and practices in new ways.

Quantitative data availability



The CRI pilot collected data across a range of Quantitative questions. City Assessors concentrated on collecting ‘primary’ data (data which is most relevant to understanding resilience), however where necessary questions were answered using secondary or alternative data.

A large amount of data was gathered, which resulted in completion of 74% of the quantitative assessment, mostly using primary metrics. However, many quantitative assessments were completed based on non-published departmental figures and expert opinion; this must be taken into account when data is used as a baseline for future reassessment, and as such has been noted carefully within assessment records.

In order to improve the city’s understanding of resilience and track performance over time, there is an opportunity to improve data management and collection in the following areas:

- Diverse livelihoods and employment (2)
- Collective identity and mutual support(4)
- Comprehensive security and rule of law (5)
- Integrated development planning (12)



Key Lessons

Lessons for Shimla

- To complete another assessment MCA will need support from a suitable party with good local knowledge and a physical presence throughout the assessment. City assessors should be involved in future assessment as much as possible as this provides a capacity building opportunity.
- As Shimla has not historically experienced any major shocks, risk reduction activities to date have been limited. The CRI outcomes advocate the need for proactive, comprehensive risk-reduction activity through strategic resilience building.
- Other important areas to address for future resilience-building activities include safeguards to human health and life, and sustainable economy. Activities should be delivered through proactive and integrated government departmental coordination.
- The CRI pilot highlighted an opportunity to improve data sharing between different levels of government as a way to better inform a range of activities such as integrated planning and policy development.
- Feedback from participants suggests that the CRI pilot was a significant capacity building experience for city assessors. The pilot also helped to embed knowledge regarding resilience and systems thinking within the MCA and its stakeholders.
- Quantitative and Qualitative Profiles align in many areas, providing a strong starting point and evidence base for future resilience building activities.

Lessons for the CRI

- Obtaining senior city leadership buy-in was a critical factor in getting the pilot off the ground, particularly to share messages on the importance of the process and mobilising stakeholders.
- The pilot would have benefited from more time invested in a stakeholder mapping exercise, spanning both local and state government departments.
- Support from a partner with knowledge of local politics and good relationships with city officials was important to identify stakeholders and data.
- City Assessors suggested the CRI questionnaires could benefit from a simplified structure and language. Support was needed to translate between English and Hindi. Many challenges were navigated with coaching and support. Future challenges may be overcome through use of a simplified online platform.
- City officials and the officials from the local supporting partner – ICLEI South Asia, pointed out that the number of questions in qualitative analysis can be reduced. They have suggested that some of the questions are repetitive and can be avoided by clubbing with other related questions.
- Embedding the concept of resilience at the outset proved important. Though the concept is well understood by many senior government officials, some technical staff did not initially understand the concept solely from the perspective of climate hazards.
- Although there was consensus between Workshop Participants and City Assessor scores, the workshop was still very valuable in order to unpack resilience issues, encourage proactive thought and debate around city challenges, and gain stakeholder buy-in for future resilience building activities.

City Resilience Index

Qualitative data

Indicator 1

MINIMAL HUMAN VULNERABILITY

1.1

Safe and Accessible Housing

Expert Score: 2.83

General Score: 1.25

What Helps?

- Housing is accessible for a majority of people.
- Government provides facilities to informal settlements. Regularization occurs often, government plans to build permanent housing for residents of informal settlements.
- Arrangements made for homeless people particularly in winters, some parts of cities have easy access to 'Rain Baseras'.

What Hinders?

- Supply of housing is adequate but affordability is low.
- Unplanned growth in housing, mainly due to lack of enforcement of building and planning codes.
- Inadequate manpower in government to effectively monitor and enforce codes, different city and state government departments have responsibility for monitoring.
- Housing is unsafe in many areas, especially dense neighbourhoods such as Lower Bazaar, KuftaDhar, and Cemetery.
- Many houses constructed on slopes that are prone to landslides and earthquakes.
- Frequent changes in policies on encroachment and regularization.

1.2

Adequate and Affordable Energy Supply

Expert Score: 4.33

General Score: 5.00

What Helps?

- All houses in Shimla connected to electricity grid.
- Reliable electricity supply. Breakdown rate is less than 1% i.e. outages of more than 30 minutes occur less than 3 days in a year.
- Electricity is highly affordable.
- Connectivity to 'Smart Grid' ensures supply is dependable even if demand has fluctuations.
- Accessing electricity is very safe for residents.
- Redundancy in sources of electricity – Northern Grid is connected to thermal, hydroelectric and solar power sources.
- Redundancy in distribution – Main distribution lines into Shimla come from two different locations, each capable of supplying power for entire city.

