Global Visions: Risks and Opportunities for the Urban Planet
5th Conference of International Forum on Urbanism
Conference Proceedings

Introduction

Global Visions: Risks and Opportunities for the Urban Planet is the title of the 5th Conference of the International Forum on Urbanism that will take place from February 24th to 26th, 2011 at the National University of Singapore (NUS) in Singapore.

The conference will be organized within the framework of the International Forum on Urbanism (IFoU) by the Department of Architecture and the Centre for Sustainable Asian Cities (CSAC) at the School of Design and Environment, National University of Singapore (NUS) in collaboration with the Urban Redevelopment Authority (URA) Singapore as well as the participating universities of the IFoU network.

Subject

Sustainability is a key issue of our time. The limited energy resources, greenhouse effects, rising sea levels, floods caused by melting glaciers and the barrenness caused by shifting climate zones are subjects of many international conferences and numerous debates between politicians, scientists and professionals. However, sustainability means more than the protection of the environment, more than to reduce the exploitation of natural resources and to limit the pollution. It too requires sustainable societal systems and sustainable economies that are able to bridge the social contradictions and to survive without the exploitation of other societies or future generations.

In view of the highly urbanized societies in Europe and America and in particular in view of the fast urbanization processes in Asia and Africa it is by default the city where the complex themes of sustainability play out most intensively. Cities worldwide are facing similar problems of increasing car use, urban sprawl, pollution, depletion of natural resources, rising inequalities and erosion of natural ecosystems. Although the context of urbanization and development varies across cities, many sustainability strategies and the problems encountered with their implementation are similar, such as the balance of land use for transportation, restoration of urban ecosystem, or the design of the public realm for increasingly diverse users. Any effective agenda for confronting global climate change must necessarily include cities as a key, indeed the key, element.

During the last decades a huge amount of new techniques and new methods in building construction have been developed to reduce the energy consumption and to make use of renewable energy resources, to capture greywater and to reuse rainwater and wastewaters for the provision of buildings, to clean the air and to reduce the pollution by carbon dioxide, to recycle building materials and to use new and more sustainable materials. The question is how to combine these technical solutions with the social and economical demands of sustainability, how to generate strategies for the reflexive modernization of cities and how to create integrated visions for a sustainable future of the urbanized planet.

Aims

The conference aims to generate an exchange between the academic and the professional debate, to investigate opportunities and risks for the sustainable urban development and to discuss visions, concepts and best practices. In this framework causes, reasons and dependencies of worldwide transformation processes will be analyzed and planning strategies and design concepts for a more sustainable development of cities and regions will be explored. Both research and design approaches are sought for this forum. For that purpose, differing specialties and scales will be integrated within the conference agenda: urban (and regional) planning and management, urban and architectural design, urban sociology, economics, geography and ecology.
During the conference, scientific results, as well as design concepts and technical solutions will be presented; theoretical approaches will be discussed as well as professional experiences and best practices. With this in mind, the target group would include a range of different backgrounds: architects and urban planners; policy makers, students and researchers from different disciplines; managers and politicians, all of whom are involved in or interested in design, planning and the management of the built environment.

Sub-themes

Group I
A. Urban visions of sustainability

Group II
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C. Waterfront and coastal development

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Poster Presentations

A. Urban visions of sustainability

Many utopian visions of more or less sustainable cities have called for the need to change and to alternative philosophies. At the end of The Granite Garden (1984), Anne W. Spiri presents a vision of the "celestial city" in which nature is "everywhere evident and cultivated in the city." Kevin Lynch's "A Place Utopia" at the end of Good City Form (1981) proposed an ecologically oriented urban utopia in the form of decentralized web-like network of human communities.

Michael Sorkin, in his forthcoming book Eutopia, argues that "a contemporary utopia cannot be expressed as a formal singularity with universal aspirations" but that there will be many translations for principles into practice, that there must be many utopias. He argues that these have to be "a new kind of city, one that recognizes a radically configured urban situation as its inescapable site, one that takes survival and happiness of the species as its predicates, one that finds and defends many routes to meaningful difference, and one that advances the project of freedom."

This session will discuss urban visions, built and un-built cities and transformative ideas for the development of sustainable cities, including critiques of model cities and communities built on visions of sustainability.

Keywords: ideas and ideals of sustainable cities, urban transformations, case studies of sustainable communities, green architecture and urbanism

B. The design of sustainable urban space

The relationship between urban form and sustainability is certainly one of the most discussed issues in sustainable development, especially with regards to the form of future cities. The continued search for sustainable urban form often involves debates on the merits and conflicts of the compact city. While advocates argue that compactness is the only way to reduce the carbon footprint of cities, detractors believe that the losses of the social, economic and natural environment outweigh the claimed benefits of the compact city and that solutions lie in re-structuring the city rather than in seeking new forms for the city.

This session will discuss the planning and design of new urban space with regards to sustainable development, including the critique of such spaces as practiced.

Keywords: green urbanism, local identity, urban design, city form and design, culture, public life, exterior and interior public space, compact cities, dispersed cities, network cities, rapid growth, shrinkage, design strategies.
C. Waterfronts and Coastal Developments

In 2007, the Intergovernmental Panel on Climate Change predicted that by 2100, global warming and the melting of ice sheets would lead to a significant rise of sea levels around the world. Coastal hazards associated with such drastic rise of sea levels include potential flooding, submersion of low-lying land, erosion of beaches, conversion of wetlands to open water and the increase of salinity of estuaries, leading to widespread damage to coastal settlements and ecological disasters. Shore-based communities would meet with potentially catastrophic difficulties just as many major cities of the world would need storm-surge defenses and face the prospects of population displacements and sinking landmasses.

This session will discuss sustainable strategies for waterfront and coastal developments in the light of global warming, as well as future urban policies and projected development for flood defense, water-management and urban delta development.

Keywords: sustainable waterfront development, flood defense, water-management, urbanizing deltas, coastal development, wetland ecology;

D. Urban technologies and sustainability

Cities must become more central in the global agenda for sustainability for several reasons, one of which is that considerable progress has been made in documenting and quantifying the sizable ecological footprints of cities such as in the work of Rees and Wackernagel, so that we have begun to understand the long term impact of city development. Cities are where the more intense environmental damage is taking place, and it is in cities that many improvements can effectively be made. Building sustainable cities present us with new opportunities to apply on urban level innovative technologies in recycling garbage (urban mining), reusing grey water and cleaning air, generating green buildings and green urbanism, as well as to transform lifestyles and urban practices so that we may reduce consumption of limited natural resources.

