The Global Challenge of Urbanization

Trends Analysis

City Prosperity Initiative

Action Planning for Cities
Oriented by the SDG 11 and Supported by the City Prosperity Index

May 2017

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1. Introduction of UN HABITAT
2. The Global challenges/opportunities of Urbanization
3. Trend Analysis
4. Introduction to City Prosperity Initiative
5. Conclusions
Introduction of UN HABITAT

The United Nations agency for cities with the mandate emanated from the Habitat Agenda (1996) and various resolutions of the UN General Assembly

1. Sustainable urban development
2. Adequate shelter for all
UN-Habitat, the United Nations agency for human settlements, helps the urban poor by transforming cities into safer, healthier, greener places with better opportunities where everyone can live in dignity.

UN-Habitat works with organizations at every level, including all spheres of government, civil society and the private sector to help build, manage, plan and finance sustainable urban development. Our vision is cities without slums that are liveable places for all, which do not pollute the environment and deplete natural resources.

UN-Habitat's seven focus areas

- Urban legislation, land, and governance
- Urban planning and design
- Urban economy
- Housing and slum upgrading
- Risk reduction and rehabilitation
- Urban basic services
- Research and capacity development

UN-Habitat addresses its mandate through the 2014-2019 Strategic Plan. The plan outlines seven focus areas.
Global and regional challenges/opportunities of Urbanization

World Cities Reports 2016

A Global Sample of Cities made of 200 cities

Source: UN-Habitat Global Urban Observatory
Urban Development: facts and challenges

- Urban growth
- Change in family patterns
- Increased residency in slums and informal settlements
- Challenges in providing urban services
- Climate change
- Exclusion and rising inequality
- Insecurity
- Upsurge in international migration

Major challenges of urbanization

- Extreme urban poverty,
- Poor living conditions for slum dwellers,
- Constraints on productivity due to inadequate infrastructure, and
- Risks due to natural disasters and climate change

RISING INEQUALITY is one of the challenges of urbanization that has confined many people to poor living conditions. Kibera slum, Nairobi, Kenya.

Source: World City Report 2016
Urbanization as an opportunity for sustainable development

Cities offer various opportunities for sustainable development

**Job Opportunities**
- Starting point of virtuous cycle of employment, income, improved labor power and more job opportunities → Reduce inequalities

**Economies of Scale in Infrastructure Provision**
- Public transportation
- Water and sewerage system
- Electricity and internet connection
- Serviced land and public rental housing
- Education and healthcare facilities

**Suitability of System-Based Approaches**
- Local planning and community participation
- Financing infrastructure and housing for the urban poor

Urbanization as a Transformative Force

“Urbanization has helped millions escape poverty through increased productivity, employment opportunities, improved quality of life and large-scale investment in infrastructure and services”
World Urbanization Prospects

- World’s urban population is projected to increase from 3.9 billion in 2014 to 6.3 billion by 2050, adding 2.4 billion people to the cities.
- World’s urbanization rate will increase from 54% to 66% between 2014 and 2050.

<table>
<thead>
<tr>
<th>Urban population at mid-year</th>
<th>Urban and rural population of the world</th>
<th>Projected Changes in urban and rural population by major regions between 2011 and 2050 (millions)</th>
</tr>
</thead>
</table>

Source: World City Report 2016
Urbanization Prospects in Asia-Pacific

By 2018, expected more than 50% of population live in cities

Global implications: 55% of the worldwide urban population was living in Asia and the Pacific in 2014.

Four features of the global urbanization trends

1. Demographic growth
2. Inequality
3. Low density growth and
4. Urban informality (slum formation)
The Fate of Housing

Housing shortfalls represent a challenge:

- **980 million** urban households lacked decent housing in 2010
- **600 million** will be added between 2010 and 2030
- **One billion** new homes needed worldwide by 2025, cost **$650 billion** per year
- Qualitative deficiency is even greater

Number of urban residents living in slums

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>699 million</td>
</tr>
<tr>
<td>2014</td>
<td>661 million</td>
</tr>
</tbody>
</table>

This represents an increase of **28%** over the past 24 years.

Still, in 2014, **30%** of urban population of developing countries resided in slums compared to **39%** in the year 2000.

Key trends with respect to the provision of adequate housing

- The decline of housing as a political priority despite increasing demand
- Inequality, focus on homeownership, speculation and neglect of rental housing
- Increasing reliance on the private sector
- Affordability as increasingly elusive concept
- Land administration and management
- Migration: positives and negatives for housing supply
- Climate change and disasters
The Widening Urban Divide

75% of the world's cities have higher levels of income inequalities than two decades ago.

46% are in vulnerable employment accounting for 15 billion people globally.

63% Africa's labour force is trapped in vulnerable employment.

Source: The World Cities Report 2016 (UN-Habitat, 2016)

The Widening Urban Divide

- 2010 -
Inequalities in the world (Gini Coefficient)

<table>
<thead>
<tr>
<th>Region</th>
<th>Gini Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latin America &amp; Caribbean</td>
<td>0.5</td>
</tr>
<tr>
<td>Africa</td>
<td>0.45</td>
</tr>
<tr>
<td>Asia</td>
<td>0.4</td>
</tr>
<tr>
<td>Eastern Europe &amp; Central Asia</td>
<td>0.35</td>
</tr>
</tbody>
</table>

Source: The World Cities Report 2016 (UN-Habitat, 2016)
QUICK FACTS

1. By 2030, energy and water demand increased by 40 and 50% respectively.

2. Solid waste management shares of 30 to 50% of municipal budgets (in less developed countries).

3. In urban areas, climate change impacts can compound one another, making disaster risk management more complex.

4. Innovative ways are called for to build resilience, in the process contributing to a more equitable environment.

“Just” Environmental Sustainability

Table 2: National and local environmental planning and management

Source: The World Cities Report 2016 (UN-Habitat, 2016)
Quick Facts

1. Inefficient or impracticable legislative reforms
2. Planning regulations in developing and transition countries are often too detailed, and inflexible
3. Genuine accountability and administrative capacity to implement public policies

Decentralization

1. Administrative Decentralization: Planning + Managing is transferred from Central Government to Local (Delegation)
2. Political Decentralization: Delegation of political power, authority and resources
3. Fiscal Decentralization: Redistribution of resources from central to subnational government
4. Devolution: Political and fiscal decentralization
5. Deconcentration: Territorial redistribution of central power

Source: The World Cities Report 2016 (UN-Habitat, 2016)
A City that Plans: Reinventing Urban Planning

**QUICK FACTS**

1. Mostly rely on outdated modes of planning
2. Cities are sprawling, and as such, densities are dramatically declining. In developing countries, a one percent decline in densities per year between 2000 and 2050 would quadruple the urban land area.
3. Not gender-sensitive; consequently, women are often left outside of the planning process and decisions.
4. Planning capacity is grossly inadequate in much of the developing world.

Planning capacity varies greatly across the world

- **UK**: 38 accredited planners per 100,000 population
- **Nigeria**: 1.44 accredited planners per 100,000 population
- **India**: 0.23 accredited planners per 100,000 population

Source: The World Cities Report 2016 (UN-Habitat, 2016)

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Changing Dynamics of Urban Economies

**QUICK FACTS**

1. Megacities and metropolitan regions have benefited more
2. Inadequate urban infrastructure and services hamper economic growth and activities
3. The benefits of agglomeration tend to outweigh the drawbacks
4. Formal employment has not catch up with the rapid urbanization of cities, thus exacerbating urban social and economic inequality.

Changes impacting cities’ economies since Habitat II include:

1. Global economic conditions
2. Ageing and (mainly in developing countries) rapidly growing populations
3. Technological innovations, particularly in transport, communications and data processing
4. Sharper policy focus on environmental sustainability and climate change

Source: The World Cities Report 2016 (UN-Habitat, 2016)
Changing Dynamics of Urban Economies

- 1990 Human Development Index increased globally by almost 18%.
- 2013
- 37% Reduction in the global population of people living in extreme poverty from 1,559 million in 1990 to around 900 million in 2013.
- 10% Estimated decline to 702 million expected in 2025, largely due to massive efforts by China and India.
- Urban populations in low-income countries are projected to triple, increasing by over 500 million.

Property tax, as an efficient source of local revenues, represents less than 3-4% of local revenues in most developing countries, compared with 40-50% in cities in Australia, Canada, France, UK, and US.