What Hinders?

- No identification of critical assets such as hospitals or government buildings for backup provision or planning.
- Need to focus more on alternative sources such as solar and wind. Currently, reliance on hydroelectric power is very high.

Indicator 1

MINIMAL HUMAN VULNERABILITY

1.3

Inclusive Access to Safe Drinking Water

Expert Score: 3.50

General Score: 3.00

1.4

Effective Sanitation

Expert Score: 2.75

General Score: 2.50

What Helps?

- High connectivity of households in established parts of the city to water supply network.
- Five water sources supply to network, high redundancy in sourcing.
- More than 250 well-distributed public water taps that are connected to the network, act as back-up supply at household level.
- Water 'ATMs' provide clean, potable water along regular intervals on main roads at very low cost (Rs 0.50 for 1 liter). Also helps reduce usage of bottled water.

What Hinders?

- Water is supplied for a total of 1.5 hours/day, households and businesses have to incorporate storage tanks in buildings for 24x7 supply.
- Newly added wards do not have access to water supply network – some of them added in 2007/08.
- Households in newly added wards use hand pumps and consume unsafe ground water.
- Water storage capacity is nearly 30% below city's daily consumption, need to rely on running water pumps at sources 24x7 to keep up with demand. No contingency plans in case of pump breakdown.
- Many traditional water sources such as small streams and springs are choked with debris. No conservation plans for these.

What Helps?

- High connectivity to sanitation network for established parts of the city.
- Households without connections to network have septic tanks.
- System runs on gravity, very few mechanical parts that might cause system to be disrupted.
- Topography of city ensures water does not settle in one part of system thus reducing any hygiene related issues.

What Hinders?

- Very few sewer connections in new wards and core Shimla areas. Mixing of grey water and storm water occurs frequently in these areas.
- System is over a hundred years old, very few upgrades done over this time.
- Treatment is not adequate – less than 30% of grey water passes through treatment facility before discharge.

Indicator 1

MINIMAL HUMAN VULNERABILITY

1.5

Sufficient, Affordable Food Supply

Expert Score: 5.00

General Score: 3.75

What Helps?

- Food and civil supplies are affordable due to affordable and highly accessible public distribution system. Himachal Pradesh's system is ranked second in the country.
- Nutritional value of food is high, partly ensured by central government standards for grains and partly by locally sourced fresh fruits and vegetables.
- Fair price shops reach 100% of city's households, no shop farther than 1.5 km of a household – this is better than the national standard of 3 km.
- Fair price shops also serve on average 500 people per shop, far better than national standard of 1500 per shop.

What Hinders?

- City or neighbouring countryside does not grow a lot of crops – not self-sustainable in case of a crisis.
- Topography makes access to shops difficult.
Only one centralized food market.
No incentives to increase food production in city or surrounding district.

Indicator 2

DIVERSE LIVELIHOODS AND EMPLOYMENT

2.1 Inclusive Labour Policies

Expert Score: 3.75
General Score: 2.50

What Helps?

- Right to Employment is a fundamental right, this has led to a number of policies to address discrimination at the workplace.
- Fair minimum wage policies in place.
- Employment exchanges established in every district to help job seekers.
- Workforce is relatively high skilled compared to other places.

What Hinders?

- Large proportion – nearly 60% - of workforce in the informal sector where labour protections cannot be enforced unless labour is organized. Informal sector employs mostly low income labour, who are usually more vulnerable.
- No formal or informal support systems in place to help labour manage disputes or increase awareness about rights.
- Low social support for women at the workplace.

2.2 Relevant Skills and Training

Expert Score: 2.75
General Score: 2.00

What Helps?

- Highly employable resident population owing to high literacy, high professional/college completion rates, and programs at Industrial Training Institutes.
- Labour supply is high for unskilled jobs, especially floating population from neighbouring districts and states.
- Job security is high in formal sector owing to enforcement of policies and high employment in government sector.

What Hinders?

- Employment availability in city does not match skill level of resident population.
- Lack of industry in the city leads to low employment opportunities, migration of skilled populace to other cities.
- City has the right opportunities to develop knowledge-based industries but no impetus in this direction from state or central government.
- Government employs most people in city, but opportunities for new government jobs shrinking.
- Other dominant sectors such as tourism and horticulture do not need highly skilled workforce.

Indicator 2

DIVERSE LIVELIHOODS AND EMPLOYMENT

2.3 Local Business Development and Innovation

Expert Score: 2.88
General Score: 1.50

What Helps?

