



CENTRE FOR
NEIGHBOURHOOD
STUDIES

Resetting Life for Sustainability: Collaborative-Creation of Smarter and Sustainable Neighbourhoods

| Mark Anthony M. Gamboa

Adapted from the working paper by the same author entitled "Co-CrEaTE N4SID: Collaborative-Creation of Ecologically Just and Technologically Enhanced Neighbourhoods for Sustainable and Inclusive Development"

TRANSFORMATION OF EDSA DESIGN APPROACH



Bike lane

Plastic bollards
Stencil markings
Signage

Pedestrian Crossing

Paint
Signage
Speed hump

Segregated bus lane

Concrete barriers at station
Low barrier at lanes

Boarding Area

Scaffolding
Paint
Signage

9

EDSA bike lane closed after half-day trial run

By: **Krixia Subingsubing - Reporter** / @KrixiasINQ Philippine Daily Inquirer / 04:05 AM May 25, 2020



NEW NORMAL Transport coalition Edsa Evolution is optimistic that the government will include active transport like bikes and scooters in its post coronavirus planning. —NIRO JESUS ORBETA

MANILA, Philippines — For seven years, Ricky de Vera, 55, has been making his way around Metro Manila on his trusty mountain bike. While mostly enjoyable, his road trips are also fraught with peril as he jockeys for space amid a sea of vehicles.

EDITORS' PICK MOST READ

NEWSINFO PH COVID-19 cases ne 19K mark, as recovery breach 4,000

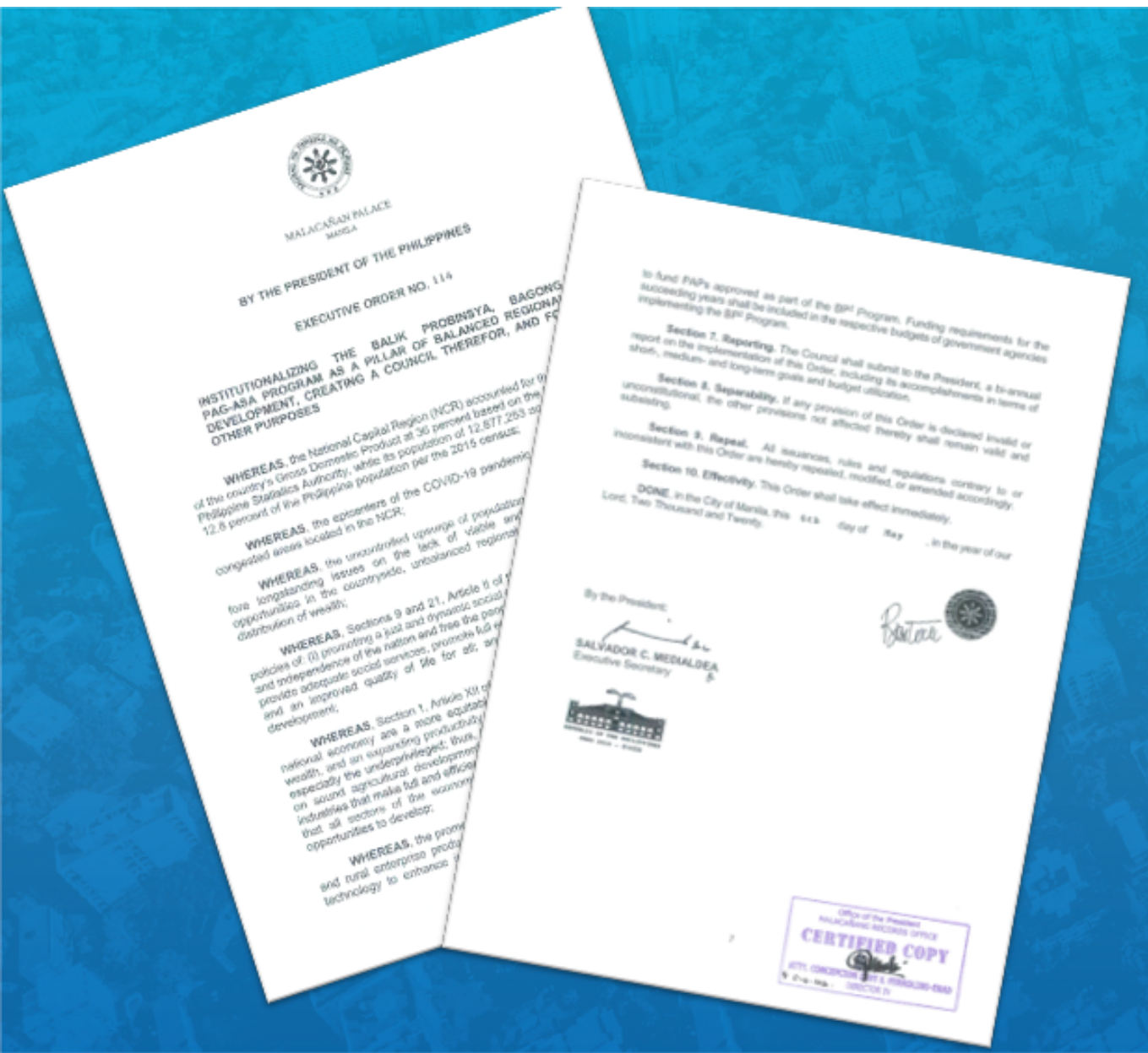
GLOBALIZATION PH walks back, suspet VFA termination 'upo the President's instruction'