Access to housing through ownership is largely unaffordable (in the Global Sample of Cities)

A housing unit in any city regardless of GDP is UNAFFORDABLE (more than a ratio of 3.0)

Source: The World Cities Report 2016 (UN-Habitat, 2016)

Source: UN-Habitat Global Urban Observatory
Accessing to housing through rental is also largely unaffordable

Rental housing in any city regardless of GDP is UNAFFORDABLE (more than 25% threshold)

Source: UN-Habitat Global Urban Observatory

Introduction to City Prosperity Initiative
City Prosperity Initiative

How do we measure the performance of cities and the outcome of public policies?

How do we measure sustainability in cities?

UN-Habitat is adapting the City Prosperity Initiative to SDGs structure

The new CPI framework is integrating all the indicators of Goal 11 and a selected number of other SDG indicators that have an urban component

Countries that decide to use the CPI will be able to identify, quantify, evaluate, monitor and report on progress made by cities and countries, towards SDG Goal 11 in a more structured manner

Defining Urban Prosperity

Protection of commons and provision of Public Goods

• Success
• Wealth
• Thriving conditions
• Well-being
• Opportunity

A sense of general and individual socioeconomic security for the immediate and foreseeable future, which comes with the fulfilment of other, non-material needs and aspirations.
City Prosperity Initiative

UN-Habitat’s City Prosperity Initiative (CPI)
- Monitoring and Reporting NUA + SDGs
- Systemic approach to the city
- Incorporate new analytical tools (SPATIAL INDICATORS)
- Multi-scale decision-making

Objectives of the Initiative

MEASURE
- by producing critical mass of data and information

UNDERSTAND
- the factors that generate or inhibit prosperity

CHANGE
- by formulating policies, strategies and actions

INFLUENCE
- the nationals developments of policies
THANK YOU
# URBAN PROSPERITY:
CONCEPT AND POLICY IMPLICATIONS TO IMPLEMENTING THE SDGS AND NEW URBAN AGENDA

Action Planning for Cities
Oriented by the SDG 11 and Supported by the City Prosperity Index

May 2017

## Table of content

- Introduction
- Introduction to Sustainable Development Goals (SDGs)
- New Urban Agenda (NUA)
- UN HABITAT Role in connecting SDGs and NUA
- Policy Implementation
- Conclusion

1. Reduce poverty and social exclusion
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Reduce child mortality
5. Improve maternal health
6. Combat HIV/AIDS and tuberculosis
7. Ensure environmental sustainability
8. Partnership for development

Vision: “spare no effort to free our fellow men, women and children from the abject and dehumanizing conditions of extreme poverty”

Adopted in 2000 by 189 UN member states

8 goals, supported by 21 specific targets and 60 indicators.

MDGs impacts by 2015

Global number of deaths of children under five

- 1990: 12.7 million
- 2015: 6 million

Extreme poverty rate in developing countries

- 1990: 47%
- 2015: 14%

1.9 billion people have gained access to piped drinking water since 1990

- 1990: 2.3 billion
- 2015: 4.2 billion
MDGs limitations

The MDGs were largely determined by OECD countries and international donor agencies in a top-down method.

The MDGs provide a limited list of goals, with targets that applied primarily to least developed and poor countries.

The MDGs failed to consider the root causes of poverty and the interconnectedness of these causes.

Just 1 MDG (MDG 8: Develop a global partnership for development) focused on high-income countries.

Progress across all MDGs has been limited and uneven across countries.

Sustainable Development Goals (2015 – 2030)

**Sustainable Development Goals (SDGs)**

- United Nations Sustainable Development Summit 2015
- The Sustainable Development Goals (SDGs), otherwise known as the Global Goals, are a universal call to action to **end poverty**, **protect the planet**, and ensure that all people enjoy **peace and prosperity**.

**The 2030 Agenda for Sustainable Development**

The “**Agenda 2030**” reinforces the Future We Want – applying to all nations and leaving no one behind.

1. Agenda
2. Main areas
3. Task description
4. Targets
5. Indicators

**People**  **Planet**  **Prosperity**  **Peace**  **Partnership**
The 2030 Agenda for Sustainable Development gives a prominent role to urbanization and cities with the inclusion of a stand-alone goal for cities and human settlements.

- Recognition that cities are a string that connects all other goals together
- Interactions are important to formulate integrated policies that enhance the transformative role of urbanization

**SDG11 – Ten targets**

<table>
<thead>
<tr>
<th>Outcome-oriented targets and indicators</th>
<th>Process-oriented targets and indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.1 Housing and slums</td>
<td>11.a Urban-rural linkages</td>
</tr>
<tr>
<td>11.2 Sustainable transport</td>
<td>11.b Implementation of mitigation and</td>
</tr>
<tr>
<td></td>
<td>adaptation plans and policies</td>
</tr>
<tr>
<td>11.3 Participatory planning</td>
<td>11.c Sustainable and resilient buildings</td>
</tr>
</tbody>
</table>
SDG11 – The process

3 global consultations about indicators – once targets were decided (Member States/ Stakeholders / UN Agencies)

3 platform for online comments

2 ratings of proposed indicators (Tiers 1 to 3 – color codes)

3 Inter-Agency and Expert Group (IA-EG) (New York, Bangkok, Mexico City)

2 Reports (IA-EG for UNSC and SG Report about Implementation)

The 2030 Agenda for Sustainable Development

SDG 11 Explained by Raf Tuts Director, Programme Division UN-Habitat October 1, 2015
CPI and the SDGs

A tool to monitor and implement the SDG urban-related goals

Decision-making based on evidence through the integration of the international Development Agenda

UN-HABITAT
FOR A BETTER URBAN FUTURE

ROLE
UN HABITAT roles

- Implementation
  - Country Implementation Plans
  - Localize Action at city level
  - Defining Habitat Strategic Interventions

- Monitoring
  - National targets, benchmark and standards
  - Disaggregation of information
  - City Prosperity Initiative

- Reporting
  - National aggregated values
  - National/local reports
  - Action Plans (CPI/3 Legged Approach)

UN HABITAT ongoing portfolio

1. Refining Urban SDGs Indicators: propose to the Secretariat (UNSD) methodological information and/or data support to change indicators
2. Expert Group Meetings: discuss and agree on the approach, methodology and ways of computation of specific indicators with outstanding challenges related to the monitoring of the SDGs at local levels, particularly spatial indicators
3. SDG Goal 11 Indicators - Definitions and Metadata:
   - A Global Monitoring Tool that serves as a guide to assist national and local governments in their efforts to collect, analyze, validate data and information in view of the preparation of country-based reports.
   - The Metadata provides necessary definitions, method of computation and technics to estimate indicators, including spatial indicators
UN HABITAT ongoing portfolio (cont)

4. **UN-Habitat SDGs Webpage**: A website dedicated to UN-Habitat approach, involvement and support to SDGs, with a particular focus on Goal 11.

5. **SDGs Report**: Joint with other UN agencies to develop the global progress report on the SDGs.

6. **City Prosperity Initiative**
   - The new CPI framework is integrating all the indicators of Goal 11 and a selected number of other SDG indicators that have an urban component.
   - Countries that decide to use the CPI will be able to identify, quantify, evaluate, monitor and report on progress made by cities and countries, towards SDG Goal 11 in a more structured manner.

NEW URBAN AGENDA
UN Conferences on Human Settlements

The United Nations Conference on Housing and Sustainable Urban Development to “reinvigorate” the global political commitment to sustainable urban development

UN Conference on Human Settlements, 1976
Vancouver

Habitat II, 1996
Istanbul

Habitat III, 2016
Quito

Habitat III: The need for a New Urban Agenda

Comparison of unsustainable urban development with sustainable alternatives

<table>
<thead>
<tr>
<th>Unsustainable Urban Development</th>
<th>Sustainable Urban Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPRAWLING</td>
<td>Creates large and low-density blocks that make trips longer.</td>
</tr>
<tr>
<td>COMPACT</td>
<td>Builds smaller walkable, and densified blocks.</td>
</tr>
<tr>
<td>EXCLUSIVE</td>
<td>Separates places, peoples, and activities from each other.</td>
</tr>
<tr>
<td>INCLUSIVE</td>
<td>Diversifies peoples and uses within the district, block, and building.</td>
</tr>
<tr>
<td>SEGREGATED</td>
<td>Disjoined road network with no clear hierarchy.</td>
</tr>
<tr>
<td>CONNECTED</td>
<td>Interconnects roads and streets with a clear hierarchy.</td>
</tr>
<tr>
<td>VULNERABLE</td>
<td>Marginalizes, sensitizes, &amp; fragments water, farmland, &amp; parks.</td>
</tr>
<tr>
<td>RESILIENT</td>
<td>Makes room for water through public spaces &amp; conserves farmland.</td>
</tr>
</tbody>
</table>

Infographic drawn by: Kristi, Jonathan, & Gacia

UN-HABITAT
What is in the New Urban Agenda?