- Generally high purchasing power of residents and tourists encourages new businesses and provides stability.

What Hinders?

- High tourist influx, but not attracting high spending tourists for business development.
- State policies does not encourage good business environment compared to neighbouring states – transportation costs are higher, higher taxes. Many border cities in neighbouring states do well at the expense of Shimla.
- Low infrastructure support – road network does not lend to easy movement of goods, land shortage within and near city due to topography.
- Online shopping has hampered local markets.
- Socially, high aspiration for working in the government sector, diverts skilled people from businesses.
- Lack of skilled job opportunities in city leads to migration of youth to other cities, ‘brain drain’ leading to loss of innovation as well.
- Public-private partnership models for service provision have not worked in the city so far, many enterprises thus reluctant to engage with government for business.

2.4 Supportive Financing Mechanisms

Expert Score: 3.50
General Score: 1.50

What Helps?

- State and central government policies for financing small businesses in place through various programs: NULM, JNNURM, AMRUT.
- Banks are supportive in providing credit to businesses.

What Hinders?

- Awareness of opportunities is low, especially among small businesses.
- Documentation is cumbersome, not suited to type of economy – for example, businesses with mainly cash dealings find it difficult to provide income documentation.
- No support for new businesses or informal small businesses to navigate system.
- Socially, people are risk-averse and not entrepreneurial.

Indicator 2

DIVERSE LIVELIHOODS AND EMPLOYMENT

2.5

Diverse Protection of Livelihoods Following a Shock

Expert Score: 3.33

General Score: 1.50

What Helps?

- High confidence in insurance amongst organized businesses, high proportion with insurance coverage.
- Risk-averse nature of population leads to more savings that can be used during emergencies.
- Central and state government provides relief directly in case of landslides and earthquakes.

What Hinders?

- High proportion of businesses in unorganized sector where insurance is difficult to obtain.
- Low insurance coverage among residents, only 10-20% of houses are insured.
- Government aid after disasters is not a sustainable model, susceptible to political influence.
- Many low-income people and small businesses cannot qualify for insurance coverage even if there is desire.

Indicator 3

EFFECTIVE SAFEGUARDS TO HUMAN HEALTH AND LIFE

3.1 Robust Public Health Systems

Expert Score: 3.50
General Score: 3.50

What Helps?

- Good containment and control of epidemics.
- Political will and support for public health issues – for example, ban on public smoking strictly followed and enforced.
- High literacy rate among residents allows public health system to spread awareness about risks effectively.

What Hinders?

- No active monitoring of vector borne diseases or other community health risks.
- Infrastructure issues at every government hospitals, mainly lack of space.
- Specialized facilities to manage substance addiction not available due to lack of space.
- Healthcare workers are overburdened, manpower lacking to deal with public health emergencies.

3.2 Adequate Access to Quality Healthcare

Expert Score: 3.63
General Score: 3.00

What Helps?

- Free consultation at government hospitals and clinics, prescribed drugs are normally cheap
- High amount of faith in public system, over 96% of medical needs in city fulfilled by public hospitals and clinics.
- City serves high proportion of patients from other parts of the state, can serve entire state's needs.
- Maternal and neonatal care quality is very high, no out of pocket costs for maternal care makes it affordable.
- High number of specialist doctors graduating in city, many continue practicing in city.
- Low income patients helped by number of state government schemes to defray costs of prescribed medicines.
- Presence of different levels of healthcare in government system: community healthcare centres, primary health centres, government hospitals.

What Hinders?

- Lack of awareness among residents of city for long-term health issues such as lifestyle diseases and mental health issues.
- Lack of specialist staff in government hospitals. Most specialists start own practices, creates affordability concerns.

Indicator 3

EFFECTIVE SAFEGUARDS TO HUMAN HEALTH AND LIFE

3.3

Emergency Medical Care

Expert Score: 3.13

General Score: 2.50

What Helps?

- Capacity to manage minor emergencies very effective.
- Trained manpower and infrastructure to manage emergencies.

What Hinders?

- No capacity to manage large emergencies – 40 to 50 emergency care patients taken to hospitals at the same time will overwhelm system.
- Plans for upgrade and improvement of services not carried out effectively.
- Land and space shortages affect expansion of services.

3.4

Effective Emergency Response Services

Expert Score: 3.80

General Score: 4.00

What Helps?

- Well-trained, well-equipped ambulance services. Each ambulance has trained paramedic and pharmacist for emergency care.
- Fire station density and staffing best in state.
- Manned police booths at regular intervals on main roads help response time for all emergency systems.
- Emergency services are affordable for all income levels.
- Restricted roads, sealed roads in some areas improve emergency vehicle response times.
- Trained disaster response staff, along with volunteers in each ward.
- Large proportion of city departments have emergency response training.