A special issue in this framework is the reduction of energy consumption and the step to renewable energy resources. Many technologies have been developed, in particular on building level. The question is how to apply these technologies in a more efficient way on urban level and to transform the city from an energy consuming body into an energy producing body.

This session will discuss both the hard and soft technologies that enable sustainable cities, including infrastructure, tools and innovations related to the design and evaluation of sustainable cities, as well as policies, regulations, economic instruments and strategies for management.

Keywords: recycling systems, urban mining, management and production of clean energy, water resources, waste water systems, evaluative tools and concepts, green architecture, building performance, public health and air quality.

E. Sustainable mobility

Mobility is a key issue of the modern society. On the other hand, the increasing demand for mobility is one of the most destructive factors for the urban environment. In particular the increasing car traffic is responsible for extensive energy consumption, produces an enormous amount of carbon dioxide, blocks the urban space and generates traffic jams on daily bases.

This session will focus on sustainable solutions for the increasing mobility demand in cities. In this framework advanced systems for mass transportation will be discussed as well as alternatives for the individual mobility demand like hybrid and electric based transportation systems and smart traffic systems. On the other hand, also approaches to reduce the mobility demands by high density developments and smart location choices will be investigated.

Keywords: smart traffic systems, public transport, electric network, urban network, urban nodes, high density.
F. Planning and new approaches to urban governance

As the nature of sustainability issues becomes more complex, the discourse is gradually shifting away from the mere application of technologies, methods and strategies, to the exploration of good governance such that the processes of decision-making and goal setting at city and national levels can be scaled up to account for the new priorities. Good governance related to sustainability would comprise appropriate mechanisms, processes, and institutions through which citizens and groups can articulate their interests, mediate their differences, and exercise their legal rights and obligations in the related areas, and would largely involve interaction between formal institutions and those of civil society.

This session will discuss the following questions: What new or enhanced forms of governance are needed to support sustainable development? With an ever expanding international environmental law and policy making regime, how can local institutional machinery be strengthened and better coordinated to achieve sustainability goals? How do governments and organizations draw in key stakeholders in urban planning processes, and strengthen social and political will? What targets and strategies for reform can be established to allow a clear transition to sustainability, in a form that is both, open, adaptive and accountable, allowing for regular review and assessment? How do we transcend political or sectoral conflicts and vested interests to enable multi-stakeholder participation and partnerships to be established in decision-making and implementation? Are there good lessons we can draw upon to encourage and facilitate wider public awareness, education (both formal and informal) and capacity building to help empower individuals and communities to take direct action towards sustainable development and environmental protection?

Key words: Institutions, reform, governance, stakeholders' participation

G. Creative cities and 'green economies'

The economic shifts that began to emerge in the late 80s have led to what is currently called the “knowledge economy”, the defining paradigm as to how we live and work in the 21st century. The trends of globalization and the knowledge economy implies new strategic roles for cities and places, and most importantly, put people back at the centre of the urban agenda and has social sustainability as its prime focus. It has been argued that the environmental agenda that generally drives sustainability processes is often much removed from its Brundtland origins, where the need for development is to ensure greater social sustainability while acknowledging the limitations of the environmental context, so that “(c)ities should be places where interaction and participation of citizens enable them to meet their own needs and aspirations, and those of the larger community, as well as allowing future generations to meet theirs.”

A special issue in this framework is the development of 'green industries' and 'green economies'. Many cities already are experimenting successfully by generating the conditions for and supporting the development of green industries that are generating products and services for the increasing market of sustainability. The range reaches from sustainable industrial products via urban agriculture to special services for a harmonious society. In this way the increasing demands of sustainability create their own (green) economy.

This session will discuss social sustainability and urban participation in the making of sustainable cities, the revitalization of urban districts through cultural regeneration and the infusion of creative precincts, as well as people-centred sustainability initiatives and public space. Also concepts and approaches for a new (green) economy will be elaborated.

Keywords: social and cultural strategies for sustainability, creative city, urban regeneration, community development, public space, green industries, green economy, urban agriculture
H. Social justice and sustainable society

Urbanization is a complex morphological, sociological, cultural, ecological, economical, political, and ideological layering processes along history, manifested into articulation and inhabitation of urban forms and spaces. Often the soft aspects of the city or the intangible urbanism are left out from the discussions on urban sustainability, or discussed as separate entity. Many urbanized societies have demonstrated their ability in preserving their identity and demonstrating their resilience amidst changes, disasters, adversities, and crisis.

This session aims to discuss the rationales and local wisdoms, which enable the urban communities to retain and to sustain their distinctiveness and to survive many trials and tribulations, with special attention is directed towards the informal or community sectors, urban enclaves (which often mislabeled as slums or squatters), traditional/historic urban cores, and rural-urban exchanges. In this session too we would like to learn about the challenges and difficulties faced by the urbanized society, also to find out new possibilities and to rediscover tested wisdoms, in our efforts in understanding and in crafting a more humane-holistic sustainable city.

Keywords: informal sector, urban community, community based development, kampung, slums and squatters, historic urban core, cultural sustainability, social-economic resilience, local wisdom, social justice

I. The Asian City

Asia is the urban centre of the world. While levels of urbanization are higher in Europe or North America, for example, almost as many people live in urban areas in Asia as in the rest of the world combined, and the current total is projected to double over the course of the next generation. More than half of the world’s most populous cities and urban regions are found in Asia. Equally importantly, Asia is a site of new and emerging urban forms, phenomena and experiences, but also the site of problems of sustainable urban development.

This session provides space for empirical investigation of emergent urbanisms that may be deemed sustainable in the Asian city, but also takes regional urban diversity as a resource for wider theorization. This forum is particularly interested in forms of relational, comparative research that de-centre the West as the putative leading edge of innovation and influence. Avenues for such work include (but are not limited to): intra-Asian urban emulation; tropical sustainability and urban lifestyles; natural disasters and urban resilience; cultures of urban heritage; and self-organizing urbanisms.

Keywords: Asian urban lifestyles, resilient communities, cultural sustainability, Asian spaces and continuity, emergent Asian urbanisms

J. Design projects for the sustainable city

This session is different from the others. It will not focus on the presentation of scientific papers, but on the presentation and discussion of design proposals for sustainable urban projects. In this framework architects and urban designers, students and professionals are asked to submit design concepts that are able to contribute to a more sustainable urban environment, urban economy and urban society. The projects will be assessed and selected by a special jury.