- Action-oriented document rethinking the way we build, manage and live in cities
- 175 commitments that 190 nations have signed on
- Largely be cities rather than nations that first define, innovate, then implement them

New Urban Agenda

- Must be BOLD, forward thinking and tightly focused on problem solving
- It should have clear means of implementation
- Adopt a city-wide approach
- Propose concrete strategies and actions
- Create a mutually reinforcing relationship between urbanization and development
- Support a paradigm shift
- Devise well-activated set of strategies
- Transform urbanization into a tool of development
- Constitute a framework of cooperation
- Convey a SENSE OF URGENCY
New Urban Agenda

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5 GUIDING PRINCIPLES FOR THE NEW URBAN AGENDA

4 COMPONENTS
- National Urban Policies
- Rules and Regulations
- Territorial planning and Design
- Municipal Finance

7 LEVERS
- Planned city extensions
- Planned city infills
- Land readjustment
- Public space planning and regulations
- Housing at the centre
- Access to basic services
- Global monitoring framework

SUSTAINABLE CITIES

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Habitat conferences

IN HABITAT III, WE DECIDE THE FUTURE OF CITIES TOGETHER

UN HABITAT III, Quito 2016
New Urban Agenda: Equity

“We share a vision of cities for all, referring to the equal use and enjoyment of cities and human settlements, seeking to promote inclusivity and ensure that all inhabitants, of present and future generations, without discrimination of any kind, are able to inhabit and produce just, safe, healthy, accessible, affordable, resilient and sustainable cities and human settlements to foster prosperity and quality of life for all.”

New Urban Agenda: Inclusivity

Each city dweller can be an activist for change
Three Transformative Commitments

A. **Equity**: Urban Development for Social Inclusion and Ending Poverty (18 points)
   - land tenure, the value of public space, and the sustainable leverage of natural and cultural heritage

B. **Inclusivity**: Urban Prosperity and Opportunities for All (20 points)
   - Access to affordable housing, access to knowledge, skills, and education, and the promotion of investments, innovations and entrepreneurship

C. **Sustainability**: Resilient Urban Development (18 points)
   - Climate change, unsustainable consumption, slum upgrading, energy efficiency and the social and ecological function of land

UN HABITAT III
Conclusion

“The SDGs, the New Urban Agenda, the Paris Agreement — these are really important policy bricks that we’re going to use to build the cities of the 21st century. But ultimately it’s going to be local people, local governments and local ecosystems that are the cement that bind them together in a lasting way.”
New Urban Agenda – Policy points

1. Forward looking and problem solving;
2. Adopt a city-wide approach (strong integration) to development
3. Clear funding mechanisms and effective means of monitoring
4. A sense of urgency in the implementation but also clear and well-defined implementation plans
5. Seek mutually reinforcing relationship between urbanization and development
6. Establish links to other global agreements and agendas
7. Induce transformative change promoting a new urbanization model that is universal and adaptable to different national circumstances

UN HABITAT next steps

1. Implementing SDG - Localize Actions at city level
   - Providing support to local and national governments to reflect the new global agenda in city and country development plans and policies
   - Making the UN-Habitat’s policy expertise on sustainable urban development available to governments at all stages of implementation

2. Monitoring SDGs - Spatial Indicators
   - Geospatial data, adequate technology and management system will be needed for the measurement of the spatial indicators of the Goal 11
   - Spatial disaggregated data provides relevant information for policy-makers to decide on local-level allocation of resources and monitoring of equitable outcomes

3. Reporting SDGs - National Sample of Cities
   - National governments need to create a consistent set of cities that is representative of their territory, geography, governance and history.
   - UN-Habitat will support national governments in the definition of a sample of representative cities and in the data aggregation process

4. Connecting SDGs and the New Urban Agenda
   - A strong connection between the New Urban Agenda and the SDGs indicators should be established with a common monitoring framework
Connecting SDGs and the New Urban Agenda

1. National Urban Policies
2. Urban Legislation and Systems of Governance
3. Territorial Planning and Urban Design
4. Municipal Finance

The next BIG challenges

1. Refine disaggregation mechanisms and policy responses, look for more convergence among Head Quarter and regions.
2. Refine UN-Habitat advocacy for this new agenda (SDGs-NUA)
3. Rethink financing and fundraising strategies
4. Adjust strategic plans for the implementation and monitoring of SDGs and New Urban Agenda
5. Adjusting outputs from Habitat Work Plan to reflect 2030 Development Agenda
6. Define ad hoc training and capacity development activities
7. Explore new strategic partnerships – Multi Partners Trust Fund
"The SDGs, the New Urban Agenda, the Paris Agreement — these are really important policy bricks that we’re going to use to build the cities of the 21st century. But ultimately it’s going to be local people, local governments and local ecosystems that are the cement that bind them together in a lasting way."
THANK YOU
CPI Methodology and Indicators

CONTENTS

01. INTRODUCTION TO THE CPI METHODOLOGY
02. CLARIFICATION ON FEW INDICATORS
03. SPATIAL INDICATORS
WHAT IS DIFFERENT IN THE CPI FRAMEWORK?

1. A flexible monitoring framework that takes into account the contextual needs and particularities of cities and countries

2. The CPI promotes integration in the implementation of a more sustainable urbanization model

3. An innovative tool based on spatial analysis that integrates indicators such as street connectivity, public space, urban expansion

4. As a multi-scale tool the CPI supports decision-making from national urban policies to regional to city-wide interventions
THE CITY PROSPERITY INITIATIVE
Data, Information and Policy-Making

THE SIX DIMENSIONS OF PROSPERITY

- Urban Governance
- Productivity
- Environment Sustainable
- Infrastructure Development
- Equality and Social Inclusion
- Quality of Life
MEASURE by producing critical mass of data and information

UNDERSTAND the factors that generate or inhibit prosperity

CHANGE by formulating policies, strategies and action plans

MONITOR the outcomes of policy implementation

THE WHEEL OF URBAN PROSPERITY AND THE CPI
Scale of Prosperity

<table>
<thead>
<tr>
<th>Score Range</th>
<th>Prosperity Factor</th>
<th>Policy Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>80-100</td>
<td>Very solid prosperity factors</td>
<td>Consolidate urban policies</td>
</tr>
<tr>
<td>70-79</td>
<td>Solid prosperity factors</td>
<td>Strengthen urban policies</td>
</tr>
<tr>
<td>60-69</td>
<td>Moderately solid prosperity factors</td>
<td></td>
</tr>
<tr>
<td>50-59</td>
<td>Moderately weak prosperity factors</td>
<td></td>
</tr>
<tr>
<td>40-49</td>
<td>Weak prosperity factors</td>
<td></td>
</tr>
<tr>
<td>10-39</td>
<td>Very weak prosperity factors</td>
<td>Prioritize urban policies</td>
</tr>
</tbody>
</table>

**WHAT IS DIFFERENT IN THE CPI FRAMEWORK?**

<table>
<thead>
<tr>
<th>Transformative solutions</th>
<th>Evidence-based interventions</th>
<th>3 legged approach solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action Plans – National Reports</strong></td>
<td>National Strategies</td>
<td>Good practices</td>
</tr>
<tr>
<td>Expanded CPI</td>
<td>More refined diagnostic</td>
<td>National comparability</td>
</tr>
<tr>
<td>Basic CPI</td>
<td>Initial diagnostic</td>
<td>Global comparability</td>
</tr>
</tbody>
</table>
3. METADATA

ICONS DESCRIPTION

Scope:
- Basic CPI
- Extended CPI
- Methodology CPI

Index number

Index code

Index logo

Productivity

Index name
Guidelines prepare clear standardization techniques

Types of Standardization

- Not required
- Simple reversal
- Classic direct standardization
- Classic reversal standardization
- Standardization with the minimum target
- Standardization with the ultimate goal
- Standardization with single objective