What Hinders?

- Road access is low due to topography, emergency vehicles cannot get to all parts of city quickly.
- Topography creates limited options for access to different areas, possible for entire parts of city to be cut off due to landslides.
- Manpower issues – constables work long shifts, large fires necessitate bringing fire officers from neighbouring areas.
- Emergency response planning is not complete, and plan has gaps – for example, food relief and basic goods not part of response.

Indicator 4

COLLECTIVE IDENTITY AND MUTUAL SUPPORT

4.1 Local Community Support

Expert Score: 3.00
General Score: 4.00

What Helps?

- At household level, strong family and community support to vulnerable individuals.
- Highly educated, mostly religious populace, tends to care for vulnerable members of community.
- At city level, social justice committee formed that suggests policies and improvements for scheduled caste/tribe communities.
- State/central policies to provide pensions for seniors, disabled people, religious minorities and scheduled castes/tribes and other backward castes.
- Active presence of informal welfare and social organizations that provide free services to vulnerable individuals.

What Hinders?

- Increasing substance addiction among youth is a concern.
- No formal mechanisms to bring different members of communities together.
- Social welfare/support schemes are not adequately funded, individual pensions and disability payments are not sufficient for support.

4.2 Cohesive Communities

Expert Score: 3.33
General Score: 3.00

What Helps?

- No tension, division or discrimination on basis of religion or caste in city.
- All major religious events and festivals are celebrated together in city.
- City has programs aimed to increase cohesiveness between different community groups.

What Hinders?

- Lack of shared public recreational amenities – parks, gyms, libraries etc.
- High proportion of low-income households, slum dwellers tend to be from scheduled caste or tribe groups.

Indicator 4

COLLECTIVE IDENTITY AND MUTUAL SUPPORT

4.3

Strong City-wide Identity and Culture

Expert Score: 3.50

General Score: 3.50

What Helps?

- Relatively small city population, stable resident base creates a sense of common identity.
- Strong sense of civic pride contributes to city functions – for example, residents informally police spitting or littering on streets.
- Pride in city's blend of cultures – colonial, Punjabi, Himachali.
- Pride in cultural artefacts – Kangra tea, Kinnauri Rajma.

What Hinders?

- Himachali culture is not very visible in city, although most residents are Himachali.
- Most residents lack exposure to outside cultures.

4.4

Actively Engaged Citizenry

Expert Score: 2.67

General Score: 3.00

What Helps?

- Constitutional freedoms are protected, particularly freedom of speech.
- City is capital of state and centre of student politics, tends to attract politically active people.
- High voter turnouts in elections for city government.

What Hinders?

- Very little participation in political matters from private sector or groups.
- Apart from SAGES and Rotary Club, few nongovernmental organizations involved in advocacy or governance issues.

Indicator 5

COMPREHENSIVE SECURITY AND RULE OF LAW

5.1 Effective Systems to Deter Crime

Expert Score: 3.25
General Score: 3.60

What Helps?

- Residents mainly peaceful, city sees low crime in general.
- Small city and population breeds familiarity with each other, acts as a deterrent to crime.
- Conspicuous police presence all over city acts as deterrent to crime.
- Young, first time minor offenders usually given informal police support for rehabilitation.

What Hinders?

- High proportion of floating population, seasonal labour is a matter of concern.
- Criminal networks from outside state worsening drug and substance addiction in city.
- Police have staffing shortages in combating drug related crime and conducting preventative programs.

5.2 Proactive Corruption Prevention

Expert Score: 3.56
General Score: 4.00

What Helps?

- State is generally relatively less corrupt than rest of country.
- State level laws to combat corruption have been effective: Vigilance Act that targets monitoring and detection, Service Guarantee Act that reduces corruption in awarding contracts and government service delivery.
- Younger residents find government transparent and trustworthy.
- Accessible and transparent city leadership.

What Hinders?

- Violations rarely get prosecuted, mainly because legal cases take too long to reach conclusion.
- Mechanisms to improve detection and prosecution are available, but time to implement changes is too long.
- Infrastructure for checks and balances in decision making is lacking.

Indicator 5

COMPREHENSIVE SECURITY AND RULE OF LAW

5.3

Competent Policing

Expert Score: 3.38

General Score: 3.50

What Helps?

- Status as capital city provides city with additional police resources such as reserve battalions.
- Some potentially disruptive activities require permissions from police, prior knowledge helps in policing effectiveness.