ENTERTAINMENT Cherry Mobile teams' with Cloud Panda PH, launches online store

NEWSINFO San Juan City to launc pop-up bike lanes

NEWSINFO Over 30 health worke felled or sickened by COVID-19 got no aid fi 'Bayanihan' Act

LIFESTYLE Leveling up your 'tutic bahay' with the kitchy companion you never knew you needed



Balik Probinsya, Bagong Pag-Asa Program



Image Source: Joseph Almer Pedrejas | Manila Bulletin



MALACAÑAN PALACE
MANILA

BY THE PRESIDENT OF THE PHILIPPINES
EXECUTIVE ORDER NO. 114

INSTITUTIONALIZING THE BALIK PROBINSYA, BAGONG PAG-ASA PROGRAM AS A PILLAR OF BALANCED REGIONAL DEVELOPMENT, CREATING A COUNCIL THEREFOR, AND FOR OTHER PURPOSES

WHEREAS, the National Capital Region (NCR) accounted for the country's Gross Domestic Product at 36 percent based on the National Statistics Authority, while its population of 12,817,263 accounts for 12 percent of the total population per the 2015 census; and

to fund PAPs approved as part of the BP² Program. Funding requirements for the succeeding years shall be included in the respective budgets of government agencies implementing the BP² Program.

Section 7. Reporting. The Council shall submit to the President, a bi-annual report on the implementation of this Order, including its accomplishments in terms of short-, medium- and long-term goals and budget utilization.

Section 8. Separability. If any provision of this Order is declared invalid or unconstitutional, the other provisions not affected thereby shall remain valid and subsisting.

Section 9. Repeal. All issuances, rules and regulations contrary to and inconsistent with this Order are hereby repealed, modified, or amended.

Section 10. Effectivity. This Order shall take effect immediately.

DOE

WHEREAS, to reverse migration to the NCR and other congested metropolises, as well as to attain rural prosperity through equitable distribution of wealth, resources and opportunities, a balanced regional development program to foster socially cohesive, resilient and sustainable rural communities needs to be institutionalized;

provides for an improved and an improved development.

WHEREAS, Section 1, Article XIV of the Constitution provides for a more equitable and balanced development of the national economy and an expanding productivity of the people; and



Section 4. The Balik Probinsya, Bagong Pag-asa Program and its Key Areas. The BP² Program is hereby established as a national program of the government, and adopted as a continuing strategy to drive inclusive and balanced urban and rural development, ensure rural prosperity and complement initiatives towards attaining resilient and sustainable communities.