Each indicator of the CPI has a specific way to be standardized
Guidelines prepare clear standardization techniques

Standardization: Simple Reversal

Example:

- The poverty rate, which is measured in percent.
- The variable moves from 0 to 100.
- The relationship with the CPI is reversed (a rise in the poverty rate will generate a decrease in the level of prosperity of the city).

\[ X^{(S)} = 100 - X \]
Classic reversal standardization

Example:

- Higher values are worst
- CO₂ emissions (measured in metric tons of CO₂ per capita)
- WB (2008-2010)
  - Minimum 0.01
  - Maximum 44.20
- A city with 1.44 metric tons would have a standardized value of:

\[ X^{(S)} = 100 \left( 1 - \frac{X - \text{Min}(X)}{\text{Max}(X) - \text{Min}(X)} \right) \]

\[ X^{(S)} = 100 \left( 1 - \frac{1.44 \text{ tons/metric}}{44.20 \text{ tons/metric} - 0.01 \text{ tons/metric}} \right) = 96.76 \]

Standardization with minimum target

Example:

- Number of intersection per square kilometer
- UN-Habitat (2014) recommends 100 sq. km
- A city with 50 intersections would have a standardized value of:

\[ X^{(S)} = 100 \left( 1 - \frac{X - \text{Min}(X)}{\text{Max}(X) - \text{Min}(X)} \right) \]

\[ X^{(S)} = 100 \left( 1 - \frac{50 \text{ int/km}^2 - 100 \text{ int/km}^2}{100 \text{ int/km}^2 - 0 \text{ int/km}^2} \right) = 50.00 \]
Standardization with ultimate goal

Example:
- PM10 concentration (measured in micrograms per cubic meter).
- EC (2013) has set a target value recommended maximum = 40.
- To exceed a certain threshold value decreases (40=100)
- A city with = 54.63, its normalized value is:

\[ X^{(S)} = 100 \left( 1 - \frac{54.63 \, \mu g/m^3 - 40 \, \mu g/m^3}{40 \, \mu g/m^3} \right) = 63.43 \]

Standardization with single objective

Examples:
- Residential densities
- Women in Local Government (measured as a % target value)
- Mossuz-Lavau (2005) = 50%
- In a city with 31.22% of women in government, the standardized value would be:

\[ X^{(S)} = 100 \left( 1 - \frac{31.22\% - 50\%}{50\%} \right) = 62.64 \]
Once the variables have been standardized, there is a need to define a methodology to add the information on these variables in a new variable. Need to define a weighting scheme for dimensions, sub-dimensions and variables.

**Construction of a scheme of WEIGHTS**

a) The dimensions have an equal weight in the indicator.

b) The sub-dimensions have equal weight within its dimension.

c) The variables have equal weight within its sub-dimension.
Construction of a scheme of WEIGHTS

- **EQUITY AND SOCIAL INCLUSION DIMENSION**
  - **ECONOMIC EQUITY SUBDIMENSION**
    - GINI COEFFICIENT
      - Weight: $1/36$
    - POVERTY RATE
      - Weight: $1/36$
    - SLUM HOUSEHOLD
      - Weight: $1/36$
  - **SOCIAL INCLUSION SUBDIMENSION**
    - YOUTH UNEMPLOYMENT
      - Weight: $1/36$
    - EQUITABLE SECONDARY SCHOOL ENROLMENT
      - Weight: $1/18$
  - **GENDER INCLUSION SUBDIMENSION**
    - Weight: $1/6$
### CLARIFICATION OF INDICATORS

#### Productivity
1. Economic Growth Sub Index (EG)
2. Economic Agglomeration (EA)
3. Employment Sub Index (E)

#### Infrastructure Development
1. Housing Infrastructure Sub Index (HI)
2. Social Infrastructure (SI)
3. ICT Sub Index (ICT)
4. Urban Mobility Sub Index (UM)
5. Street Connectivity (SC)

#### Quality of Life
1. Health Sub Index (H)
2. Education Sub Index (E)
3. Safety and Security Sub Index (SS)
4. Public Space (PS)

#### Equity and Social Inclusion
1. Economic Equity Sub Index (EE)
2. Social Inclusion Sub Index (SI)
3. Gender Inclusion Sub Index (GI)
4. Urban Diversity (UD)

#### Environmental Sustainability
1. Air Quality Sub Index (AQ)
2. Waste Management Sub Index (WM)
3. Water and Energy Sub Index (WE)

#### Governance and Legislation
1. Participation and Accountability (PA)
2. Municipal Finance (MF)
3. Governance of Urbanization (GU)

---

### Structure of the Index

<table>
<thead>
<tr>
<th>Category</th>
<th>Sub-Indicators</th>
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<tbody>
<tr>
<td>Productivity</td>
<td>1. Economic Growth Sub Index (EG)</td>
</tr>
<tr>
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<td>2. Economic Agglomeration (EA)</td>
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<tr>
<td></td>
<td>3. Employment Sub Index (E)</td>
</tr>
<tr>
<td>Infrastructure Development</td>
<td>1. Housing Infrastructure Sub Index (HI)</td>
</tr>
<tr>
<td></td>
<td>2. Social Infrastructure (SI)</td>
</tr>
<tr>
<td></td>
<td>3. ICT Sub Index (ICT)</td>
</tr>
<tr>
<td></td>
<td>4. Urban Mobility Sub Index (UM)</td>
</tr>
<tr>
<td></td>
<td>5. Street Connectivity (SC)</td>
</tr>
<tr>
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</tr>
<tr>
<td></td>
<td>2. Education Sub Index (E)</td>
</tr>
<tr>
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<td></td>
<td>4. Public Space (PS)</td>
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<td>2. Waste Management Sub Index (WM)</td>
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<td></td>
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<td>2. Municipal Finance (MF)</td>
</tr>
<tr>
<td></td>
<td>3. Governance of Urbanization (GU)</td>
</tr>
</tbody>
</table>
Indicators of Basic CPI

**EQUITY AND SOCIAL INCLUSION**

- Economic Equity
  - Gini Coefficient
  - Poverty rate
- Social Inclusion
  - Slum Household
  - Youth Unemployment
- Gender Inclusion
  - Equitable Secondary School Enrollment

**ENVIRONMENTAL SUSTAINABILITY**

- Air Quality
  - PM2.5 Concentration
  - CO2 emissions
- Waste Management
  - Solid waste collection
  - Waste water treatment
- Water and Energy
  - Share of renewable energy

**URBAN GOVERNANCE**

- Participation
  - Voter turnout
  - Municipal Finance
    - Own revenue collection
    - Days to start a business
- Governance of Urbanization
  - Urban expansion
SPATIAL DELIMITATION
URBAN AGGLOMERATION VS ADMINISTRATIVE BOUNDARY

Cities defined by their municipal boundaries are often inappropriate for monitoring the urban.
CPI incorporates spatial analysis

SPATIAL INDICATORS

- Residential Densities
- Economic Densities
- Land Use Mix
- Public Space
- Street Connectivity
- Length of Public Transport
- Urban Expansion

SPATIAL INDICATORS
 DEFINING AREA OF INTERVENTION
Purchasing power parity conversion factor is the number of units of a country’s currency required to buy the same amounts of goods and services in the domestic market as U.S. dollar would buy in the United States.

This conversion factor is for GDP.

Source of Data: http://data.worldbank.org/indicator/PA.NUS.PPP
AVERAGE BROADBAND SPEED
MAKING USE OF BIG –REAL TIME- DATA

LENGTH OF MASS TRANSIT NETWORK
Measuring the urban extent of a city in different years (Addis Ababa, in 1986 to 2010).
PUBLIC SPACES

1. Green Area per Capita
2. Accessibility to Open Public Space

- % urban AREA within 400m from open public space
- % urban AREA within 1000m from major open public space

Lima, Peru
WHAT IS A PUBLIC SPACE?

“Public spaces are all places publicly owned or of public use, accessible and enjoyable by all for free and without a profit motive”

Charter on Public Spaces

PUBLIC / PRIVATE

Both publicly- and privately-owned public spaces are considered, although public ownership often guarantees more stable access and enjoyment over time.
WHY IS PUBLIC SPACE IMPORTANT?

