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## The 1st International Conference on Computer, Science, Engineering and Technology

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# 1<sup>st</sup> International Conference on Computer, Science, Engineering and Technology (ICComSET)

## PREFACE

It's our great pleasure to welcome you to the 1st International Conference on Computer, Science, Engineering and Technology (ICComSET-2018), Tasikmalaya, West Java, Indonesia from 27-28 November 2018.

The International Conference on Computer, Science, Engineering and Technology (ICComSET-2018), provides an excellent international forum for sharing knowledge and result in theory, methodology an applications of Computer, Science, Engineering and Technology in theoretical and practical aspects. The aim of the conference is to provide a platform to the researchers and practitioners from both academia as well as industry to meet and share cutting-edge development.

ICComSET-2018 secretariat has received 250 submissions from 6 countries: Malaysia, Taiwan, India, Mexico, Tunisia, and Indonesia. The new program held in the City of Tasikmalaya was organized by the Universitas Muhammadiyah Tasikmalaya (UMTAS) at Santika Hotel, Tasikmalaya from 27-28 November 2018, and supported by several universities including: STIKES Bakti Tunas Husada, Universitas Perjuangan Tasikmalaya, STIKES Muhammadiyah Ciamis, Universitas Muhammadiyah Sidoarjo, and Indonesian Collaboration Publication Community (Komunitas Kolaborasi Publikasi Indonesia/ KO2PI).

Each paper has been reviewed by the program committee. Only 166 paper were accepted for the oral session (acceptance rate: 65.3 %). The conference program consist of 3 keynote speakers (90 min), 6 Invited speakers (120 min), 5 parallel session, one poster session and a round table.

We would like to thank scientific committee, and reviewers, as well as the committee of the Universitas Muhammadiyah Tasikmalaya who have participated in the success of this event so that this event can be held as planned. We also conveyed to the Rector of Universitas Muhammadiyah Tasikmalaya who had supported this event both in terms of finance and other supporting facilities.

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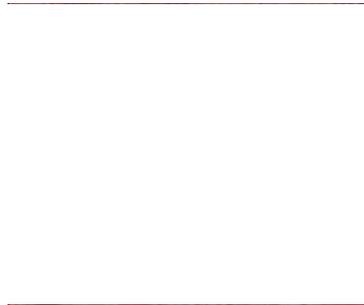
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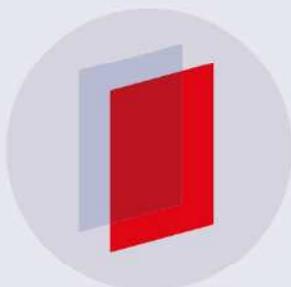


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## Realization of Hybrid Concept and Symbiosis in Green Open Space (RTH) at Housing Complex RW (Neighborhood Councils) Pluit, Jakarta Utara, Indonesia

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# Realization of Hybrid Concept and Symbiosis in Green Open Space (RTH) at Housing Complex RW (Neighborhood Councils) Pluit, Jakarta Utara, Indonesia

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**Abstract.** The percentage of active Green Open Space (RTH) in Jakarta is currently still as less as 10.12 percent, and hence, it's very interesting to discuss, as the Green Open Space in the housing complex has generally been abandoned or ignored. It is hoped that this research could answer the main issue in the Green Open Space (RTH), namely the concept of designing a Green Open Space (RTH) as an active vessel to accommodate citizen's activities. The methodology used: First, observing if the zoning of Green Open Space (RTH) is in accordance with Regional Regulation (Perda) 1 of 2014; Second, the zoning rule of Regional Regulation (Perda) 1 of 2014 can be applied to the concept of Hybrid and Symbiosis in the Green Open Space (RTH); Third, drafting the concept of Hybrid and Symbiosis design in the Green Open Space (RTH). The findings in this study are expressed in the form of Green Open Space (RTH) and in accordance with the concept of Hybrid and Symbiosis, so this concept can be applied in the Green Open Space (RTH) at the Neighborhood Councils (RW), especially the Pluit area.

## 1. Introduction

Jakarta is the center for trade activities and government in Indonesia, but unfortunately the availability of Green Open Space (RTH) is still minimal. From 2000 to 2017 there is less than 1% increment for the Green Open Space (RTH) area in Jakarta. Deputy Governor of DKI Jakarta Sandiaga Uno said: Jakarta still lacks in the Green Open Space (RTH), hence it is hard for people to do outdoor activities, including exercise [1].

According to the Law Number 26 in 2007 concerning Spatial Planning, the ideal Green Open Space (RTH) needed by the city stated that the city must have a Green Open Space (RTH) which is 30 percent, of the total area of the city. In articles 29 and 30 of Law Number 26 in 2007 it is stated that if the Green Open Space (RTH) is 30 percent, then 20 percent will be allocated for the public green open space (RTH) and the 10 percent will be allocated for the private green open space (RTH). In 2017, Jakarta only had public green open space (RTH) around 9.88 percent. Therefore, Jakarta still lacks around 10.12 percent of the public Green Open Space (RTH) to comply with the law.