Balik Probinsya, Bagong Pag-Asa Program



Image Source: Joseph Almer Pedrajas | Manila Bulletin

We have the solutions

BUT what was the problem?



An aerial photograph showing a vast, densely packed informal settlement (slum) in the foreground, with a modern city skyline of high-rise buildings in the background. The slum consists of numerous small, multi-story buildings with various roof colors and materials, some appearing to be made of brick or concrete. The background skyline features several prominent skyscrapers under a clear sky.

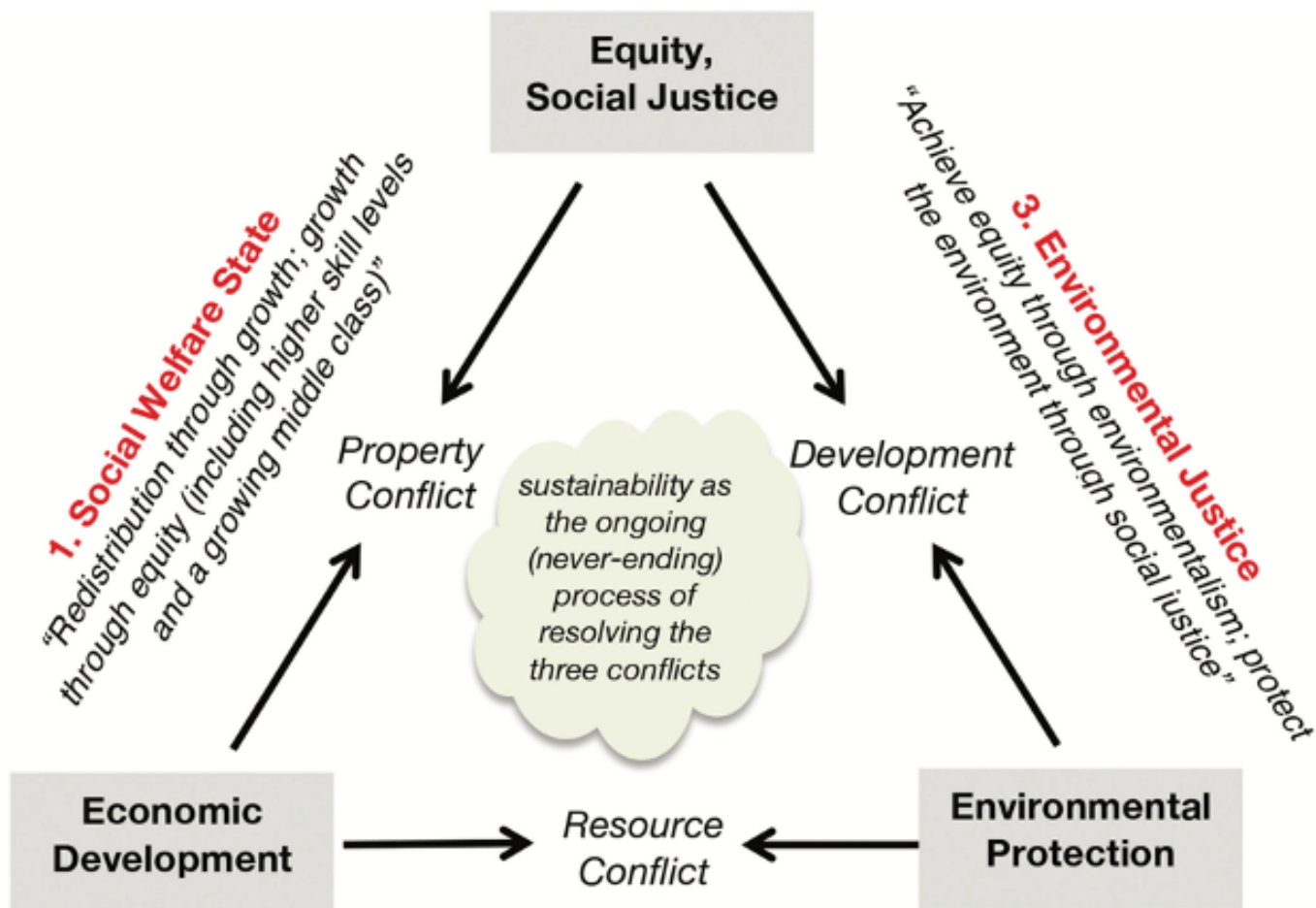
Transitioning to urban sustainability and justice