Keywords: sustainable housing, public space, urban hubs, sustainable mobility, energy saving, water fronts and water recycling, social integration
Keynote Speakers

Cheong Koon Hean (Housing Development Board, Singapore) Achieving Sustainable Development
Kees Christiaanse (ETH Zürich) Interventions in contemporary urban situations
Edward Soja (UCLA) Regional Urbanization and the End of the Metropolis Era
Jacques Ferrier (Paris) The Sensual City
Han Meyer (TU Delft) Reinventing the Dutch Delta
Sanjay Prakash (New Delhi) Twenty first century Global Visions of Sustainability
Eliminating emissions and poverty in India’s Cities

Group 1

Sub-theme A Urban Visions of Sustainability
Moderators and reporter: Henco Bekkerling (TU Delft), Paola Vigano (IUAV di Venezia), Johannes Widodo (NUS)

POUA00008-00038 Vijay Pandey, Lalita Rana Studies on sustainability in city Varanasi, India
POUA00018-00025 Augustinus Adib Abadi Urban Housing Sustainability: Between Idea and Reality
POUA00033-00105 Albert Abut The Ineffable Nature of Ecological Architecture
POUA00037-00086 Wahyu Hidayat, Adil Maszillat, Nurman Fadjar, Tyas Hascaryani Community Empowerment for Providing Renewable Energy: A Case Study of Biogas at Bendroong Malang
POUA00067-00082 Christian G. Terreno Urban Environmental Models as Tool for sustainable future Thinking
POUA00079-00104 Regina Esteves Lustoza Sustainable or Unsustainable Cities?
POUA00088-00125 Bahar Zarina, Alireza Aogari, Masoud Tarantash Role of Core in Achieving Sustainability in Residential Neighborhood (Case Study Tehran)
POUA00088-00249 Bahar Zarina, Masoud Tarantash Neighborhood, Sustainability, Livability
POUA00091-00099 Henco Bekkerling, Yanja Liu Mapping Detroit: The City of Holes
POUA00114-00151 Andras Bela Olah The Sustainable City
POUA00155-00222 Hooman Foroughmand Araabi Maryam Khazazi Between Knowledge, Belief and Desire; Green Utopia and its Application
POUA00188-00285 Paolo Vencenzo Genovesi, Ziyang Jing, Fangrui Liu EcoVillage - EcoLiving - a sustainable Proposal for Living in China
POUA00263-00430 Paola Vigano Extreme Cities: Visions and Design
Sub-theme B: The Design of Urban Space

Moderators and reporters: Limin Hoe (NUS), Hsia Chu joe (Taiwan University), Hendrik Tieben (CfU)

POUA00013-00033 Hirofumi Hort, Andre Sorensen - Design Review Practices in the City of Toronto, Canada

POUA00020-00027 Chin-Wei Chang, Chu-Joe Hsia - The Death and Life of Jian-Cheng Circle: A negative Lesson To the Sustainability of Places

POUA00043-00157 Ye Wang, Keshi Che - Urban Design and Green Transformation: A Case Study in Wenxuan County: Seat Reconstruction after Earthquake

POUA00050-000251 V Ferrari - Resigning Agropolisiana: Agriculture-based Explotations of a Dispersed City

POUA00066-00140 Dwi Dinartana, Santan Sitorus, S.D. Tarigan, S. Nuriyati, H Hartrisari - Green Open Space Management Model as Recharge Area in the DKI Jakarta Area

POUA00094-00103 D. Hamers - The Fringe in Focus - A Mosaic of Urban Milieux as the Basis Fora Regional Planning Approach to Urban Development

POUA00102-00241 G. Cavan, A. Kazmaierczak - Sustainable urban design under changing climate: Oxford Road Corridor in Manchester, UK


POUA00104-00021 Pia Nabielek - Theme Housing in the New Dutch Suburban Landscape

POUA00191-00043 Jin Rho, Hoon Chang, Jyso Kim - The Study on Characteristics of Spatial Structure in Seoul

POUA00199-00124 H. Tieben, S. Govada - Global Visions & Local Aspirations – Towards New Forms of Negotiation in Hong Kong

POUA00129-00165 Maik W. Neumann - A contemporary systematic Approach to Sustainable Urban Design: Case Study New Hanzu City, Riga, Latvia

POUA00137-00244 Lilly Rose, Ethin Morrison, Lavanya Jothi Venkatachal - Influence of Building Form on the Thermal Comfort of Outdoor Urban Spaces

POUA00107-00122 Muhammad Sani Roychanyah - Optimum Density Strategy in Kampung oriented Development

POUA00143-00203 Tanuwidjaja Gunawan - Park Connector Network Planning in Singapore: Integrating the Green in the Garden City

POUA00161-00230 Harpreet Mand, Satvir Mand - Rail Transport Interventions as Key Generators of Sustainable Urban Space
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Sub-theme C: Waterfront and Coastal Development

Sub-theme D: Design Projects for the Sustainable City

Moderators and reporter: Rees Christiaanse (ETH Zürich), Fril L’Heureux (NUS), Erwin Viray (NUS)

POUA00025-00046 Erikl/Heureux, Itshkar Ahmed 
Sheikh Serajul Hakim

‘Opportunistic’ Crises: A Hydrological Urbanism for Singapore

POUA00040-00237 Pham Quang Dieu, Pham Thi Thanh Thao

Urbanizing Mekong Delta in Vietnam: The Challenges of Urban Expansion adapting to Floods

POUA00048-00380 Luctiana Campos

Transition to Sustainable Limerick

POUA00111-00111 Andras Bela Olah

Turning Disadvantages into Advantages

POUA00126-00162 Zsanett Kovacs, Andras Bela Olah

Budapest, Functional and Technical Rehabilitation of Tahan Public Park

POUA00133-00180 Joshua Bolchover, John Lin

Rural Urbanisation in China: A Research based Practice

POUA00145-00287 Miguel Lima

Reclaimed Urban. Macau and Singapore: Two Cases of Land Sustainability

POUA00215-00323 Anita Subbøldi

Buffer Zone as Public Space
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Sub-theme D: Urban Technologies and Sustainability
Sub-theme E: Sustainable Mobility

Moderators and reporting: Cho Im Sik (NUS), Uosang Yoo (Cheonnam National University), Thorsten Schütze (TU Delft)