Based on the issue from Deputy Governor of DKI Jakarta, Sandiaga Uno, who stated that the lack of public green open space (RTH) is around 10.12 percent for activities, the needs for structuring Green Open Space (RTH) in the housing environment should be activated and managed properly. In general,



the tendency of Green Open Space (RTH) in housing complexes, especially in the Pluit area is neglected and not well maintained.

Human tends to be individualistic in their own environment [2], because there are no Green Open Space (RTH) as the vessel for comfortable activities that could be held without interference, with mutual benefit, and maintaining community relations. This problem can be solved by the existence of the Green Open Space (RTH). More over the existence of the Green Open Space (RTH) could act as a vessel that does not only apply to one function; for example, a park or gym is only used for one activity, other activities that could add value to the citizen needs to also be considered.

The benefits of this study are: first, it is a solution for the problem of using Green Open Space (RTH) for residents in the residential complex and expected to solve the individualism problem; second, there is a harmonious relationship between each citizen (friendly) with a green open space (RTH); third, the Green Open Spaces (RTH) can be used as a model for other Green Open Space (RTH), especially in Pluit and the surrounding area.

## 2. Material and Method

Amongst the various opportunities that revolves around every corner of the universe, we in this world, are included in the Green Open Space (RTH), as if trapped in a body that actually projects its soul. Humans are endowed with reasoning to enable them to process things that happen around them; where these things will also affect the course of their life [3].

This can be seen from one of the Heidegger's views in which humans have a deep and complex understanding of themselves, but it will be seen through the way they respond to objects around them, situations that occur, and reciprocal relationships with others [4,5].

Based on Cassier and Meyer's view in Heidegger it can be concluded that individualism issues can be solved by a Green Open Space (RTH) that can provide reciprocal relationships with others. In an architecture, spatial problem is a vessel that can create reciprocal and mutual benefit, both exterior and interior that will affect the quality of the space thus, this space provides space that is positive space or negative space [6]. This means showing the quality of space in the vessel of the Green Open Space (RTH) is a manifestation of a spatial vessel that will affect the function of its activities [7].

Understanding the Hybrid. Hybrid concept is one of the design methods in an architectural work that emerged in the Post Modern era [8]. Etymologically, Hybrid [9] is a combination of several different aspects (opposition binaries), especially in the field of architecture. The following will describe the understanding of Hybrid based on its meaning.

First, there are two or more things that can be combined to form a single entity and the second is marriage/descent of the two different types of good varieties, different races or species. The analysis showed that differences in the varieties could still be under one species, racial differences may still be in one species and on the other hand, different species may still be in one race and variety. From the understanding above, it can be concluded that the Hybrid is a combination of something that has differences or the results of a cross between something different from the dominance of one of the different poles.

The Hybrid concept is a mixture or descent of two opposing things (opposition binaries), so that there is dominance by one of the poles that is contradictory. The understanding of Hybrid is divided into crossing, mixing and merging. The meaning of Hybrid is created by manipulating established reference codes and integrating or incorporating the reference codes that have been manipulated in the design.

While, the concept of Symbiosis [10] is a combination of two contradictory things (opposition binaries) in a new entity in which these elements are still independent. In Symbiosis, it is divided in two zones; sacred zones and intermediate zones [11]. The sacred zone is a character or characteristic of an object or culture, whereas the intermediate zone is a zone or space that becomes the intermediary or links the

two different objects with each of their modified sacred zones or manipulations so that the space between these is truly capable of describing the state of the two objects that are contradictory.

From the results of the analysis in the previous section on the Hybrid concept proposed by Per et al and the Symbiosis concept proposed by Kisho Kurokawa, there are similarities between the two, so the writer can draw a conclusion that the two concepts of combining are the same concept.

In creating the architecture design by linking Symbiosis [10] and Hybrid [12], there is a method that connects the activities of the Green Open Space (RTH) that could also be one of the answers to the main issue, namely the use of Green Open Space (RTH) to overcome the individualism issues for citizens in their environment (as opposition binaries). In the concept of Kurokawa (1994), he tries to combine mutually beneficial relationships both in humans and also in the activities of the Green Open Space (RTH) function, so that this Green Open Space (RTH) will provide additional value to the environment. Per et al (2011) continued and also developed the concept of Symbiosis from Kurokawa (1994), and in his description, he mentioned that, utilization of activities in spatial containers should not only be used for one activity but can be hybridized with other activities so that this activity is expected to complement each other [12].

Expression form that is designed in the buildings with this Hybrid concept uses modern technology that can show the spirit of the era [13]. The use of materials from aluminium, steel frame, gypsum ceiling, and aluminium frames in the building design of the Green Open Spaces (RTH) is a solution to tackle the termite problems in the city of Jakarta, especially the Pluit area, while the use of internet connections is for the security cameras (CCTV), which is essential for the security protection. The availability of the internet connection could also act as a gathering place for people who want to utilize the internet connection. Designing using materials from iron, aluminium, computers and also communication technology, reflects the style of Post Modern [14].

