



# Smart City (SC) – Smart Village (SV) and the ‘Rurban’ Concept from a Malaysia-Indonesia perspective

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## Abstract

This article attempts to break down the dualism of the village-urban development phenomenon in the modernization era. In the post-2020 development transformation era such as the Sustainable Development Goal (SDG) 2030, the development of SC (smart city-SC) and smart village (SV) is very important and needs to be discussed. Issues and questions of the SC and SV discussions are the extent to which these two development models can break the tradition of dual-city development dualism phenomena as happened in the modernization era. Through the completeness of information and communication technology (ICT) and the comprehensive development strategy of SC and SV, the phenomenon of development dualism can be solved through the concept of Rurban. The concept of Rurban greatly opens up opportunities for mutual advancement between SC and SV based on hyperlinked networks, whether in terms of socio-political, socio-economic and/or socio-cultural development. This means the Rurban concept can be realized through network links from all aspects of SC and SV progression with perfect aspirations for wellbeing, equality, quality of life, empowerment, competitiveness, resilience and independence. This discussion attempts to see the breakdown of the dual-village urban dualism tradition through Rurban SC and SV concepts by using quantitative approaches and case studies in Malaysia. The findings show that there are elements of this dualism solving tradition with the existence of the SC and SV as network links from the point of use of ICT and other communication facilities between the rural and urban sectors.

**Keywords:** Smart Cities, Smart Village, Rurban Concept, Malaysia, Indonesia.

## Introduction

General Issues - The progress of the villages is always seen from two different perspectives and opposites (dualism). This discussion therefore breaks the tradition of dualism in the development of cities in the developmental perspective. In the era of post-2020 development transformation such as the Sustainable Development Goal (SDG) 2030, the development of the Smart City (SC) and smart village (SV) is very important to discuss. The key issues of the SC and SV discussions are to what extent these two models of development can break the tradition of the dualism of urban development as it was in the modern era. However where there is lack of leadership, skill, resources and motivation and no flexibility and capacity to adapt, lack of stakeholder inclusivity or under-representation of significant local stakeholders (e.g. entrepreneurs / businesses, or civil society organizations), the Rurban concept is unlikely to flourish (Nicolaidis, 2015).

This discussion seeks to break down the tradition of dualism in the development of villages through the Rurban SC and SV concepts using a quantitative approach and case studies in Malaysia. The results show that there are already elements of this dualism tradition with the



existence of SC and SV as the network is interconnected from the point of use of ICT and other communication facilities between the rural and urban sectors. For the long-term political commitment to defining and implementing a Rurban common vision to be successful, visionary leadership is needed.

...usually the cities that take the lead in the process to develop joint urban-rural initiatives. This happens because they are usually the largest actor in terms of budget and population and responds to their relatively greater experience, expertise and capabilities, institutional infrastructure and technological capacity. However, there was agreement on the need to ensure a balanced approach and equality of participation, involving rural actors in all stages, from decision making to collecting and sharing data, information and analysis. (EU URBACT, 2015).

Urban-rural partnerships necessitate technical understanding and capacities and the capacity to organise urban and rural stakeholders, including wide-ranging stakeholder involvement and partnership building skills (Nicolaidis, 2015; Nilsson, Kjell et al., 2014). □

## **Basic Concepts**

### **Smart City (SC) and Smart Village (SV)**

The concept of Smart City (SC) and Smart Village (SV) was originally associated with the advancement of ICT globalization. This discussion adopts a multidisciplinary definition of SC and SV. This means that the SC and SV is a sustainable, prosperous, resilient, quality and happy city and village to live in because of the smartness of this city and village in all areas of development in political and administrative, economic, demographic, socio-cultural, infrastructural and info-structural, innovative, technological, educational, legal and environmental standpoints (PEDSITELE). Among the cities that have implemented the SC concept in Malaysia are Putrajaya and Cyberjaya. Among the SC projects in Indonesia are Bandung Hightech Valley (BHTV) (since 1985) and also Bandung Cyber City, Jakarta Cyber City, Jogja Cyber Province and Yogya Cyber City, Makassar Cyber City, Pangkal Pinang Educational Cyber City, Malang Cyber City, Kudus Cyber City, Sukabumi Cyber City, Solo Cyber City, Denpasar Cyber City, Surabaya Cyber City, Depok Cyber City, Banda Aceh Cyber City, and Sragen Cyber Ciy (Rachmawati, 2014). Examples of global SV projects include smart villages 'rimbunan kaseh' in Malaysia, which are smart villages project, bordering villages and cellular villages in Indonesia.