- Woori Chae, Sangheon Lee, Kyushik Oh: Analyzing the Effects of the Bicycle Road Policy on Accessibility Improvement
- C. Tomé, C. Ferreira: Sustainable Approaches between Urban Planning and Connectivity Infrastructures in Metropolitan Area of Lisbon
- E. Elshehstawy, O. Al Bastaki: The Dubai Experience: Mass Transit in the Arabian Peninsula
- Jin Xue: Decoupling Housing related Environmental Impacts from Economic Growth: The Hangzhou Experience
- Th. Schuetze, P. Thomas: Towards sustainable zero emission cities through integrated urban resource management
- Andras Bela Olah: The ideal Building Material is transparent, light, is a good Heat Isolator, just like …
- Andras Bela Olah: Radically decreasing the Energy Consumption of Buildings By using the potential Attribute of the Gravity Field
- Lavanya Jothi Venkatachalam, Lilly Rose Amirtham: Thermal Comfort Conditions in Naturally Ventilated Low-Rise Apartment Units of Chennai
- Yoon Young Youn, Jin Hee Kim, Jin Hyuk Chung: The different Mode Choice Behavior for a new Water Transit System between private Car and public Transportation users
- L.M. Calabrese: Towards an integrated Framework for new Mobility
- M. Nikpour, M. Ghomeshi, H. Mojtahed, S.N. Moinezadeh: Investigating Sustainability in hot and dry Climate of Iranian Cities, through central Courtyard Houses
- Ehun Harrison, Lilly Rose: Urban Climate Mapping for Supporting Urban Planning In Chennai, India
- Dongwoo Lee, Kyushik Oh: The Landscape Ecological Assessment Model and its Application
- Tantiri Oktavia: The Correlation High-Rise Building Façade and Efficiency Energy of Air Conditioning
- Amir Kafal, Masud Aghili: PRT System Application Feasibility in Cities as an Alternative Public Transportation for Private Cars
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Sub-theme H: Social Justice in the City

Moderators and reporter: Mao Qi Zh (Tsinghua University), Jo Santos (Tunamayagama University), Adolfo Sotoca (UPC Barcelona)

- FOUA00016-00065 Nurman Padjar, Ash Mahzlan, Tyas D. Hascaryani: Cultural Heritage and Identity for Sustainability: A Case Study of Kampung Kauman, Indonesia
- FOUA00022-00029 J. Gobert: Urban Planning and environmental Citizenship: The Negotiation of Community Benefits
- FOUA00051-00059 Mila Karmilah, Wiendu Nuryanti: Lessons learned from Earthquake-affected Women: Inputs for Recovery Planning
- FOUA00053-00231 Ridwanuyah Yunus Achmad: The Impact of Power Relation between Actors on the Development of local SME's
- FOUA00075-00094 Bahtiar Fitanto, Nurman Padjar: Informal Economy: Cultural or Compulsion?
- FOUA00110-00128 L.S. Pecinini, E. Trustani: Urban Integration in the divided City: Urbanization of Favelas and Perception of the socio-spatial Integration
- FOUA00118-00142 T. Chang: To move or not to move: Internal Migration Decision Of Women in Taiwan
- FOUA00130-00429 Adolfo sotoca, Oscar Carracedo: Uphill Neighborhoods: Specificities and Potentialities of Urban Fabric in sloppy Barcelona
- FOUA00138-00191 Rita Pudawangi: The Right to flood-free Homes: Urban Floods, spatial Justice and social Movements in Jakarta, Indonesia
- FOUA00155-00220 Maryam Khabazi, Homam Foroughmand Araabi: The Role of Urban Design in achieving Sustainability Through Promotion of sustainable Behaviors
- FOUA00179-00263 Martinus Deny: Modernism resulted a changes in the Function of Heritage Buildings in Bandung, Indonesia
- FOUA00181-00268 Kayoomars Irandoost: Informal Sector in Iranian Cities. Case Study of Kermanshah
- FOUA00229-00347 Giulio Verdini: Rise, Fragmentation, Infringement and Fear: Emerging Urban Issues in Chinese Clustering in Italy
- FOUA00242-00381 Purnima Ashok Kumar: Comfortable Consumption: A Practice Based Approach to Understanding Consumption in Hyderabad, South India
- FOUA00239-06370 Raphaella Dwianto, Erma Chotin, Devi Benedicta, Ayun Handiastni: Re-Defining Social Justice in the City - Learning from the informal sector workers in Yogyakarta
Group VII

Sub-theme I: The Asian City

Moderators and reporter: Karin Hofert (UPC Barcelona), Aya Kubota (University of Tokyo), Low Boon Liang (NUS)

POUA00021-00186  J. Bolchover, P. Handel  Metabolic Urbanism: City as Process

POUA00055-00112  Tianjie Zhang, Nobuo Aoki, Subin Xu  Modern Industrial Heritage and Sustainable Urban Development: The Preservation Efforts on Northern Navy's Dagou Dockyard at Binhai New Area, Tianjin, China

POUA00057-00063  Hiroyuki Shinozaka  Custom Bike Urbanism

POUA00068-00388  Mary-Anne Ray, Robert Mangurian  Ruralpolitism and the Chinese City - New Spaces in Urban Enclaves, the Chen Zhong Cun (Urban Villages) in the early 21st Century Chinese City

POUA00080-00091  Wawanandari Handayani  Rural-urban Regions in Central Java: Is it a constructive Urbanization?

POUA00085-00094  Hee Sun Choi  Urban Visions of Sustainability in 21st Century Contemporary New Town Development

POUA00134-00181  Bagoes Wiryomartono  Urbanism in the Malay World: The Origin and Evolution of the Idea, Function and Institution of pre-colonial Bandar

POUA00148-00238  Pham Thi Thanh Thao, Pham Quang Dieu  Remaking Image and Identity of the Water City - Redevelopment of Ho Chi Minh City's Waterfront to Regain its Cultural Image and Identity

POUA00206-00350  Yan Guo  Emergence: A Post-Disaster Urbanism in Dujiangyan (Sichuan), China

POUA00207-00319  Richa Sharma, Pandphaganda Shukla  The Complexities and Contradictions of Sustainability in View of the Indian Sub-Continent's Religious Landscape

POUA00211-00312  He Qun  Inherited Hierarchical Spatial System in Chinese Cities
Moderators: Henice Bekkering (TU Delft), Hai Xiao Xi (BUIT)

FOUA00014-00021 Trishagata Chatterji
Local Core- Global Fringe? Contestations and collaborations in Calcutta's Post-Fordist spatial restructuring.

FOUA00015-00026 Niels Lykkema
The traditional Dutch allotment garden, as a sustainable strategy for living concepts.

FOUA00029-00042 Steven Ho Chun Wang
Shopping mall as privately owned public space: a approach for designing public space.

FOUA00036-00049 Af Aswad
The informal sector of shaping city commercial open space (case study of Semarang City center area).

FOUA00064-00071 Ashwani Kumar
Green buildings: a requisite for development in hill towns.

Samant Sharma

Anoop Sharma

POUA00071-00078 Guangming Lin
Low-income households' living conditions and expectation for public housing in China: the case of Chongqing.