- Reduce the impact of climate change and heat island effect
- Encourage people to walk and cycle
- Contribute to develop a sense of civic cohesion and citizenship
- Improve safety and reduces fear of crime
- Increases prosperity
A ratio of 50% of public space is common in successful cities. Manhattan, Barcelona, and Brussels have up to 35% of city area allocated to street space and an additional 15% for other public uses.
Water and sanitation provision is related to Land allocated to street and to street density.

Required conditions for Public Transport
Land allocated to street (LAS) in cities, Europe, North America & Oceania

Disconnected, fragmented suburbs adjacent to well-connected city cores

A WELL PLANNED URBANIZATION: A KEY COMPONENT OF SUSTAINABLE DEVELOPMENT
**SAMPLING METHOD**

**Saudi Arabia CPI – Jeddah**
*(Patterns at intra-city level)*

<table>
<thead>
<tr>
<th></th>
<th>Atomistic areas</th>
<th>Residential areas</th>
<th>Informal areas</th>
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</thead>
<tbody>
<tr>
<td>Land allocated to streets</td>
<td>25.99</td>
<td>34</td>
<td>33</td>
</tr>
<tr>
<td>Street density</td>
<td>46.4</td>
<td>19</td>
<td>21</td>
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<tr>
<td>Intersection Density</td>
<td>925</td>
<td>130</td>
<td>151</td>
</tr>
</tbody>
</table>
**CPI**
STREET CONNECTIVITY AND SPATIAL INDICATORS

**UN-Habitat recommendation:**
- Land Allocated to Streets: 30%
- Street Density: 20 km / km²
- Intersection Density: 100 / km²

Average street width: 15 m
Street-to-street distance: 100 m
Distance between intersection: 85 m

---

**Neiva, Colombia:**

- Land Allocated to Streets: 22.5%
- Street Density: 25.75 km / km²
- Intersection Density: 243 / km²

Average street width: 9.1 m
Street-to-street distance: 80.8 m
Distance between intersection: 71.7 m
CPI
STREET CONNECTIVITY AND SPATIAL INDICATORS

Dammam, Saudi Arabia:

Land Allocated to Streets: 23 %
Street Density: 17 km /km²
Intersection Density: 72 / km²

Average street width: 17.9 m
Street-to-street distance: 149.5 m
Average block size: 131.6 m

Correlation between street density and intersection density
**LAS:SD ratio**
Measures the *scale* of the urban grain

**SD:ID ratio**
Measures the *skewness* of the urban pattern
CPI
CLASIFICATION OF CITIES:
CLIMATIC CONDITIONS
Street Connectivity – The Form of the City - SA

<table>
<thead>
<tr>
<th>City</th>
<th>Land / streets</th>
<th>Street density</th>
<th>Intersection D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Riyadh</td>
<td>27.87</td>
<td>15.21</td>
<td>109.6</td>
</tr>
<tr>
<td>Makkah</td>
<td>23.12</td>
<td>14.98</td>
<td>111.11</td>
</tr>
<tr>
<td>Jeddah</td>
<td>22.83</td>
<td>14.08</td>
<td>125.71</td>
</tr>
<tr>
<td>Taif</td>
<td>22.65</td>
<td>16.7</td>
<td>146.13</td>
</tr>
<tr>
<td>Medina</td>
<td>27.19</td>
<td>15.85</td>
<td>153.83</td>
</tr>
<tr>
<td>Tabuk</td>
<td>26.65</td>
<td>14.21</td>
<td>86.67</td>
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<tr>
<td>Khamis Mushait</td>
<td>20.98</td>
<td>15.45</td>
<td>123.04</td>
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<tr>
<td>Najran</td>
<td>15</td>
<td>10.06</td>
<td>53.21</td>
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<td>Jizan (Jazan)</td>
<td>22.72</td>
<td>13.71</td>
<td>105.45</td>
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<tr>
<td>Ha'il (Haiel)</td>
<td>24.49</td>
<td>14.75</td>
<td>110.91</td>
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<tr>
<td>Arar (Araar)</td>
<td>29.27</td>
<td>16.03</td>
<td>115.42</td>
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<tr>
<td>Al Bahah</td>
<td>13.98</td>
<td>10.34</td>
<td>59.35</td>
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<tr>
<td>Sakaka</td>
<td>21.43</td>
<td>12.57</td>
<td>90.67</td>
</tr>
</tbody>
</table>

City prosperity is made possible by its **spatial capital** - the density, streets and public open space
IDENTIFYING THRESHOLDS

Poverty Rate

\[ y = 132.97x^{0.1243} \]

\[ R^2 = 0.3411 \]

IDENTIFYING FACTORS WITH LARGER INFLUENCE

Lead Allocated to Street

Intersection Density
### Deviation from City Core values in Colombian cities

<table>
<thead>
<tr>
<th></th>
<th>Land Allocated to Streets</th>
<th>Street Density</th>
<th>Intersection Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mass Housing Projects</td>
<td>-16 %</td>
<td>15 %</td>
<td>82 %</td>
</tr>
<tr>
<td>Informal Areas</td>
<td>-34 %</td>
<td>34 %</td>
<td>130 %</td>
</tr>
<tr>
<td>Industrial Areas</td>
<td>-31 %</td>
<td>-40 %</td>
<td>-38 %</td>
</tr>
</tbody>
</table>

### SD:ID ratio

**Urban Pattern Quadrants**

- **Atomistic pattern**
- **Industrial pattern**
- **Theoretical grid pattern**

Typologies in Colombian cities:
- Average All Regions
- Colombian Average
- Historic Center
- Consolidated Areas
- Mass Housing
- Informal Areas
- Industrial
- UN-Habitat
From urban form – to urban planning

City Prosperity Initiative
Regina Orvañanos Murguía
Regina.orvananos@unhabitat.org
The Structure of the CPI

The following graphic presents the results of each of the six dimensions of the CPI based on the values provided in the latest available year.

Standard Deviation: 17.96

*Values are estimated for training purposes and should not be quoted.*

UN-Habitat 2014

Gasa
Bhutan
Iniciativa de las Ciudades Prósperas

Gasa
Bhutan

Subdimensions of the CPI

<table>
<thead>
<tr>
<th>Subdimension</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Economic Strength</td>
<td>61.77</td>
</tr>
<tr>
<td>Employment</td>
<td>45.19</td>
</tr>
<tr>
<td>Housing Infrastructure</td>
<td>58.29</td>
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<tr>
<td>Social Infrastructure</td>
<td>60.85</td>
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<tr>
<td>ICT</td>
<td>74.44</td>
</tr>
<tr>
<td>Urban Form</td>
<td>62.22</td>
</tr>
<tr>
<td>Urban Mobility</td>
<td>59.36</td>
</tr>
<tr>
<td>Education</td>
<td>54.11</td>
</tr>
<tr>
<td>Health</td>
<td>47.44</td>
</tr>
<tr>
<td>Security</td>
<td>26.67</td>
</tr>
<tr>
<td>Public Space</td>
<td>23.21</td>
</tr>
<tr>
<td>Economic Equity</td>
<td>12.50</td>
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<tr>
<td>Social Inclusion</td>
<td>52.88</td>
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<tr>
<td>Gender Inclusion</td>
<td>43.00</td>
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<tr>
<td>Air Quality</td>
<td>25.00</td>
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<tr>
<td>Waste Management</td>
<td>33.31</td>
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<td>Water and Energy</td>
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<td>Participation and Accountability</td>
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<td>Municipal Finance</td>
<td>33.31</td>
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</table>

Standard Deviation: 32.71

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City Prosperity Initiative

Gasa
Bhutan

The Structure of the CPI

The CPI consists of six dimensions. Each dimension has a series of subindices or dimensions, which in turn include numerous indicators that allow specific index calculation. In this sense, the CPI produces six subindices related to the six dimensions of prosperity: Productivity, Infrastructure Development, Quality of Life, Equity and Social Inclusion, Environmental Sustainability and Urban governance and Legislation. The aggregation of these six sub-indices generated a consolidated value representing the CPI.