If the purpose of planning is not for human and planetary health, then what is it for?

UN-Habitat and World Health Organization (2020)

At least 963 families in Brgy. Addition Hills in Mandaluyong lost their homes [on 01 June 2020], the first day of easing COVID-19 quarantine measures in Metro Manila.

Photo by: @chinogaston | DMA News



The Planner's Triangle: Three Priorities, Three Conflicts

(Campbell 2016)

- **‘Wicked side’ of planning**
- **Chaotic urban futures**
- **No panaceas exist**
- **Human behaviour in space**



Photo Credit: Jez Aznar | The New York Times

Transitioning
to the “**NEW NORMAL**”
or better still,
the “**SMART NORMAL**”



Paradigm shift that
provides an alternative
framework to **RE-THINK**
urbanisation



**REIMAGINATION OF
CITIES** through the
smart and sustainable
neighbourhoods lens

Adaptive planning



Understanding the **dynamics** that give rise to desirable or undesirable phenomena and less about how to find solutions to predetermined problems



Moving from a prescriptive activity to a process of **learning**



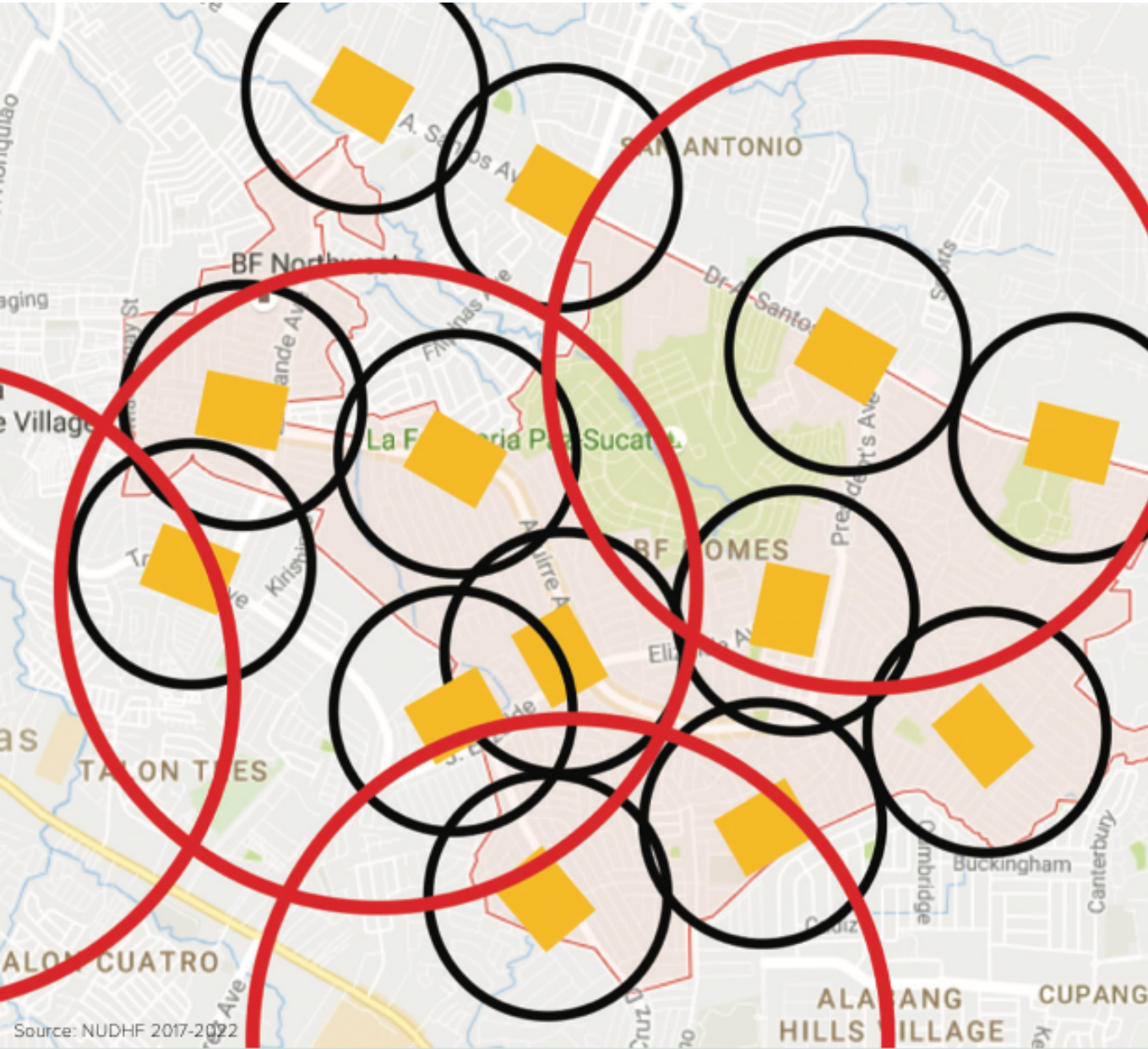
Engaging the communities through a **collaborative** process