Yuhui Tang

POUA00078-00079 Purna Pourmoradpanahi
Sustainable transportation and quality of life: challenges and solutions.

Yashar Zeynali Forid

POUA00090-00098 Maurizio Marceloni
The project of Rome metropolitan capital.

POUA00125-00184 Mizan Bustamul Fuady
Pangandaran village resiliency profile due to earthquake and tsunami risk.

POUA00154-00218 Mya Irawati
Small-medium enterprises development, affordability, and infrastructure financing.

Wedd Wawoh Winaktoe

POUA00163-00234 Mi Xia

WANG Weiqiang

POUA00189-00310 Jinyu Kim
The validation for sustainability of New Towns in Seoul metropolitan area.

Heon Chang

Jia Rah

POUA00190-00281 Poornam Kunwar Banerjee
Assessing impact of urban growth on efficiency of water utilities using data envelopment analysis (DEA).

Dr. Puneet Chitkara

POUA00208-00305 M. Mahmoodi
Examination of physical problems of urban space within the old parts of the city: a case study of Masjid Jamek area, Kuala Lumpur as an urban space.

Dr. Fatma Isht Ali

POUA00209-00311 Yunyoung Bae
What affects travel-to-shopping mode choice: local environment and infrastructure supply.

Sanghwan Gil

Jin-Hyuk Chung

Hyungja Kim

POUA00217-00325 Irwaysy Carolina Hartono
Shop-houses as a new architectural sign at Gombolomir Road.

POUA00238-00368 A.L. Virtudes
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OPTIMUM DENSITY STRATEGY IN KAMPUNG ORIENTED DEVELOPMENT: PROPOSITIONS BASED ON CHARACTERISTICS OF DENSITY CONDITION IN YOGYAKARTA CITY

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ABSTRACT: Kampung is traditionally believed as an integral part of urban structure in developing world, especially in Indonesia. Kampung Oriented Development (KOD) as a strategic approach that encompasses several intensive developments based on characteristics of kampung should consequently be taken and focused as a basic framework to deal with related issues, including sustainability issues. Kampung also has potential density in fulfilling a high-density settlement, one of important aspects of achieving compactness condition. The aims of the paper are two folds. Firstly, it is to discuss kampung characteristics briefly and its density condition within the framework of Kampung Oriented Development. Secondly, as consequential step of the first aim, it is to examine an optimum density performance of kampungs and propose related strategies that should be delivered in today’s kampung condition. All of these works use data and cases of kampungs in Yogyakarta City, Indonesia. As result, 3 scales of infill related redevelopment for kampungs are proposed to achieve optimal density condition as well as to maintain the local identity of kampungs.

KEYWORDS: Optimum density, kampung oriented development, compactness condition, local identity, Yogyakarta City - Indonesia

1. THE IMPORTANCE OF KAMPUNG

Kampung is a familiar word in Indonesia urban space and has very strong relationship with Indonesian culture itself. Etymologically, Sullivan (1992) differentiated clearly that desa is a residential area within a rural and kampung as residential area within a city. In kampung, people can find social-culture pattern ala Indonesia. Ford (1993) also argued that kampung takes an important role to the Indonesia urban structure. Nowadays kampung, which physically becomes a multi dimension residential area where it covers not only physical term of settlement, but also social, economic, and cultural entities. Kampung was born through strong relationship along its urban history and grows organically based on internal and external carrying capacity.

Discussions about kampung (refers to a residential or settlement area within a city) in Indonesia are varies, complex, and interesting to show some existence problems in Indonesia cities (see for example: Setiawan, 2003, Steinberg, 1998, Guinness, 1986, Turner, 1985). Nas (1987) explicitly wrote that Indonesian cities cannot be analyzed without discussing kampung as integral part of the cities. Setiawan (2003) additionally stressed that despite the clear significance of kampung for Indonesian society, the Indonesian government continues to ignore the socio-political aspects of development in kampung, especially in housing markets. Furthermore, recent kampungs are still mostly positioned into negative pole in urban development discussion with its higher densely inhabitant, dominated by poor and disadvantaged residents with lack of access to basic infrastructure.

As considerable facts, kampung in Indonesia really takes an important role substantially in the process of urban development. As informal or popular settlement sectors in other developing countries, kampung settlements have provided serviceable and affordable shelter for a majority of Indonesian urban households, more than 80% (McGee, 1996). As Setiawan (2003) stated, kampung represents a dynamic
process by which groups of people -mostly the poor- provide their own housing, control their environments, and engage in collective efforts or mutual assistances ("gotong royong") to improve their lives. Conversely, kampung from perspective of Indonesia government has been neglected as potential resource and confirmed as impermanent solution to cope with recent housing and other development problems.

Development that really focused on kampung development was popularly named KIP (Kampung Improvement Program). Based on Suselo and Taylor (1995) the KIP was initiated in 1969 coincided with Repelita I (midterm national development program), primarily to alleviate the low physical living conditions of the kampungs, using a minimum of technical and administrative resources. However, KIP was only focused on infrastructure upgrading program for kampungs based on the needs of installation and improvement for roads, pathways, water supplies, drainage, and sanitation. Assumption that the idea of improvement of limited housing and infrastructure would also stimulate the improvement the socio-economic conditions in kampung community, should be reviewed again. In fact, as Setiawan (2003) indicated, that these physical improvements also tend to be temporary and is not a sustaining program. After several years, many of the improvements made under the programs have decayed and have no longer improvements made by either the government or the communities. Moreover, the recent government programs and policies, which focus on kampung or settlement in the urban center are still far from ideal sustainable development related policies on kampung if they are correlated to the compactness attributes (Roychansyah, 2010).

2. THE CHALLENGE OF DENSIFICATION IN KAMPUNG

Inevitably, today, sustainability issues have penetrated in all areas of human life. It is also occurred in the scope of urban development, the level of effort has far evolved on how to formulate and implement a “triangle development that includes the environmental-social-economical aspects” (see for instance, Roseland, 2005). Demands of the urban development in the last two decades have to be inspirational to the future needs and existence met with several keywords such as: efficiency, intensification, conservation, revitalization, etc., in an effort to align sustainable urban redevelopment movement.

As the response, despite operational concept is very diverse in the world, densification or intensification strategies of city residents through the concept of compact city is seen as the main alternative to the idea of implementing sustainable development in a city (Jenks, et al., 1996; De Roo and Miller, 2000). As a result, the idea has been adopted by many cities in the world, firstly and mainly in developed countries. The tendency of adopting this idea brings a positive effect on sustainable development discourse, but many cases are also applied without considering existing problems of the city and local identities (Jenks, et al., 1996). Some attributes such as optimum population density, activities concentration, intensification of public transportation, access to optimal size, as well as socio-economic welfare for communities toward a better quality of urban life are some of the prerequisites in achieving the targeted condition (Roychansyah et al., 2005).