CPI Results

<table>
<thead>
<tr>
<th>Dimension</th>
<th>CPI</th>
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</thead>
<tbody>
<tr>
<td>Productivity</td>
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<tr>
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<tr>
<td>Quality of Life</td>
<td>93.54</td>
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<tr>
<td>Equity and Social Inclusion</td>
<td>70.80</td>
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<tr>
<td>Environmental Sustainability</td>
<td>63.76</td>
</tr>
<tr>
<td>Urban Governance and Legislation</td>
<td>61.98</td>
</tr>
<tr>
<td>City Prosperity Index</td>
<td>61.51</td>
</tr>
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</table>

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City Prosperity Initiative

The Structure of the CPI

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<tbody>
<tr>
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<td>Infrastructure Development</td>
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<td>Quality of Life</td>
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<td>Environmental Sustainability</td>
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UN-Habitat 2014
City Prosperity Initiative

The Structure of the CPI

The following graphic presents the results of each of the six dimensions of the CPI based on the values provided in the latest available year.

Standard Deviation: 18.27

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Iniciativa de las Ciudades Prósperas

Subdimensions of the CPI

<table>
<thead>
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<th>Value</th>
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<tr>
<td>Economic Strength</td>
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<tr>
<td>Employment</td>
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<td>Housing Infrastructure</td>
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<td>ICT</td>
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<td>Urban Mobility</td>
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<td>Education</td>
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<tr>
<td>Economic Equity</td>
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<td>Social Inclusion</td>
<td>44.76</td>
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<tr>
<td>Gender Inclusion</td>
<td>50.00</td>
</tr>
<tr>
<td>Air Quality</td>
<td>44.76</td>
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<tr>
<td>Waste Management</td>
<td>50.00</td>
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<tr>
<td>Water and Energy</td>
<td>80.00</td>
</tr>
<tr>
<td>Participation and Municipal Finance</td>
<td>80.00</td>
</tr>
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</table>

Standard Deviation 24.33

*Values are estimated for training purposes and should not be quoted.*
City Prosperity Initiative

Malang
Indonesia

The structure of the CPI

The data entered in the previous sheet has been used to re-calculate two scenarios of the CPI. Scenario 1 refers to a realistic scenario for year 2020 based on identified priority areas. Scenario 2 should refer to the optimal scenario for year 2020, also based on the identified priority areas.

CPI Results

<table>
<thead>
<tr>
<th></th>
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<th>Scenario 1</th>
<th>Scenario 2</th>
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</table>

City Prosperity Index

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City Prosperity Initiative

Malang
Indonesia

The Structure of the CPI

The CPI consists of six dimensions. Each dimension has a series of subindices or dimensions, which in turn include numerous indicators that allow specific index calculation. In this sense, the CPI produces six subindices related to the six dimensions of prosperity: Productivity, Infrastructure Development, Quality of Life, Equity and Social Inclusion, Environmental Sustainability and Urban governance and Legislation. The aggregation of these six sub-indices generated a consolidated value representing the CPI.

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<tr>
<td>Environmental Sustainability</td>
<td>47.17</td>
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<td>Urban Governance and Legislation</td>
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<tr>
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<td><strong>55.97</strong></td>
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</tbody>
</table>

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City Prosperity Initiative

Malang
Indonesia

The Structure of the CPI

The following graphic presents the results of each of the six dimensions of the CPI based on the values provided in the latest available year.

Standard Deviation: 7.73

City Prosperity Index

UN-Habitat 2014

*Values are estimated for training purposes and should not be quoted.
Iniciativa de las Ciudades Prósperas

Malang
Indonesia

Suddimensions of the CPI

Standard Deviation 22.36

*Values are estimated for training purposes and should not be quoted.
Action Plan - Environmental Sustainability Improvement of Malang City - Utilizing City Prosperity Index

Presented By:
Indonesian Participant
(Ashfa Achmad, I Nyomas Suluh Wijaya, Desiana Sinukaban)

Event:
Action Planning for Cities Oriented by the SDGs 11 and Supported by The City Prosperity Index
GANGWON, 2nd JUNI 2017

OUTLINE:

1. Malang City
2. Key Problem as a CPI Results
3. Goal/Objectives
4. Action Plan
5. Applicability of Using CPI to Support Malang City Planning
• Malang municipality is second biggest city in East Java Province, named after Surabaya City.
• According to the astronomical location, Malang City lies between 112.06° – 112.07° East Longitude, 7.06° – 8.02° South Latitude
• Total area : 110.06 km²
• Population : 851,298 person
• Since 2000s, Malang City is categorized as metropolitan city by the population characteristic
• Regional function of Malang City is center of development for:
  • tourism services
  • international education (3 state universities, 5 private big universities), and
  • local economic creative.
• City income perkapita Rp. 60,881 million

Source: East Java Provincial Spatial Plan 2011-2031
MALANG CITY (Continued)

Fact of the development by the municipal spatial plan:
1. Boost of economy development (escalates local GDP)
2. Trend of population boost since 2000 (immigrants, temporary residents)
3. Public infrastructure insufficiency
4. Large land conversion for development (lack of open green areas)
5. Traffic congestion (ill managed transport)
6. Unfinished problems of high density settlements (tends to be slums area)

MALANG CITY (Continued)

Type of urban high density settlements of Malang:
• Density (in average): 562 person/ha
• Located in urban development areas
• Less of Basic urban services
  - Roads
  - Footpaths
  - Water
  - Drainage
  - Sanitation
  - Education Facilities
• Disaster Prone Areas (land slides, fire)
Key Problem as a CPI Results

Source: Statistics Of Malang Municipality, 2016
CPI Results corresponds to the fact of development

Improving the Environmental Sustainability by Empowering the Community for better environmental awareness

Some focused improvements /Goals

• To minimize the occurrence of danger from the environment to health and welfare of human life;
• To improve the health and welfare of human life and to prevent from the danger of disease;
• To realize the availability of solid waste facilities and infrastructure;
• To realize the availability of waste water treatment and infrastructure;
• To increase the coverage of waste services and optimizing waste management;
• To encourage the increasing of healthy lifestyle awareness behavior early on.
## Action Plan

**Title**: Improving the Environmental Sustainability of Malang City  
**Overall goal**: To reduce environmental degradation and the impact for citizens and productivity

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
<th>Timeline</th>
<th>Responsible by</th>
<th>Resources</th>
<th>Level</th>
<th>Form</th>
<th>Urgent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific Obj. 1</td>
<td>Water and Energy</td>
<td></td>
<td>Municipal Department of General Work</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity 1</td>
<td>Community education for energy savings and alternatives</td>
<td>2017 - 2027</td>
<td>Mun. Government</td>
<td>✔ ✔ ✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity 3</td>
<td>Installation of fresh water distribution infrastructure</td>
<td>2017 - 2022</td>
<td>Mun. General Work Department, Mun. Environmental Board, Community, Universities &amp; NGO</td>
<td>✔ ✔ ✔ ✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity 4</td>
<td>Mapping potential open green areas expansion (related to building intensity)</td>
<td>2017 - 2022</td>
<td>Mun. Government + CSR</td>
<td>✔ ✔ ✔ ✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity 6</td>
<td>Waste water treatment installation</td>
<td>2017 - 2022</td>
<td>Mun. Government</td>
<td>✔ ✔ ✔ ✔</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity 7</td>
<td>Low-income housing improvement</td>
<td>2017 - 2022</td>
<td>Mun. Government + CSR</td>
<td>✔ ✔ ✔</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Action Plan... (Continued)**

<table>
<thead>
<tr>
<th>Activity</th>
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<th>Form</th>
<th>Urgent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific Obj. 2</td>
<td>Waste management</td>
<td></td>
<td>Municipal Department of General Work</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity 2</td>
<td>Developing the community solid waste management (separation-collecting-dumping)</td>
<td>2017 - 2022</td>
<td>Mun. Government + Community</td>
<td>✔ ✔ ✔</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Action Plan ... (Continued)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
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<th>Responsible</th>
<th>Resources</th>
<th>Level</th>
<th>Form</th>
<th>Urgent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity 7</td>
<td>Improving capacity and quality of City's Dumping Area</td>
<td>2017 - 2027</td>
<td>Mun. Government</td>
<td>✔ ✔ ✔ ✔</td>
<td>✔</td>
<td>Municipal, Financial, System, Capacity Building</td>
<td>Weak</td>
</tr>
</tbody>
</table>

## Action Plan ... (Continued)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
<th>Timeline</th>
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<th>Resources</th>
<th>Level</th>
<th>Form</th>
<th>Urgent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity 6</td>
<td>Developing city line infrastructure</td>
<td>2022 - 2027</td>
<td>Community, Universities &amp; NGO</td>
<td>✔ ✔</td>
<td>✔</td>
<td>Municipal, Financial, System, Capacity Building</td>
<td>Weak</td>
</tr>
</tbody>
</table>
The following graphic presents the City Prosperity Index baseline, and the estimation for two scenarios proposed.
Applicability of Using CPI to Support Malang City Planning

• Do you find it useful for your city/your work?
  ➢ CPI helps in understanding city’s recent condition based upon the adequate information → demand in completing city’s database.
  ➢ CPI helps in revealing the practical strengths and weakness of the city

• Do you see any potential to apply CPI in your city?
  ➢ Yes, CPI provides good benefits for describing the dimensional and sub dimensional performance associated with the realization of sustainable development. For next step, we need a more comprehensive model to apply it in an action plan.