Integrating **bottom-up processes** of knowledge and data collection and top-down agency

Mancebo & Certomà (2019)





Making Sense of Neighbourhoods

Source: NUDHF 2017-2022



SUSTAINABLE DEVELOPMENT GOALS



INDUSTRIAL 4.0



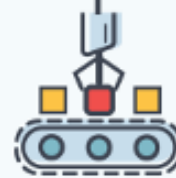
Automation



Big Data



Cloud computing



Autonomous

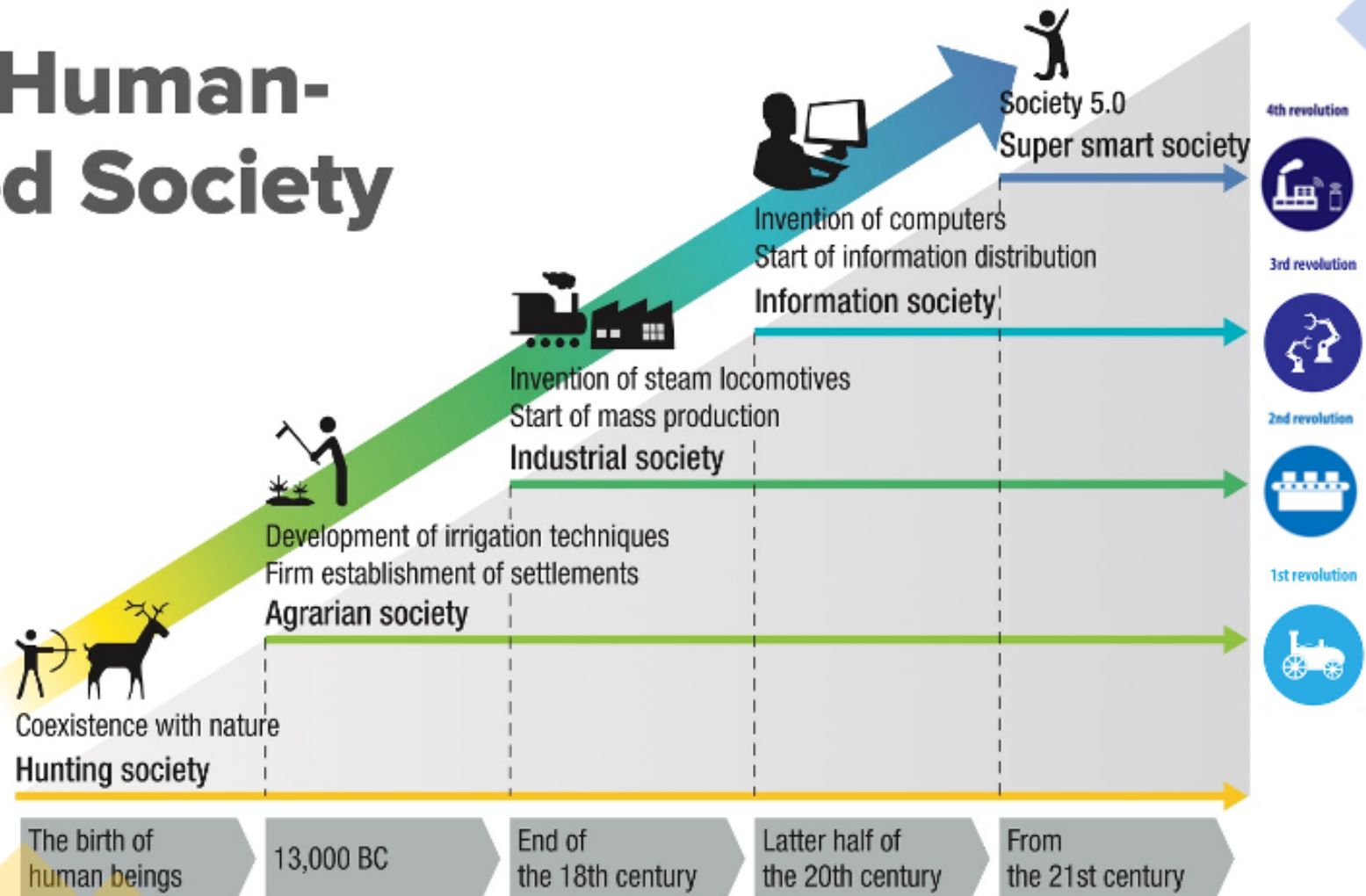


IoT



Data Management

New Human-Centred Society



Source: M. Fukuyama (2018) based on material from the Japan Business Federation (Keidanren) "Japan's Initiatives — Society 5.0"; Y. Harayama, "Society 5.0: Aiming for a New Human-centered Society", Hitachi Review, vol. 66, no. 6, 2017, pp. 556–557



1 NO POVERTY
Spending patterns on mobile phone services can provide proxy indicators of income levels

2 ZERO HUNGER
Crowdsourcing or tracking of food prices listed online can help monitor food security in near real-time

3 GOOD HEALTH AND WELL-BEING
Mapping the movement of mobile phone users can help predict the spread of infectious diseases

4 QUALITY EDUCATION
Citizen reporting can reveal reasons for student drop-out rates

5 GENDER EQUALITY
Analysis of financial transactions can reveal the spending patterns and different impacts of economic shocks on men and women

6 CLEAN WATER AND SANITATION
Sensors connected to water pumps can track access to clean water

7 AFFORDABLE AND CLEAN ENERGY
Smart metering allows utility companies to increase or restrict the flow of electricity, gas or water to reduce waste and ensure adequate supply at peak periods

8 DECENT WORK AND ECONOMIC GROWTH
Patterns in global postal traffic can provide indicators such as economic growth, remittances, trade and GDP

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Data from GPS devices can be used for traffic control and to improve public transport

10 REDUCED INEQUALITY
Speech-to-text analytics on local radio content can reveal discrimination concerns and support policy response

11 SUSTAINABLE CITIES AND COMMUNITIES
Satellite remote sensing can track encroachment on public land or spaces such as parks and forests

12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Online search patterns or e-commerce transactions can reveal the pace of transition to energy efficient products