What Hinders?

- Police training quality is not high, no resources of plans for continuity in training.
- Lack of basic infrastructure for investigations, lack of good quality investigative personnel.
- No centralized command and control centre.
- No system set up for police-community communication.

5.4

Accessible Criminal and Civil Justice

Expert Score: 3.83

General Score: 3.00

What Helps?

- High trust in integrity and competence in police.
- Legal system is inclusive for minorities and low income people – court appointed free lawyers if requested, no fees for filing cases etc.
- Women-only police stations, women police inspectors in every police station increase accessibility for women.

What Hinders?

- Cases too long to reach conclusion, does not work as deterrent for crime or uphold trust in legal system.
- High response time for call-outs owing to lack of manpower and infrastructure.
- Transparency in justice system is low, reduces people's desire to approach system for redressal.

Indicator 6

SUSTAINABLE ECONOMY

6.1

Well Managed Public Finances

Expert Score: 3.00

General Score: 3.50

What Helps?

- Consistency in tax and fee structure for any activity in the city.
- State and central government schemes that incentivize city to match funds.
- Revenue collection and funding is regular and rarely delayed.

What Hinders?

- Revenues from commercial activities rely heavily on tourism industry, revenues see drastic reduction in off-season.
- Shortage of staff hinders tax collection and monitoring.
- Few sources of revenue and funding are entirely under city's control.
- City has to rely on state and central government grants for capital projects as well as routine operations.

6.2

Comprehensive Business Continuity Planning

Expert Score: 1.67

General Score: 2.50

What Helps?

- Tourism is a reliable sector to generate demand for businesses.
- Opportunities to cater to different tourist groups could see this sector expanding further.

What Hinders?

- Space constraints inhibit infrastructure development to cater to tourism – for example, lack of parking spaces.
- Space constraints also limit the number and scope of industrial or commercial activities that can take place in the city.
- High reliance on tourism for business, very little local demand or any other industry located near city.
- No centralized agency in government that businesses can work with to resolve issues.

Indicator 6

SUSTAINABLE ECONOMY

6.3

Diverse Economic Base

Expert Score: 2.00

General Score: 3.50

What Helps?

- As centre of government in state, economic stability is provided by government sector employment.

What Hinders?

- High reliance on tourism to generate employment and business.
- No policies in place to either expand and stabilize tourism sector or invest in other sectors.
- Government and tourism account for majority of employment and revenue generation, no flexibility in economy.

6.4

Attractive Business Environment

Expert Score: 2.33

General Score: 3.50

What Helps?

- Highly educated, skilled residents act as valuable human resource for business activity.
- High income levels in city imply high demand for goods and services.
- City has good accessibility from other parts of the state.
- Good economic linkages and infrastructure for tourism and horticulture related businesses.

What Hinders?

- Space constraints are deterrents – lack of parking, lack of space for larger set ups.
- Climate and topography do not allow easy year round operation of businesses.
- Shortage of unskilled and semi-skilled labour that can work in dominant economic sectors.
- Very little inward investment.
- Better business environment in neighbouring states hampers growth in city.

Indicator 6

SUSTAINABLE ECONOMY

6.5

Strong Integration with Regional and Global Economies

Expert Score: 2.50

General Score: 4.00

What Helps?

- Climate and quality of life make city highly attractive to live and work in.
- High accessibility to other cities and other parts of state, in spite of topographic constraints.
- Educational hub for region.
- Centre for horticultural produce from rest of state.

What Hinders?

- Weak economic links to other cities as localized tourism is key business and employment generator.
- Business activity is concentrated within different communities, few links to other communities even within same neighbourhood.

Indicator 7

REDUCED EXPOSURE AND FRAGILITY

7.1 Comprehensive Hazard and Exposure Mapping

Expert Score: 3.00
General Score: 3.00

What Helps?

- District and state level government agencies set up for disaster management and response.
- City has commissioned its own Hazard, Risk and Vulnerability Assessment (HRVA), to be complete by end of the year.
- Awareness and urgency among city government regarding hazard and exposure mapping.

What Hinders?

- Public awareness about hazards and risks is very low.
- Known risks and hazards are not managed or monitored effectively.
- Coordination between state, district and city agencies regarding hazard and risk mapping is low.

7.2 Appropriate Codes, Standards and Enforcement

Expert Score: 3.17
General Score: 2.50

What Helps?

- Building codes suited to context, particularly structural codes that take into account city's location in seismic zones IV and V.
- Building codes are comprehensive and suitable to city's context.
- Regular workshops organised by Himachal Pradesh Institute for Public Administration (HIPA) to educate city officials regarding changes to codes.