### **'Rurban' Concept**

The transformation of the urban development, the growing of ICTs and the de-migration from urban to rural, the network is rural-urban and is termed 'Rurban'. Rurban carries the meaning of a continuum of networks between the rural-urban that not only refer to the roads, to communication and migration, but it also reaches out to unlimited market relationships, population settlements, tourism, and security issues. Rurban are aided by online communication system either wired or wireless, regardless of place, time and culture. This means that the concept of Rurban can end the phenomenon of dualism of rural-urban where the rural-urban relationship become more symbiotic for the development of PEDSITELE fairly and in having a need for each other.

### **Rural-Urban Dualism Ontology**

The phenomenon of dualism of rural-urban is seen in the continuum of the main cities, suburbs, urban-rural, rural-urban, rural, and rural. The main characteristics of the continuity of the rural-urban are based on differences in population factors, distances from main cities, basic amenities and public facilities, built-up and forest areas. Disposal of abandoned land in



rural areas is increasing and public facilities are concentrated only in urban areas. In the urban area, it is becoming increasingly crowded and job opportunities in cities are decreasing because of migrant villagers. While the situation in the less developed villages was a factor in the decline, it was decidedly especially the youth who decided to move to the city (Table 1).

**Table 1. Rural-Urban Dualism in Social Economic Aspect.**

Rural Areas	Urban Areas
Poorer	Wealthier
Lower literacy	Higher literacy
Lower health care	Better health care
Little infrastructure available	More developed infrastructure
Poor standard of housing	Better housing conditions
Only primary employment (farming)	More tertiary/secondary employment
Overall rural areas have a lower standard of living	Overall urban centers give people higher standard of living

Source: Chambers (1985)

Whereas in the post-modern era, the era of globalization and the explosion of information, the urban dualism became more apparent when infrastructure and infostructure facilities did not reach rural areas. One of the main reasons is that the availability of ICT and internet in rural areas is often very limited. While the cost of development of infostructure is relatively high capital requirements. Although there are remedial measures such as the bridging digital divide program for villagers, the effect is still not satisfactory. Overview of the digital divide in Malaysia-Indonesia as shown in Table 2 (Based on the ranking of 139 countries).

**Table 2. Dualism Digital Divide in Malaysia and Indonesia**

No.	Digital Index Items DD value is 1.00-7.00/0.00 - 1.00)	Indonesia	DD (%)	Malaysia	DD (%)
1	The network readiness index	R 73 (V 4.0)	43.0	R 31 (V 4.9)	30.0
2	E-Participation Index	R 101 (V 0.29)	71.0	R 59 (V 0.53)	47.0
3	ICT use & government efficiency	R 57 (V 4.2)	40.0	R 6 (V 5.6)	20.0
4	Government Online Service Index	R 88 (V 0.36)	64.0	R 31 (V 0.68)	32.0
5	ICT use business to business transactions	R 53 (V 4.9)	30.0	R 21 (V 5.7)	18.0
6	Use virtual social networks	R 36 (V 5.9)	16.0	R 22 (V 6.2)	11.4
7	Households with internet access	R 82 (V 29.1%)	71.0	R 48 (V 65.5%)	34.5
8	Households with personal computer	R 101 (V 7.8%)	92.2	R 49 (V 66.5%)	33.5
9	Quality of education system	R 41 (V 4.3%)	38.6	R 6 (V 5.4%)	22.8
10	Tertiary Education enrollment rate	R 71 (V 31.3%)	68.7	R 70 (V 38.5%)	61.5

Source: World Economic Forum (2016a)

However, in the development of the SV-SC phenomenon of dualism and the urban development gap, this can be alleviated through the development of the communication system and ICT. The development of symbiotic SV and SC speed up the Rurban process, like connecting villagers to jobs such as getting involved in a business over the internet. Realizing the power of digital marketing with unlimited boundaries, places and time is vital. Processes such as inter alia faster marketing networks, cost savings and opening of more network marketing opportunities between existing cities and other cities is called the Rural Rebound.