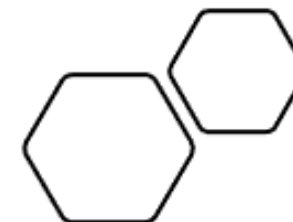
13 CLIMATE ACTION
Combining satellite imagery, crowd-sourced witness accounts and open data can help track deforestation

14 LIFE BELOW WATER
Maritime vessel tracking data can reveal illegal, unregulated and unreported fishing activities

15 LIFE ON LAND
Social media monitoring can support disaster management with real-time information on victim location, effects and strength of forest fires or haze

16 PEACE, JUSTICE AND STRONG INSTITUTIONS
Sentiment analysis of social media can reveal public opinion on effective governance, public service delivery or human rights

17 PARTNERSHIPS FOR THE GOALS
Partnerships to enable the combining of statistics mobile and internet data provide a better and time understanding of hyper-connected world



How data science and analytics can contribute to sustainable development



Musango, Currie, & Robinson (2017)

- **Ecosystem perspective** - an integrated social-biological system
- **Urban metabolism**
- **Industry 4.0** elements (IoT, CPS, Big Data Analytics, etc.) will have favourable effects on flows and environmental sustainability

Reimagining a city towards the “smart normal”



Digitisation

Real-time monitoring & data collection

Big data analytics

7 AFFORDABLE AND
CLEAN ENERGY



Implementation of smart grids
Implementation of life cycle assessments

Decreased energy flows
Increased renewable energy

9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



Extend integration with
circular economy

Decreased energy flows
Decreased material flows
Decreased waste flows
Decreased end-of-life products

Implementation of transparent
sustainability reporting

Increased reliable data
Decreased material flows
Decreased waste flows

12 RESPONSIBLE
CONSUMPTION
AND PRODUCTION



Implementation of smart grids
Implementation of life cycle assessments
Blockchain-enabled emission trading

Decreased energy flows
Increased renewable energy
Decreased GHG emission

13 CLIMATE
ACTION





Mayor Lito Lardizabal wants to expand open green spaces in Manila, in line with DENR's recommendation. He said that he plans on implementing a vertical greening program in the city. | via @donamagsino

12:47 PM · Dec 5, 2019 · TweetDeck

20 Retweets · 90 Likes

GMA News  · Dec 5, 2019
Replying to @donamagsino
@donamagsino
Manila: AOTI made Manila cleaner, greener, and safer because it is the window of the country. | via @donamagsino



Republic of the Philippines
CITY COUNCIL
City of Manila

REGULAR SESSION NO. 47

11TH CITY COUNCIL

Begun and held in the City Council on Monday,
the second day of September, Two Thousand Nineteen

ORDINANCE NO. 8607

AN ORDINANCE DECLARING A PARCEL OF LAND, KNOWN THEN AS DECS PROPERTY, LOCATED AT ARROCEROS STREET, MANILA, ACROSS THE STREET FROM THE METROPOLITAN THEATER AND THE MEHAN GARDEN AND BESIDE THE PASIG RIVER, AS A PERMANENT FOREST PARK PURSUANT TO REPUBLIC ACT NO. 5752, TO BE KNOWN AS THE "ARROCEROS FOREST PARK" AND APPROPRIATING FUNDS THEREFOR