What Hinders?

- State agencies formulate codes, city agencies monitor and implement code. Lack of coordination between different government agencies reduces code effectiveness.
- Implementation of building codes is weak, monitoring is ineffective due to lack of manpower at city level.
- Prosecution of violations is a cumbersome, time-consuming process.
- Public awareness of building codes is low.
- Inconsistency in regularization policies.

Indicator 7

REDUCED EXPOSURE AND FRAGILITY

7.3

Effectively Managed Protective Ecosystems

Expert Score: 2.67

General Score: 3.00

What Helps?

- Forests within city limits are well protected, both through laws and their enforcement.
- Stringent rules and complex process deter alterations in forest land.
- Attaching reserved forests to key infrastructure needs – for example, water catchment area located within reserved forest.

What Hinders?

- Afforestation in previously depleted areas not pursued as urgently as it should be, no policies in place to encourage afforestation.
- Habitat protection measures not in place; effects seen in influx of Russell's Monkeys into city, loss of unique animal and plant species, proliferation of invasive plant species.

7.4

Robust Protective Infrastructure

Expert Score: 3.67

General Score: 3.00

What Helps?

- Effective process of implementing civil works, only executed after comprehensive investigation, planning and design.
- Operation and maintenance processes follow established codes and practices, have skilled labour involved.

What Hinders?

- Hazard and risk assessments are not linked to design of protective infrastructure.
- Public awareness about critical infrastructure is low.
- Long term planning for protective infrastructure is inadequate.

Indicator 8

EFFECTIVE PROVISION OF CRITICAL SERVICES

8.1 Effective Stewardship of Ecosystems

Expert Score: 3.33
General Score: 4.50

What Helps?

- Clear recognition of link between forests and quality of life and health among general public as well as city officials.
- Natural ecosystems form critical part of city's identity.
- Good practices for protection and management of ecosystem.
- Small scale efforts at restoration of damaged ecosystems.

What Hinders?

- Urbanization encroaching into unreserved forest areas, fragile ecosystems.
- Illegally built settlements in unreserved forests get regularized easily e.g. Sanjauli.
- Afforestation is lacking, no political will or policies to restore past damage to forests.
- Floating population and tourists do not seem to value natural ecosystems as much as residents do.

8.2 Flexible Infrastructure

Expert Score: 3.64
General Score: 3.00

What Helps?

- Long terms plans for upgrading sanitation, water supply and electrical systems in place, capital funding secured for water supply and sanitation systems through World Bank loan.
- 'Easy wins' to increase electrical supply through minor upgrades to existing supply and distribution infrastructure – upgrading 120 kV substations to 230 kV, revival of small hydroelectricity units near city.
- High diversity in sourcing and distribution methods of electricity and water supply.

What Hinders?

- Long term solid waste disposal plans in place since 2012, but implementation has not started.
- Door-to-door solid waste collection hampered by strikes.
- Burning down of treatment plant hampering garbage disposal process.
- Per capita water supply allocation lower than national standards – 75 lpcpd versus 115 lpcpd.

Indicator 8

EFFECTIVE PROVISION OF CRITICAL SERVICES

8.3

Retained Spare Capacity

Expert Score: 2.50

General Score: 2.00

What Helps?

- Sufficient excess capacity in electrical supply.
- Restoration of alternative or traditional sources of water being carried out to augment existing water supply and provide spare capacity.
- Educational programs to reduce electrical demand in industries and commercial establishments, subsidies for promoting use of LED lights in residential areas to reduce demand.

What Hinders?

- No spare capacity in solid waste management system, already overstretched under normal load.
- Topography does not allow for cost-effective spare capacities in sanitation system – for example, need six small sewage treatment plants in different locations for optimal treatment although load can be handled by one large plant.
- No efficiency measures or guidelines in place for supply and distribution of electricity.

8.4

Diligent Maintenance and Continuity

Expert Score: 3.63

General Score: 1.50

What Helps?

- Low response time to electrical outages, water supply and sanitation disruptions.
- Well-trained and dedicated staff for maintenance of electrical, water supply and sanitation systems.

What Hinders?

- High maintenance needs of electrical equipment, some of which is outdated.
- Solid waste continuity planning and maintenance is ineffective.
- Perception of ineffective implementation of laws and regulations related to maintenance and continuity.

Indicator 8

EFFECTIVE PROVISION OF CRITICAL SERVICES

8.5

Adequate Continuity for Critical Assets and Services

Expert Score: 2.17

General Score: 1.50

What Helps?