## Dualism Phenomenon and Rural-urban in Malaysia and Indonesia

The phenomenon of rural-urban dualism in Malaysia and Indonesia is divided into three elements, which are based on rural-urban community, dualism and the development of the rural development program, and the national competitiveness. Table 3 shows the percentage ratio community rural-urban in Malaysia and Indonesia.

**Table 3. Community Rural-Urban**

Country	Rural Community 2014	Urban Community 2014	Percentage Ratio Rural:Urban 2050
Indonesia	119 Milion	139 Milion	29% : 71%
Malaysia	8 Milion	22 Milion	14% : 86%

Source: United Nations (2014)

Table 3 shows the number of rural-urban communities in Indonesia is higher than Malaysia. Percentage ratio Rural-urban for Indonesian nation is 29%: 71%, and Malaysia it is 14%: 86%. Both countries show a percentage ratio for the rural community lower than the urban community. This demonstrates that neither country has reached the rural-urban balance yet.

**Table 4. Dualism and the Development of the Rural Development Program**

Rural Development Indonesia	'Desa Mandiri'	Rural Development Malaysia	'Membandarkan Desa'
Desa Tertinggal	20,432 (27.6%)	Desa Pendalaman	669 (20.1%)
Desa Berkembang	50,763 (68.5%)	Desa Luar Bandar	754 (22.7%)
Desa Mandiri	2,898 (3.9%)	Desa Bandar	1909 (57.2%)
Total	74,093 (100%)	Total	3,332 (100%)

Source: BAPPENAS Indonesia 2014 and KPKT (2017)

Table 4 shows the dualism and the development of rural development programmes in the Indonesian and Malaysian countries. In Indonesia, rural development is known as the "Desa Mandiri" village which has three levels, the "Desa Tertinggal", the second "Desa Berkembang" and third "Desa Mandiri". Malaysia Rural Development is named as the "Membandarkan Desa" which also has three levels, the first "Desa Pendalaman", both the "Desa Luar Bandar" and the third "Desa Bandar". A percentage of rural development in Indonesia shows "Desa Berkembang" to be the highest of 68.5%, while in Malaysia "Desa Bandar" shows the highest percentage of 57.2%. This indicates that, Indonesia is still at the mid-range of rural development as compared to Malaysia that majority of rural development focused on "Membandarkan Desa".

**Table 5. National Competitiveness**

No	Competitiveness	Indonesia	Malaysia
1	Competitive ranking of 138 countries 2016-2017	41	25
2	Competitive ranking of 138 countries 2015-2016	37	18
3	Public belief in national politics (scale 1-7)	3.6	4.3
4	Transparency of government policy	4.3	5.1
5	Ownership of mobile phones (HP) per 100 residents	132.3	143.9
6	Road quality (scale 1-7)	3.9	5.5
7	Train quality (scale 1-7)	3.8	5.1
8	Quality of electricity supply (scale 1-7)	4.2	5.8

9	Permanent line phone ownership per 100 residents	8.8	14.3
10	Internet access to schools (scale 1-7)	4.9	5.4
11	Percent of people use the internet	22%	71.1%
12	Regular broadband internet access per 100 residents	1.1	9.0
13	Internet bandwidth kb / s / per 100 residents	6.6	34.1
14	Car broadband facilities per 100 residents	42	89.9
15	Technological innovation capabilities (scale 1-7)	4.7	5.4

Source: World Economic Forum (2016b)

The national competitiveness is based on 15 elements (table 5). Both countries show the ranking decreased from 2015-2016 to 2016-2017. The scale of public belief in national politics indicates both countries are in the intermediate scale 3-4 of the scale 1-7. Likewise, the transparency of government policy showed an intermediate scale from 4-5 to a scale of 1-7. Ownership of mobile phones (HP) per 100 residents shows already achieved affordable ownership of both countries. Road, train, and electricity supply quality in Indonesia were on the scale of 3-4, whilst in Malaysia showing a scale of 5 of the 1-7 scale. Permanent line phone ownership per 100 residents in both countries is still low. Internet access to schools (scale 1-7) also shows both countries on the mid-3-4 scale. The percentage of people who use the Internet in Malaysia is higher than in Indonesia. Similarly, regular broadband internet access per 100 residents shows the same result. Car broadband facilities and Internet bandwidth kb/s/per 100 residents were also shown to be higher in Malaysia than Indonesia. Technological Innovation Capabilities (scale 1-7) showed that both countries were in the scale of 4-5. It indicates that both countries have already shown ICT development.