![Figure 1. Population densification attribute and its effects to the other attribute of compactness](image)

Figure 1. Population densification attribute and its effects to the other attribute of compactness
Although each attribute has an important role in sustainability performance through a compact city strategy, however population densification is the most productive attribute for the first step of the strategy. This attribute will directly be able to generate growth performance on other attributes (Fig. 1.). Concentrating on the population density in urban environment will be directly related to optimization of land, efficiency in urban infrastructure needs, protection of fertile lands in outskirt, and many other positive effects. Increasing the population density in a planned area based on its optimal capacity, for example in the city center, district multi-purposed, or around transit areas, is believed to be an effort in line with the target of sustainability. For instance, a high-density city will significantly cut energy demand and allow pedestrians and bicycles to take part in urban mobility (Newman and Kenworthy, 1999).

As illustrated in Fig. 2., the density has a significant correlation with the future of emerging conditions. From sustainability perspective, the higher the density (based on its limit capacity), several sustainable objectives can be easier obtained (Elkin et al., 1991). For example, high density will lead to a social cohesiveness aspect. This condition will create suitability aspect; and in turn increases the performance of productivity influence. It is also believed that density in higher performance has enormous effect toward efficiency aspect, for instance in facility provision. In that case, accessibility and affordability aspects will automatically improve. Since it is dealing with the issue of how to manage a lot of people in a limited area with high expected quality of life, then the related strategies would be very challenging, as well as harder. Lawson (2010) also stated that the higher the density, the harder we have to work to design our cities in such a way that they remain pleasant and fulfilling places in which to live.

![Figure 2. Density and related emerged aspects in sustainable spectrum](image)

Kampung as a representation of urban settlement condition in developing countries has several traditional characteristics, mainly strong relationship with high-density condition of its environment. Traditionally, kampung which already showed itself as part of urban physical, socio-economic, and culture entity is also seen as the entry point for the implementation of high density city ideas, mainly from their environmental density potentials and mixed used of spaces (Roychansyah, 2008). According to Altman (1975), urban kampung density as described in Fig. 3., for example, can be categorized into a high-density area, both outside and inside density. Generally, high density, which is dominated by this horizontal life, may tend to exceed environmental capacity and triggers slums or environmental degradation. However, if it could be managed successfully, it would be a potential as well as a challenge in urban development (Burgess and Jenks, 2001).

<table>
<thead>
<tr>
<th>Inside Density</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low I Suburban Area</td>
<td>II Poor Village Area</td>
<td></td>
</tr>
<tr>
<td>High III Rich Urban Area</td>
<td>IV Urban Kampung</td>
<td></td>
</tr>
</tbody>
</table>

![Figure 3. Profile of outside and inside density based on areas (Altman, 1975)](image)
Indeed, kampungs as urban settlements in the urban center become potential locations to be carried out as primary target. In this case, the kampung's role as an integral part of urban spatial structure is very important to be appointed as an adaptation model of the implementation of this compact city strategy. This condition steer an interesting attempt to examine the nature of kampungs in adopting, accelerating, and overcoming high density, particularly though some propositions within kampung oriented development.

3. TOWARDS A KAMPUNG ORIENTED DEVELOPMENT

Based on previous backgrounds, Kampung Oriented Development (KOD) policy should then be arranged as an idea of implementation for compactness development in Indonesia kampungs. Basically it can be seen from two considerations. First, structurally kampung as described above has a significant role in broad range of dimensions in the urban structure. The structure of kampung in inner city spatial structure is also intentionally clear to state that kampung for this model of development might be a permanent solution, not a temporal solution. Concentration of urban development in urban center's kampung is also as a way to prevent sprawl development outside the city, which has led to reduce agricultural land. As revealed by Marwasta (2010), in the Yogyakarta City itself during the period of 30 years (1970-2000), built up areas have been risen up almost 4 times, from 1577 ha. in 1972 to 6351 ha in 2001 (see Fig. 4.).

![Figure 4. The change of built up areas coverage between 1970 and 2000 (Marwasta, 2010)](image_url)

Second, historically kampung experiences with many schemes of development from many resources like KIP as the masterpiece. The status of “important but lack attention” has caused condition of many kampungs are getting worsened today, passing their optimum capacity of their environments, if viewed from their standard of quality of life (uncontrolled population density, lack of open space, environmental degradation, emerging many slum areas, and so forth). An urgency to redevelop kampung as further step in re-improvement of kampung condition becomes a realistic and an arguable idea.

Kampung oriented development (KOD) as shown in Fig. 5. is systematically a strategic attempt through a comprehensive policy using kampung as focus area of development that encompasses several intensive developments based on characteristics of kampungs as integral part of urban structure (in Yogyakarta City, Indonesia), like transit oriented development, people oriented development, access oriented development, and activity oriented development. All of these developments are fundamentally framed by SOD, sustainable oriented development principles. Every single theme of development is dedicated to a specific characteristic of the kampung. For instance, access oriented development is purposed to open the kampung from outside positive networks. It would continuously supports kampung to get opportunities making improvements by “kampung” itself adequately.
Figure 5. Kampung Oriented Development (KOD) embraces some empowerment programs of kampung (Roychansyah, 2008)

Furthermore, turn to spatial lay out, as recommended by Urban Task Force (2002) in forming urban structure from dispersed urban structure to the compact one, kampung oriented development (KOD) in Yogyakarta City is very possible to be divided into some units based on some scenarios: kampung administrative unit, kampung physical unit (based on spatial unit analysis), or kampung activity unit (see Fig. 6). Basically, the difference of delivering sustainable communities in kampung is that a new development should be integrated step by step within community participation context. It is true that a culture consideration should also be particularly taken into account of sustainability concept in the developing countries, besides of environment, social, and economic considerations as suggested by common definition of sustainability (see for example Roseland, 2005). For example, vertical living as a consequent effect of compactness development in developed countries should meet another suitable alternative models or approaches if it is implied in developing countries where vertical lifestyle reasons have not socialized properly yet.