- Back-up water supply in form of water tankers, rejuvenation of traditional/alternate water sources.
- Critical assets that need water supply identified, provided water supply 24 hours a day, as opposed to 1.5 hours a day for other consumers.

What Hinders?

- Lack of preparedness in service continuity during disasters, city cannot even cope with heavy snow or rainfall.
- Emergency response lies with district agency, while mapping of risks is managed by city – lack of coordination between the two agencies.
- District emergency response centre is woefully inadequate.
- For provision of electrical supply, no identification of critical assets and no backup systems in place.

Indicator 9

RELIABLE MOBILITY AND COMMUNICATIONS

9.1 Diverse and Affordable Transport Networks

Expert Score: 3.54
General Score: 2.00

What Helps?

- Essential services distributed all over city.
- Affordable travel on buses.
- Topography, extent of restricted and sealed roads encourages residents to not private vehicles.
- City is well-linked to other cities and rest of the state.

What Hinders?

- Buses are not safe to travel in.
- Low accessibility for children, senior citizens and disabled people.
- Taxis are expensive, taxi rides are priced inconsistently, and there is a lack of regulation for taxis.
- Weak last mile connectivity.
- Road expansion or addition of public transport services on existing roads difficult due to space constraints and topography.

9.2 Effective Transport Operation and Maintenance

Expert Score: 3.00
General Score: 2.00

What Helps?

- State transport department has adequate staff and infrastructure dedicated to maintenance.
- Long terms plans for upgrade and maintenance of transport system in place.
- System of restricted roads, some of which have only public transport access, helps improve speed and frequency of transport operations.

What Hinders?

- Implementation of maintenance and upgrade plans is not coordinated, not effectively done.
- Transport system is overcrowded, increases need for maintenance.
- No formal response mechanisms in place for emergencies.

Indicator 9

RELIABLE MOBILITY AND COMMUNICATIONS

9.3

Reliable Communications Technology

Expert Score: 3.17

General Score: 4.00

What Helps?

- High diversity in communications technology in city.
- High smartphone, social media penetration rate among residents.
- Telecommunications reliability is best in state.
- City government encourages use of WhatsApp as tool for complaint registration and redressal, plans to start MyShimla app to improve contact between residents and city government agencies.

What Hinders?

- No comprehensive warning systems in city.
- Back-up emergency communication systems such as satellite phones not available with key city government staff.
- No centralized emergency communication system at district, city or ward level.

9.4

Secure Technology Networks

Expert Score: 2.33

General Score: 3.50

What Helps?

- Information at city government level is backed up locally and at State Data Centre.
- City government departments operate on leased lines ensuring minimal disruptions and quick response to outages.
- High security levels in technology systems.
- Regular HIPA workshops organized for city IT staff to update policies and systems.

What Hinders?

- Low awareness among individual city departments about best practices on data security.
- Low security and continuity in city government. No specialized staff to manage disruptions, high reliance on private service providers.
- Data security is given low priority by city and state government.

Indicator 10

EFFECTIVE LEADERSHIP AND MANAGEMENT

10.1 Appropriate Government Decision Making

Expert Score: 4.00
General Score: 3.50

What Helps?

- City government is seen as transparent, easily reachable and responsible.
- Decisions are made with extensive public consultation.

What Hinders?

- City governance is not entirely in city government's control, many state departments responsible for local decision making as well.
- Decentralization process under Municipal Corporation Act of 1994 not followed up with in its entirety.

10.2 Effective Coordination with Other Government Bodies

Expert Score: 2.50
General Score: 2.00

What Helps?

- Interdepartmental consultations and workshops occur within city government when major decisions have to be taken.

What Hinders?

- City governance powers are not entirely delegated to city government, low effectiveness especially with issues handled directly by state government agencies.
- Coordination between departments occurs not as matter of process but only if leadership demands it.

Indicator 10

EFFECTIVE LEADERSHIP AND MANAGEMENT

10.3

Proactive Multi-stakeholder Collaboration

Expert Score: 1.00
General Score: 4.00

What Helps?

- Revamped complaint redress system in place, use of new technologies to improve communication between public and city government.

What Hinders?

- Business sector participation in government decision making process is low.
- Few civil society organizations involved in consultation process with city government.

10.4

Comprehensive Hazard Monitoring and Risk Assessment

Expert Score: 3.67
General Score: 1.00

What Helps?

- First Hazard, Risk and Vulnerability Assessment for the city planned for completion in December 2015.
- Effective coordination with external consultants and experts to guide practices and systems for assessment.
- Risk awareness spread through radio and TV ads by state government.