• What are the financial resources could be mobilized to make it happen?
  ➢ Financing sources can come from the provincial and municipal governments, and Corporate Social Responsibility (CSR).
Best Practise

Kampung Jodipan – Kampung Warna

• Located in Brantas Riverbanks
• Local tourism activities for environmental upgrading

Best Practise..... (Continued)

Kampung Glintung – Kampung Go Green

• Located in Purwantoro Sub-district, Blimbing district
• Conservation and education the community activity for upgrading settlement
THANK YOU

감사합니다

Obrigado

Teşekkür Ederiz

THANK YOU

Dank

Vielen Dank

Paldies
ACTION PLANNING FOR CITIES

CASE STUDY ULAANBAATAR CITY

Date: 28 May - 3 Jun, 2017

PARTICIPANTS

* Ts.Tumurbatar - Senior officer of the Department Green Development Policy and Planning, Ministry of Nature, Environment and Tourism of Mongolia

* L.Solongo - Head of Design division - Urban Planning and Design Institute of Ulaanbaatar City

* N.Naranbat - Urban planner – UN Habitat Mongolia office
Ulaanbaatar city dominates Mongolia's economy, accounting for more than 60% of the country's GDP.
Current situation in Ulaanbaatar city

- Water resource
- Damaged environment, including polluted air, water, soil
- Lack of development in satellite towns
- Inadequate of institutional capacity and legal environment
- Inadequate of municipal funding
- Unplanned expansion of the city, inappropriate land use and ger areas
- Traffic and congestion
- Lack of engineering infrastructure
- Lack of housing supply with basic amenities

City Prosperity Initiatives

MEASURE - by critical mass of data and information

UNDERSTAND - the factor that generate

CHANGE - by formulating policies, strategies and action plans

MONITOR - the outcomes of policy implementation
Radial graphics

Infrastructure Development
- Housing Infrastructure
- Social Infrastructure
- Urban Mobility
- ICT

Quality of Life
- Health
- Public Space
- Safety and Security

Equity and Social Inclusion
- Economic Equity
- Gender Inclusion
- Social Inclusion

Environmental Sustainability
- Air Quality
- Waste and Energy
- Waste Management

City Prosperity Index

Productivity
- Urban Governance and Legislation
- Environmental Sustainability
- Equity and Social Inclusion

Infrastructure Development

Quality of Life

Graph showing the City Prosperity Index for various categories.
Ulaanbaatar City Government and Asian Development Bank (ADB) started the new joint project “Urban Services and Ger Areas Development Investment Program” with UN Habitat office in Mongolia.

- Decentralization by 8 subcenters
  - 2 Sub-city centers
  - 6 District centers
- CBD, Public, Residential, Industrial, High Technology, Logistics, etc. main 7 and 20 sub-zones of planning, zoning system
Undeveloped area

- Without health service
- Unpaved and unplanned roads
- Potable and hot water
- No sanitation system
- Heating system
- Public transport

“BAYANKHOSHUU SUB CENTER DEVELOPMENT” PROJECT

- Ulaanbaatar City Government and Asian Development Bank / ADB/ started the new joint project “Urban Services and Ger Areas Development Investment Program” with UN Habitat office in Mongolia.

- This project followed the “Adjustments to the Ulaanbaatar City Urban Development Master plan 2020 and Development Directions 2030”.

- The revised Master plan includes, for the first time, “ger” area development that identifies a set of sub centers to be improved for rebalancing Ulaanbaatar city’s development.
• Bayankhoshuu sub center is the major and priority sub center for redevelopment within the mid ger area.
• Development pressure on Ulaanbaatar city is pronounced in a city which has two distinct parts: (i) formal or urban core area, consisting mainly of the large apartment blocks with networked utility services, including dedicated heating, potable and hot water, and sanitation systems. The majority of business and services are located in this area. (ii) Ger areas, located on the periphery of the city center, characterized by the unplanned nature, subserviced plots—usually from 0.05ha
<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
<th>Timeline</th>
<th>Responsible by</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Detailed blue print</td>
<td>Establish infrastructure detailed design, improved detailed plan and approved by Citizens’ Representative</td>
<td>2016-2017</td>
<td>Working with the project implementation in cooperation with consultancy services teams of Dohwa (South Korea), Egis (France).</td>
<td>ADBank + UB City Government</td>
</tr>
<tr>
<td>2. Selection performer</td>
<td>To announce a tender - Making contract</td>
<td>2017 Jan. – 2018 Apr</td>
<td>UB City Program Management office + ADB</td>
<td>ADBank + UB City Government</td>
</tr>
<tr>
<td>3. To ensure communities and enterprises meaningful engagement and participation in the project</td>
<td>Organize focus group meeting - support to establish the primary groups and community councils</td>
<td>2016 Jan to 2018 Aug</td>
<td>UB City Program Management office + UN Habitat’s Mongolian office + ADB</td>
<td>ADBank + UB City Government</td>
</tr>
<tr>
<td>4. Resettlement plots</td>
<td>Inform and provide notice of resettlement - Report evaluation property - Allocate to affected households</td>
<td>2017-2018</td>
<td>UB City Program Management office + Capital City Property Department, Egis (France).</td>
<td>ADBank + UB City Government</td>
</tr>
<tr>
<td>5. Construction work</td>
<td>Under ground work - building and road</td>
<td>2017-2019</td>
<td>UB City Program Management office + Performer</td>
<td>ADBank + UB City Government</td>
</tr>
<tr>
<td>6. Check list</td>
<td>Detailed plan - selected performer agency - approved suggestion for social activity - operation - construction work</td>
<td></td>
<td></td>
<td>ADBank + UB City Government</td>
</tr>
</tbody>
</table>
# Title: Undeveloped residential area

**Overall goal**: Improve to Bayankhoshuu subcenter in Capital city

<table>
<thead>
<tr>
<th>Activities</th>
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</thead>
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<tr>
<td>Detailed blue print</td>
<td>Establish Infrastructure detailed design -Improved detailed plan and approved by Citizens' Representative</td>
<td>2016-2017</td>
<td>Working with the project implementation in cooperation with consultancy services teams of Dohwa/South Korea.</td>
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<td>Selection performer</td>
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**Title: Undeveloped residential area**

**Overall goal**: Improve to Bayankhoshuu subcenter in Capital city

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<td>UB City Program Management office + UN Habitat’s Mongolian office</td>
<td>ADBank+UB City Government</td>
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<tr>
<td>Resettlement plots</td>
<td>Inform and provide notice of resettlement Report evaluation property Allocate to affected households</td>
<td>2017–2018</td>
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</table>
Title: Undeveloped residential area

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<th>Timeline</th>
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<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>- under ground work</td>
<td>2017-2019</td>
<td>UB City Program Management office + Performer</td>
<td>ADBank+UB City Government</td>
</tr>
<tr>
<td>work</td>
<td>- building and Road</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Check list</td>
<td>2017-2019</td>
<td>ADBank+UB City Government</td>
<td>ADBank+UB City Government</td>
</tr>
<tr>
<td></td>
<td>- detailed plan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- selected performer agency</td>
<td></td>
<td></td>
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<td>- approved suggestion for social activity</td>
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</tr>
<tr>
<td></td>
<td>- construction work</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Result

- Action plan for the implementation of selected environmental, social and environmental infrastructure will improve the environmental conditions
- We are building affordable houses
- Make happy life for everyone
THANK YOU
BAYARLALAA

2017
City Prosperity Initiative

Can Tho
vietnam

The Structure of the CPI

The CPI consists of six dimensions. Each dimension has a series of subindices or dimensions, which in turn include numerous indicators that allow specific index calculation. In this sense, the CPI produces six subindices related to the six dimensions of prosperity: Productivity, Infrastructure Development, Quality of Life, Equity and Social Inclusion, Environmental Sustainability and Urban Governance and Legislation. The aggregation of these six sub-indices generated a consolidated value representing the CPI.