Figure 6. KOD as an integral structure of an urban unit (left) and four important considerations of sustainability in KOD (right)

As additional propositions, each attribute should be focused on some strategic conditions of the kampungs. Related to the population densification, the kampung should be a living space where residents feel comfort to live and deliver their daily life, viewed from existing and potential conditions of its demography, spatial, and physical aspects. For the activity concentration, the kampung and its accessible distance environment should be as an integrating place where its residents able to live, works and do both individual and social. From the view point of public transport intensification, the kampung should be as a connecting place where with other parts of broader environment of city, form accessible networks that can reached easily by walking, bicycling, or an integrative public transport system. The kampung should also be as a seizing place where the residents can access easily all corners of its physical environment
and use its existence to deliver their activities inside if correlated with physical environment size and access attributes. And from social welfare target point of view, the kampung strategically may be as a prospering place where the kampung engages and secures its resident for getting a good quality in all dimensions of life.

4. EVIDENCE FROM DENSITY OF YOGYAKARTA CITY

City of Yogyakarta and its several kampungs were chosen as case study. Data related urban density is associated with a discussion of characteristics of the kampung density. Historically, the city of Yogyakarta put its kampungs as integral part of its urban structure since the establishment of Kingdom of Yogyakarta in 1755 to date (255 years ago). The period of Dutch occupation in Yogyakarta City, was not be able to alter the strong existence of its kampungs, even through establishments of new settlements in the Dutch era, such as in Kotasumber, Sagan or Bintaran. Based on Yogyakarta Statistics Bureau (2008), the population of Yogyakarta City is 420 thousand inhabitants or in average about 130 person/ha, divided into 14 districts (wards), completely as shown in Fig. 7. Among the Indonesian cities, this density puts the Yogyakarta City in 6th rank after the Central Jakarta, West Jakarta, South Jakarta, Bandung, and Cimahi.

![Figure 7. Distribution of population and population density of Yogyakarta City based on wards (Yogyakarta Statistics Bureau, 2008)](image)

This amount of density, when compared with other high-density Asian cities, Yogyakarta City still has a population density over Tokyo (70 persons/ha) or Singapore (90 persons/ha), 2 of 3 cities Asian cities beside of Hongkong (300 persons/ha) that by Newman and Kenworthy (1999) considered as ideal cities in term of fuel consumption efficiency due to low usage of private vehicles. This density also seems higher compared to cities in North America, Europe, or Australia. However, Yogyakarta transport condition is still worsened by a market-driven and at the same time new BRT namely Trans-Jogia still has lack of attention by public. The transport mode is constantly dominated by private vehicles, mainly by motorcycle as 240075 and private car as 32332 (Yogyakarta Statistics Bureau, 2008). To achieve the ideal level, the potential of the high density must be accompanied by appropriate strategies, such as providing good public transport and few restrictions on number of personal vehicles (Burgess and Jenks, 2001). This means that high-density condition is still limited as potential condition and requires the other strategy to achieve the required sustainable conditions.

However, the population density tends to increase, along with increasing number of residents in the city, from about 340 thousand inhabitants in 1970 to 420 thousand inhabitants in 2005. When this density is divided into districts, it appears there was an unbalanced distribution of population density in the city. Districts of Danarejan, Pakualaman, Ngampilan, Gedongtengen, and Jetis are 5 districts in the center of Yogyakarta City, which has a high density, exceeding 170 persons/ha (see completely in Fig. 6). In fact, District of Gedongtengen and Ngampilan has a population density of more than 200 persons/ha. These conditions make some riverfront areas in these districts degrading and become slum (along the Code River or River Winongo Code). Using regulation on building density adjusted as a requirement towards
sustainable objective in England for a comparison, as shown in Tab. 1 (with additional assumption that each unit equals to 4 persons of resident), the density of Yogyakarta City seems getting an ideal figure or about 40 houses/ha.

<table>
<thead>
<tr>
<th>Year</th>
<th>House</th>
<th>Mixture (house and flat)</th>
<th>Flat</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min</td>
<td>Max</td>
<td>Min</td>
</tr>
<tr>
<td>1918</td>
<td>20</td>
<td>30</td>
<td>-</td>
</tr>
<tr>
<td>1944</td>
<td>25</td>
<td>25</td>
<td>40</td>
</tr>
<tr>
<td>1952</td>
<td>15</td>
<td>35</td>
<td>-</td>
</tr>
<tr>
<td>1962</td>
<td>30</td>
<td>75</td>
<td>50</td>
</tr>
<tr>
<td>1970-1980</td>
<td>35</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1999</td>
<td>35</td>
<td>40</td>
<td>-</td>
</tr>
<tr>
<td>2000</td>
<td>30</td>
<td>50</td>
<td>-</td>
</tr>
</tbody>
</table>

Assumption: 4 person/unit

However, the high figure above does not always represent the condition that felt by residents. Roychansyah and Diwangkari (2009) also indicated that among 5 compactness attributes, population densification and activity concentration are the two seeded attributes that can help for delivering a sustainable compactness in Yogyakarta kampungs. High-density with a compact social community interaction and mixed-use between dwelling and non-dwelling land offer strategic potentials and challenges. Related to population densification, the study also noted that some ideas like population (density) control, vertical living based on actual kampung residents conditions, tradition and awareness to carry out some activities inside kampungs, optimum size of kampung that corresponds to kampung facilities and infrastructure provision, as well as some specific programs related to social welfare improvement are local wisdoms that would be great consideration for proposition in delivering an optimum density in the kampung. Moreover, as stated by Lawson (2010), planning space and design to create a feeling of retreat and privacy both within homes and in the public domain is likely to have very positive outcomes in determining how people living in high-density environment. These qualities of spaces and buildings are the compensation of this high density (Uytenhaak, 2009). Quality in this sense covers various aspects of safety, pleasure, and sustainability of the city. This kind of kampung’s quality of life that should be improved using evidence-based approach (characteristics of the kampungs) in line with implementation of KOD.

5. PROPOSITIONS FOR APPLICABLE STRATEGIES

In this last section, this paper tries to examine the strategies that can be applied related to efforts to reach an optimum density environment. Because at the propositional step, then these strategies will be easier achieved if other factors also support mutually. In this case, of course, the proposed strategies are ways that cannot stand alone, but many other related strategies should be done at the same time (the balance of push-pull strategies). A strategy such as urban management control would be necessary, since setting higher-density in the central urban kampung without balancing with a strategy for development limitation becomes a futile effort. And because the nature of development of the city is an evolution process, a strategy certainly does not take a minute conditioning to achieve the results. Indeed, the most ideal one is to create a pilot project, in which we can evaluate quickly and limit the risks into a minimum one. The most important process from a pilot project is that people can see, feel, and learn from some new ideas that may be possible to be adjusted in their characteristics of lives.