PRINCIPAL AUTHORS: **HON. JOEL M. PAR**, **HON. SALVADOR PHILIP H. LACUNA**, **HON. PRISCILLA MARIE T. ABANTE-BARQUIA**, **HON. LEILANI MARIE H. LACUNA**, **HON. WARDEE P. QUINTOS XIV**, Acting Majority Floor Leader, **HON. MANUEL M. ZARCAL**, Hon. Laris T. Borromeo, Hon. Joey S. Hizon III, Hon. Ricardo "Boy" A. Isip, Jr., Hon. Charry R. Ortega, Hon. Irwin C. Tieng, Hon. Raymundo R. Yupangco, Hon. Luciano M. Veloso, Hon. Irma C. Alfonso-Juson, Hon. Terrence F. Alibarbar, Hon. Krystle Marie C. Bacani, Hon. Don Juan "DJ" Bagatsing, Hon. Ma. Theresa F. Buenaventura-Quimpo, Hon. Carlos C. Castañeda, Hon. Louisito N. Chua, Hon. Ernesto G. Dionisio, Hon. Jesus M. Fajardo, Hon. Pamela "Fa" G. Fugoso-Pascual, Hon. Moises T. Lim, Hon. Numero G. Lim, Hon. Johanna Maureen C. Nieto-Rodriguez, Hon. Erick Ian O. Nieva, Hon. Peter M. Ong, Hon. Science A. Reyes, Hon. Roma Paula S. Robles-Daluz, Hon. Darwin B. Sia, Hon. Edward M. Tan, Hon. Christian Paul L. Uy, Hon. Joel "JTV" Villanueva, Hon. Daniel Dave A. Tan, **HON. JOEL R. CHUA**, Majority Floor Leader and **HON. ERNESTO C. ISIP, JR.**, President Pro-Tempore



Reimagining Landscaping: Combining Form and Function

UPLB OVCRE

Urban “Barangay” Gardens

Project PROPEL



Seoul's ambitious Skygarden revives a disused elevated 1970s highway with 24,000 plants – and is open to all, 24 hours a day



Photograph: **Ossip van Dulvenbode**

Image Source: <https://www.theguardian.com/cities/2017/may/19/seoul-skygarden-south-korea-london-garden-bridge#img-1>



ANALYZE

your neighbourhood

PLAN

your neighbourhood

VISUALIZE

your neighbourhood

Reconceptualising Urban Planning

Transforming the Black Box
to the Glass Box of Cities



Promote an interdisciplinary space
through citizen/civic science



Conduct metadesign planning at the
neighbourhood level



Adopt a place-based approach



Plan across scales



Harness AI and algorithms

Needs	Solutions
<ul style="list-style-type: none"> • Different sizes of neighborhoods matter when choosing different planning tools • Place-based disparities in health, wealth, housing, neighbourhood amenities, public infrastructure, and climate readiness make entire neighborhood more vulnerable • No single city can contribute to overall sustainability if its own component parts--the neighborhoods—are found not to be sustainable' • Of the 42,045 <i>barangays</i>, 28,006 find the preparation of development plans challenging and unsustainable (DILG 2020) 	<ul style="list-style-type: none"> • Planning neighbourhoods as identifiable segments of cities • Understand adaptive capacity of cities thru neighborhoods through conduct of adaptive capacity analysis using big data science and analytics • Use of immersive technology and geospatial analysis at the neighbourhood level following the concept of adaptive planning • introduce immersive planning for co-creating adaptation strategies as well as other interventions to address UHI-related human health impacts in localities, especially those with low capacity index scores
Differentiation	Benefits
<ul style="list-style-type: none"> • Focuses at the neighborhood level • Uses immersive technology for simulation • Emphasizes the use of technology towards a deliberative democracy at the grassroots level • Focuses on adaptive capacity building and resilience planning at an appropriate scale • If analysis is broadscale in nature, it is unlikely to detect issues of local interest • Harnesses the Fourth Industrial Revolution and big data, including the lived experiences of the residents 	<ul style="list-style-type: none"> • A response for the government's call to action for strengthening the climate change adaptation of neighborhoods • Complies with the National Urban Development and Housing Framework to plan at a human scale • This scale is now also being recognised for its ability to achieve carbon reduction within the built environment • Neighborhood units form useful and easily comprehensible "building blocks" within general plans of cities and counties



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End of presentation



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Gamboa, Mark Anthony M. "Resetting life for sustainability: Collaborative-creation of smarter and sustainable neighbourhoods." PowerPoint presentation, Webinar, Nurture Nature: Impacts of COVID-19 to the Planet and the People, UP CIFAL, 04 June 2020.

Centre for Neighbourhood Studies

The premier institution on neighbourhood science engaged in research and development, capacity enhancement, and partnership-building towards sustainable transformation of neighbourhoods.