CPI Results

<table>
<thead>
<tr>
<th>Subindex</th>
<th>CPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Productivity</td>
<td>52.50</td>
</tr>
<tr>
<td>Infrastructure Development</td>
<td>35.77</td>
</tr>
<tr>
<td>Quality of Life</td>
<td>74.24</td>
</tr>
<tr>
<td>Equity and Social Inclusion</td>
<td>42.27</td>
</tr>
<tr>
<td>Environmental Sustainability</td>
<td>94.90</td>
</tr>
<tr>
<td>Urban Governance and Legislation</td>
<td>85.28</td>
</tr>
<tr>
<td>City Prosperity Index</td>
<td><strong>60.22</strong></td>
</tr>
</tbody>
</table>

*Values are estimated for training purposes and should not be quoted.*
The Structure of the CPI

The following graphic presents the results of each of the six dimensions of the CPI based on the values provided in the latest available year.

*Values are estimated for training purposes and should not be quoted.*
Iniciativa de las Ciudades Prósperas

*Can Tho*

*Vietnam*

Suddimensions of the CPI

<table>
<thead>
<tr>
<th>Economic Strength</th>
<th>Employment</th>
<th>Housing Infrastructure</th>
<th>Social Infrastructure</th>
<th>ICT</th>
<th>Urban Form</th>
<th>Urban Mobility</th>
<th>Education</th>
<th>Health</th>
<th>Security</th>
<th>Public Space</th>
<th>Economic Equity</th>
<th>Social Inclusion</th>
<th>Gender Inclusion</th>
<th>Air Quality</th>
<th>Waste Management</th>
<th>Water and Energy</th>
<th>Participation and Accountability</th>
<th>Municipal Finance</th>
<th>Productivity</th>
<th>Infrastructure Development</th>
<th>Quality of Life</th>
<th>Equity and Social Inclusion</th>
<th>Environmental Sustainability</th>
<th>Urban Governance and Legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td>45.68</td>
<td>60.34</td>
<td>70.20</td>
<td>30.44</td>
<td>19.42</td>
<td>49.64</td>
<td>28.44</td>
<td>36.47</td>
<td>98.71</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>85.46</td>
<td>72.87</td>
<td>49.64</td>
<td>28.44</td>
<td>30.44</td>
<td>19.42</td>
<td>49.64</td>
<td>28.44</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Standard Deviation* 28.49

*Values are estimated for training purposes and should not be quoted.*
Vietnam

The 5th country having the biggest urban land in the East Asia
The 6th highest urban population country in the East Asia with 23 million people
→ Rapid urbanization
Can Tho city

Land area: 1,438.96 km²
Location: central of the Mekong delta
Population: 1.25 million
Characteristics: a central city, in the key economic regions of the MD, rapid urbanization, have Can Tho International airport, Cai Cui port & Can Tho bridge
9 districts, 36/36 communes/wards have transport infrastructure that cars can go to the center

Problems of Can Tho city

• Facing problems in waste treatment, gas emissions, infrastructure, housing, public places, equality in development, etc
• Need a tool to measure urban development in all aspects
  → propose policy for a sustainable urban development
Proposed solution:

Can Tho started to calculate and implement CPI (Cities Prosperity Index) in 2016 supported by UN-Habitat
SUB DIMENTION

INFRASTRUCTURE DEVELOPMENT

Overall goal | Increase the Internet access in both quantity and quality

### Specific objective 1: Improved technical infrastructure

<table>
<thead>
<tr>
<th>Description</th>
<th>Timeline</th>
<th>Responsible by</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity 1: Install optical cable to increase speed and quality of the network</td>
<td>2016-2020</td>
<td>Dept. Info&amp;Comm.; local people’s committees</td>
<td>State budget</td>
</tr>
<tr>
<td>Activity 2: Install more stations in rural areas for better coverage in rural area</td>
<td>2016-2020</td>
<td>Dept. Info&amp;Comm.; Company (Viettel, VNPT, etc.); local people’s committees</td>
<td>State budget, social capital mobilization</td>
</tr>
<tr>
<td>Activity 3: Better maintain and utilize current network</td>
<td>Yearly</td>
<td>Dept. Info&amp;Comm.; local people’s committees</td>
<td>State budget</td>
</tr>
</tbody>
</table>

### Specific objective 2: Increased people’s awareness on benefits of having Internet access

<table>
<thead>
<tr>
<th>Description</th>
<th>Timeline</th>
<th>Responsible by</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity 1: Organize events and deliver brochure, leaflet</td>
<td>2017</td>
<td>Dept. Info&amp;Comm. and other depts; local authority; media; communities</td>
<td>State budget</td>
</tr>
<tr>
<td>Activity 2: Provide testing/pilot installation in rural areas in community halls</td>
<td>2017</td>
<td>Dept. Info&amp;Comm.; private sector; local communities</td>
<td>Social capital; State budget</td>
</tr>
</tbody>
</table>

### Specific objective 3: Strengthened effective use of Internet among private sector and communities

<table>
<thead>
<tr>
<th>Description</th>
<th>Timeline</th>
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<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity 1: Organize short course trainings (on Internet marketing and sale, etc.) for enterprises and communities</td>
<td>2017-2018</td>
<td>Dept. Info&amp;Comm.; institutions, universities, associations</td>
<td>State budget, social capital, UN agency, development orgs.</td>
</tr>
<tr>
<td>Activity 2: Publish Handbook or guideline</td>
<td>2017-2018</td>
<td>Dept. Info&amp;Comm.; institutions, universities</td>
<td>State budget, social capital, UN agency, development orgs.</td>
</tr>
</tbody>
</table>
### INFRASTRUCTURE DEVELOPMENT

<table>
<thead>
<tr>
<th>Overall goal</th>
<th>Increase the number of physicians over 1,000 inhabitants</th>
</tr>
</thead>
</table>

#### Specific objective 1: Attract more physicians from other cities/provinces to work in the city

<table>
<thead>
<tr>
<th>Description</th>
<th>Timeline</th>
<th>Responsible by</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity 1</td>
<td>Formulate and implement policy incentives (salary scales, housing, working environment etc.)</td>
<td>2018-2020</td>
<td>Dept. Health; hospitals and medical centers</td>
</tr>
</tbody>
</table>

#### Specific objective 2: Strengthen training and education system in healthcare sector

<table>
<thead>
<tr>
<th>Activity 1</th>
<th>For long-term education (6-7 years)</th>
<th>2017-2020</th>
<th>Dept. Health; Dept. Internal Affairs; universities and colleges</th>
<th>State budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity 2</td>
<td>For short-term education (from medical workers to physicians – 2 to 3 years)</td>
<td>2017-2020</td>
<td>Dept. Health; Dept. Internal Affairs; universities and colleges</td>
<td>Social capital</td>
</tr>
</tbody>
</table>

#### Specific objective 3: Attract funding for private hospital development

| Activity 1  | Formulate and implement policy incentives | 2018-2020 | Dept. Health; Dept Planning&Investment | State budget, social capital |

### EQUITY AND SOCIAL INCLUSION

<table>
<thead>
<tr>
<th>Overall goal</th>
<th>Social inclusion</th>
</tr>
</thead>
</table>

#### Specific objective 1: Decrease the number of slums households in the city

<table>
<thead>
<tr>
<th>Description</th>
<th>Timeline</th>
<th>Responsible by</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity 1</td>
<td>Social Housing Programme</td>
<td>2016-2020</td>
<td>Dept. Construction</td>
</tr>
<tr>
<td>Activity 2</td>
<td>Onsite resettlement</td>
<td>2016-2020</td>
<td>Local authorities</td>
</tr>
<tr>
<td>Activity 3</td>
<td>Create livelihoods for resettled habitants</td>
<td>2016-2020</td>
<td>Local authorities; civil associations, NGO, enterprises, institutes</td>
</tr>
</tbody>
</table>
Thank you