### Discussion of the Specifications of the SV-SC

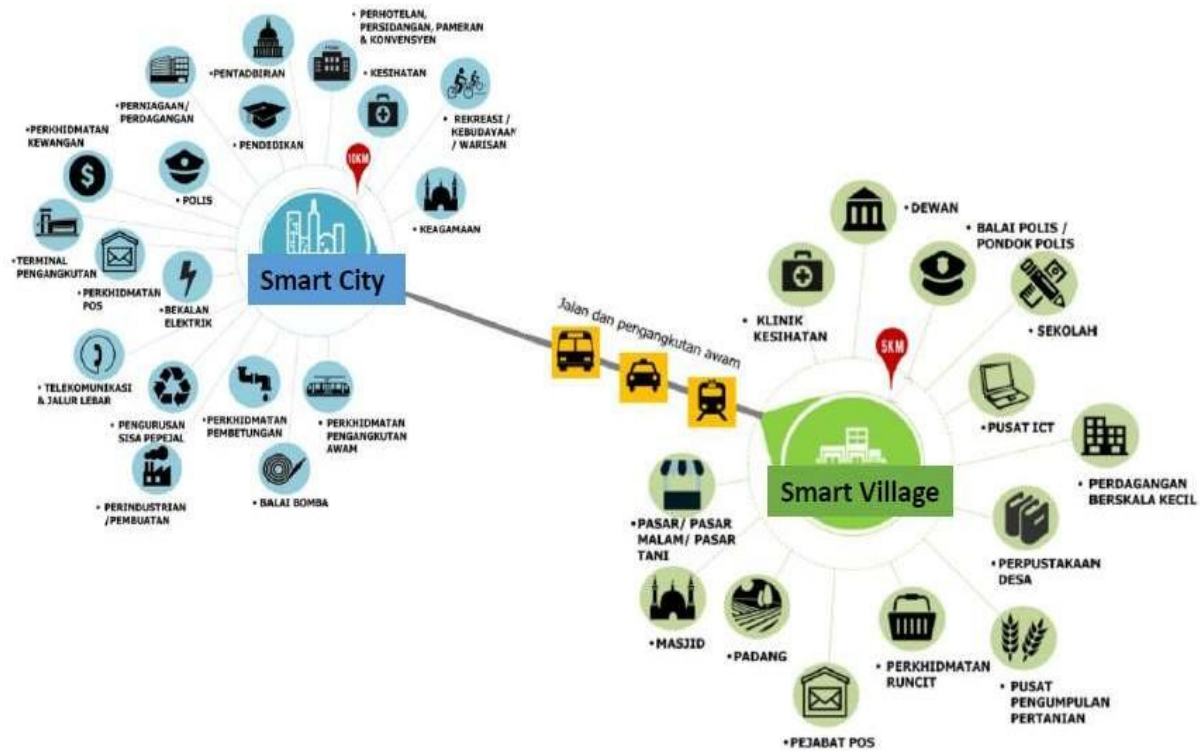


Figure 1. Sustainable Rurban SV-SC  
 Source: modified from Douglas (1998)



Figure 1 shows the sustainable relationship of Rurban SV-SC not only in the form of physical but widespread to the socio-economic and socio-cultural relationship through the SV-SC community activities. Marginalised rural areas can be contacted and developed if the Rurban SV-SC concept is implemented such as in the field of health, business, education and administrative services. Wellness, justice and equality of development among rural-urban, is easily achieved through terms Rurban SV-SC if it is seriously implemented.

The results found that there have been elements of the tradition of this dualism with SC and SV as network from the point of use of ICT and other communication facilities between the rural and urban sectors in Malaysia and Indonesia. Nevertheless, both countries still need to stimulate efforts to ensure that the Sustainable development of Rurban SV-SC is ultimately fully achieved.

## Conclusion

In conclusion, Rurban's concept of the SV-SC was able to break the tradition of rural-urban dualism. This means that in the direction of SC-based urban development, rural SV development also needs to be hyperlinked through the concept of sustainable Rurban for sustainable rural-urban development. However, in these efforts there are many obstacles and constraint to be overcome by developing countries such as Malaysia and Indonesia. Among the challenges to making Rurban sustainable SV-SC come true are infrastructure and infostructure capabilities, human and social capital capabilities and realistic policies.

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