In this case, the given propositions can be divided into 3 scale of strategies, namely small, moderate, and complex. This scale will be associated directly with some urgencies and considerations of solving the kampung problems. For example, a kampung in which has very dense condition and only requires a communal facility as an additional facility, this solution will be different from a kampung in the urban center that could be more optimal in its density performance. Regarding this case, the kampung may require a partial redevelopment inside its territory that can be planned more optimal. If kampung faces problems such as environmental degradation in the worst level, and there is no way out other than with a
new development, then surely an optimum density oriented redevelopment can be proposed. The important thing to note is that this development, both small up to complex scale, must be based on mapping the city as a whole. Thus, the addition of even small facility in the kampung scale should be useful for as a solving way to urban problems more broadly. The proposed approach should be as much as possible still to make the existing kampung characteristics as the basis consideration. Experiences of Kampung Improvement Program (KIP) and some pseudo-kampungs’s policies, that in fact does not answer the real need of kampung development should be avoided (Roychansyah, 2010). Tab. 2. shows degree and category of proposals that might be implemented.

<table>
<thead>
<tr>
<th>Category</th>
<th>Small</th>
<th>Medium</th>
<th>Complex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective</td>
<td>To add a multi-purposed public facility for optimizing kampung life</td>
<td>To insert a complex-function in supporting kampung life</td>
<td>To change condition by new redevelopment in unqualified kampung</td>
</tr>
<tr>
<td>Land size</td>
<td>A parcel of land inside kampung with efficient access for its community</td>
<td>A parcel to complex land with priority for brown/gray fields inside kampung</td>
<td>Complex to entire the worst condition land inside kampung</td>
</tr>
<tr>
<td>Building/plan size</td>
<td>Mostly single building</td>
<td>Complex buildings</td>
<td>Various of complex buildings</td>
</tr>
<tr>
<td>Function</td>
<td>Focused on multi-purposed public facility</td>
<td>Mixed between residential and multi-purposed public facility</td>
<td>Settlement function, combining all needs of self-reliant kampung</td>
</tr>
<tr>
<td>Existing density problem</td>
<td>High-density kampung with lack of public facility</td>
<td>High density kampung with more complex problems (one of them is housing problem)</td>
<td>High-over density with the lowest quality standard of life</td>
</tr>
<tr>
<td>Proposed density</td>
<td>Existing density with optimum layered public facility</td>
<td>Mixed various density that combines new innovations of vertical-horizontal density</td>
<td>New arrangement of high density, max. 200 persons/ha.</td>
</tr>
<tr>
<td>Level of change</td>
<td>Partial</td>
<td>Partial-medium</td>
<td>Medium - total</td>
</tr>
<tr>
<td>Framework</td>
<td>One kampung one public facility</td>
<td>Kampung infill redevelopment</td>
<td>New kampung redevelopment</td>
</tr>
</tbody>
</table>

5.1. One Kampung One Public Facility (OKOP)

Kampung as a physical and services environment could be seen as public facilities and infrastructures that are essential services such as shopping centre, parks and leisure centers, transportation hub, and other public facilities may promote or encourage the physical activity and social interaction of the local communities. As pointed by Poplin (1979), the neighborhoods that provide good social networks and physical facilities, mainly in public facilities, have a direct influence on the better performance of community. One kampung one public facility (OKOP) should be a "simple" strategy on how kampung should be placed back as the smallest unit of a community center in the city. In this case, similarly, attention to public facilities is also included as important strategy in neighborhood/community planning towards a centered place of sustainability implementation. Some implementation of world cities put the provision of public facilities among other keys of place making such as human scale, size of access, resource management, open space, streetscape, variations, multi-function, coordination, and maintenance. In Japan for example, planning a "public realm" in a certain community will concretely be started by focusing on the provision of public facilities (Koizumi, 2009).
5.2. Kampung Infill Redevelopment (KIR)

This proposition is probably a strategy that would be the most suitable one as a minimum pilot project, since it may undertake housing program as part of combination in it. A housing development project in the kampung may become a good orientation to the success of this approach. Through a project with high density urban housing, added with the strong needs of open space/public facilities, automatically arrangement of complete kampung facilities can be achieved smoothly. Since the strategy applies infill program, which is using the promising brown field in the kampung, as little as possible to change the existing built up areas, makes KIR strategic enough as a proposed strategy. We know that one of the limited space in the kampung is low availability of areas for open space or public-oriented facilities. KIR should be able to answer the innovation of development without displacing and as many as possible provides communal space for the kampung community. Vertical housing project in the city center that gets attention by the government, should be used as a momentum to improve kampung conditions more broadly with an optimum density. With a community involvement in planning (bottom-up approach, community-based development), at least the initiation of this idea will get support from the beginning by the communities (see for instance Felt, 2007).

5.3. New Kampung Redevelopment (NKR)

Meanwhile, new kampung redevelopment (NKR) is redevelopment strategy for a kampung that has big problems in economic, social, law, or environmental. Compared to two previous propositions, this approach should be the last option. Due to the complex case, the necessary studies must also be conducted deeply before. Despite all the above approaches must be associated with the blue print of integrative urban development, this new kampung redevelopment with a larger area requires special study, taking into account many factors, actors, and sectors involved.

6. CONCLUSION

This paper once again underlined the important role of urban kampungs in Indonesia urban development. The kampungs in Indonesia is the pulse core and the inseparable entity from its urban spatial structure. With such a new paradigm of sustainable urban development and compact city as a manifestation of considered ideal urban form, the kampungs will be increasingly has a vital role. Now is the time for back-to-kampung development (kampung oriented development) as main focus and initial step for urban development in Indonesia. In this case, it is important to map the kampungs in urban life analysis system more thoroughly. From the compactness of existing attributes, the urban kampungs hold some potential roles in population densification and concentration of urban activity concentration. This high density is believed to be the gateway for easier policy implications on other aspects of sustainable development.

From the case of Yogyakarta City, this paper has observed the position of kampung population density at clearer position. The population density data has stated that the density figures are able to illustrate an optimal performance theoretically. However, in the real picture of kampung life needs some elaborations and implementations of strategies towards the objectives of urban development into a better quality of life. The challenge of planning and design for a high-density kampung becomes increasing consequently. Depending on scale of the problems in delivering a better quality of life (sustainable development), this paper proposed kampung-oriented strategies that can be adapted to the local conditions. Indeed, the local characteristics, which have been the strong identity of the kampung entity and spatially as a center for dependence of largely urban residents, still must be well-maintained. Strategies of One Village One Pubic Facility (OKOP), Kampung Infill Redevelopment (KIR), and New Village Redevelopment (NKR) can be adjusted with the sustainable development vision that is required by the kampung. In this case, innovation in planning and designing the density is the key of all these propositions. From this point of view, at least, how to achieve kampung's optimum density within good quality standards will to be more easily planned and applied.

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