What Hinders?

- No internal capacity in city or state government to continually monitor hazards.
- Lack of implementation of building codes is a cause for concern.
- Except for weather reports, no early forecast systems in place.

Indicator 10

EFFECTIVE LEADERSHIP AND MANAGEMENT

10.5

Comprehensive Government Emergency Management

Expert Score: 2.60

General Score: 3.50

What Helps?

- Mock drills for emergency response organized, at least once year.
- High cellphone penetration among government, ensures additional level of reliability in communication during emergencies.
- High social cohesion in city, will lead to good informal responses to emergencies.

What Hinders?

- No centralized city agency has power or responsibility to manage or coordinate response during emergencies.
- State disaster management agency is nodal agency for emergency response, but is severely underfunded and ineffective.

Indicator 11

EMPOWERED STAKEHOLDERS

11.1

Adequate Education for All

Expert Score: 4.50

General Score: 3.00

What Helps?

- High literacy rate in city.
- Free education up to age 14, nominal fees up to age 18 and relatively affordable undergraduate and graduate level education available in city.
- High accessibility to schools – all school children can access schools within 1.5 km of their homes.
- High concentration of government jobs ensures that city's residents have high educational attainment.

What Hinders?

- Low quality education in government schools compared to private schools.
- Higher education opportunities are limited, necessitates people moving to other cities.
- School enrolment rates are comparable between government and private schools, but completion rates are substantially lower in government schools.

11.2

Widespread Community Awareness and Participation

Expert Score: 3.47

General Score: 2.25

What Helps?

- Ward-level, decentralized plan for spreading awareness about disaster risk reduction with emphasis on local volunteers and trained staff in each ward.
- Schools and colleges incorporate disaster risk reduction into their curriculum.
- High Court directives regarding risk awareness have improved government action.

What Hinders?

- No early warning systems at city or ward level.
- Casual approach towards risk awareness among public.
- No certainty on continuity of government support for community awareness since program relies heavily on external consultants and agencies.

Indicator 11

EMPOWERED STAKEHOLDERS

11.3

Effective Mechanisms for Community to Engage with Government

Expert Score: 4.00

General Score: 4.00

What Helps?

- Concerted effort from city government leaders to improve access and communication between government and public.
- Availability of city government on a wide range of media for communication.
- Each ward is provided share of revenues by city government, aids localized decision making and direct citizen participation.

What Hinders?

- Innovative methods for outreach and communication do not get institutionalized easily.

Indicator 12

INTEGRATED DEVELOPMENT PLANNING

12.1

Comprehensive City Monitoring and Data Management

Expert Score: 2.33

General Score: 3.50

What Helps?

- Raw data collected and available from different sources and departments.
- Capacity added by outsourcing some tasks and processes, for example city development plan is being developed by a consulting firm.

What Hinders?

- No centralized agency to collect planning data.
- Data reliability is low, frequently out of date.
- Data from census is only form of projection or trend analysis.
- City and state do not have capacity to continually collect data and conduct analyses.
- High proportion of tourists and seasonal labour in city hampers data collection accuracy.

12.2

Consultative Planning Process

Expert Score: 2.83

General Score: 2.50

What Helps?

- Development plans and sector specific strategies developed or in the process of development – for example, city mobility plan to improve access and city development plan.

What Hinders?

- No transparency in development or planning process.
- Very little public participation in development processes.
- Lack of coordination between city and state planning departments or agencies.
- Very little coordination with utilities and service providers during planning process.
- Lack of communication with public on how to engage with development process.
- Lack of staff capacity to manage development planning in government departments.

Indicator 12

INTEGRATED DEVELOPMENT PLANNING

12.3

Appropriate Land Use and Zoning

Expert Score: 2.00

General Score: 3.00

What Helps?

- New city development plan in the process of preparation.
- Planning regulations are favourable for the tourism industry.

What Hinders?

- Current land use plan is arbitrary, does not account for localized conditions.
- Existing land use and development plans are more than thirty years old and have not been updated in spite of changes in planning regulations.
- Lack of implementation of planning codes all over city, especially on city periphery.
- Piecemeal, unplanned development on city edges, hard to reconcile with land use and development plans.

12.4

Robust Planning Approval Process

Expert Score: 2.75

General Score: 2.50

What Helps?

- Transparent approval process for new development.
- Government projects, infrastructure projects follow national and local building codes meticulously.

What Hinders?

- Lack of monitoring, regulations rarely adhered to particularly for small developments.
- Political pressure to exempt developments from certain rules and regulations.
- No public consultation process when large new developments are being planned.