Hence, the methodology for utilizing Green Open Space (RTH) with the concept of Symbiosis and Hybrid concepts in the Post Modern era, is described by the following steps; first, data collection as permitted by Regional Regulation (Perda) No. 1 of 2014; second, inventory of what is needed can be associated with the Symbiosis approach of Kurokawa (1994) and Hybrid from Per et al (2011); third, expressing the concept of Green Open Space (RTH) in accordance with the Hybrid studies and Symbiosis studies.

### 3. Results and Discussion

First, data collection as permitted by the Regional Regulation (Perda) No. 1 of 2014. Zoning of the Green Open Space (RTH) in accordance with the Regional Regulation (Perda) No 1 of 2014, in the Pluit housing complex consists of 22 Neighborhood Councils (RW) with the H2 type of Green Open Space (RTH) for the level of Neighborhood Councils (RW) and could be allowed for general activities in Green Open Space (RTH) (See Figure 1 and table 1).



**Figure 1.** Green Open Space (RTH) Type H2 in Pluit Area  
Source: Perda 1 of 2014

**Table 1.** Zonasi from Local Regulation (Perda) 1 of 2014

KEGIATAN	ZONA	ZONA TERBUKA HILAU LINDUNG			ZONA HILAU KOTA	ZONA TAMAN KOTA	ZONA PERMAKAMAN	ZONA JALUR HILAU			ZONA HILAU REKREASI	ZONA TERBUKA HILAU BERHAYATI DI WILAYAH PULAU
		SUB ZONA BUKA DAN PELESTARIAN ALAM	SUB ZONA KEBERAGAN LINDUNG	SUB ZONA BBT KONSERVASI PULAU	SUB ZONA HILAU KOTA	SUB ZONA TAMAN KOTA LINGKUNGAN	SUB ZONA PERMAKAMAN	SUB ZONA JALUR HILAU	SUB ZONA HILAU TELANGAN TINGGI	SUB ZONA HILAU PERUMAHAN JALUR KA	SUB ZONA HILAU REKREASI	SUB ZONA TERBUKA HILAU BERHAYATI DI WILAYAH PULAU
		L.1	L.2	L.3	H.1	H.2	H.3	H.4	H.5	H.6	H.7	H.8
<b>WISATA</b>												
Tempat Bermain Lingsugan		X	X	X								
Taman Rekreasi		X		X								
Lapangan Olahraga		X		X								
Prakasa Golf dan Arena Latihan Golf		X		X								
Pusat Olahraga dan Kesehatan Jasmani		X		X								
Kan memori, Dendek dan Bar		X		X								
Tenda Terbuka		X		X								
Tosseria		X		X								
PKL		X		X								
<b>JANA</b>												
Jasa Bangunan		X	X	X								
Tambak		X	X	X								
Korok		X	X	X								
Tempat Pelelangan Ikan		X	X	X								
<b>LAIN LAIN</b>												
Relawan												
Pusat Transmisi dan Pemancar Jaringan Telekomunikasi		X	X	X								
Pertambangan Strategis			X	X								
Bendungan Khusus		X	X	X								
Pabrik Beperta		X	X	X								
Pabrik Kerdasahan		X	X	X								
Pabrik Kerdasahan Keras		X	X	X								
Instansi Pengolahan Air Limbah, Instalasi Pengolahan Air Kotor dan Tempat Pengolahan Limbah Tiyak		X		X								
Daur ulang		X	X	X								
Instansi Pengolahan Air Minum		X	X	X								
Instansi Energi		X	X	X								
Hutan kota		X	X	X								
Taman kota		X	X	X								
Hutan Lindung		X	X	X								
Pembangunan Hewan Dilindungi		X		X								
Kawasan Konservasi		X		X								
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Keputusan Keputusan Perumahan		X	X	X								

Source: Perda 1 of 2014

In Table 1 the zoning permitted based on the Local Regulation (Perda) 1 of 2014 was: 1) Playground; 2) Recreational Park; 3) Sports Field; 4) Golf Course and Golf Training field; 5) Open theatre; 6) Street Vendors (PKL); 7) Pool; 8) Advertising; 9) Strategic Mining; 10) Bicycle Parking; 11) Vehicle Parking; 12) Wastewater/Dirty Water Treatment/Feces/Recycling; 13) Urban Forests; 14) City Park.

Second, after doing the inventory for the requirements needed, it is then being associated with the Symbiosis approach from Kurokawa (1994) and Hybrid from Per et al (2011). The requirement for Green Open Space (RTH) activities was grouped and rearranged by combining all of the activities from the Green Open Space (RTH) that correlates. This correlation should occur when a Hybrid concept was associated with the activities of its citizens, so that the concept of Symbiosis in the activities of Green Open Space (RTH) could be realized. It was expected that Green Open Space (RTH) activities could express architectural form concepts with Hybrid-Symbiosis studies, with attention to binary opposition between Green Open Space (RTH) and the activities of its citizens.

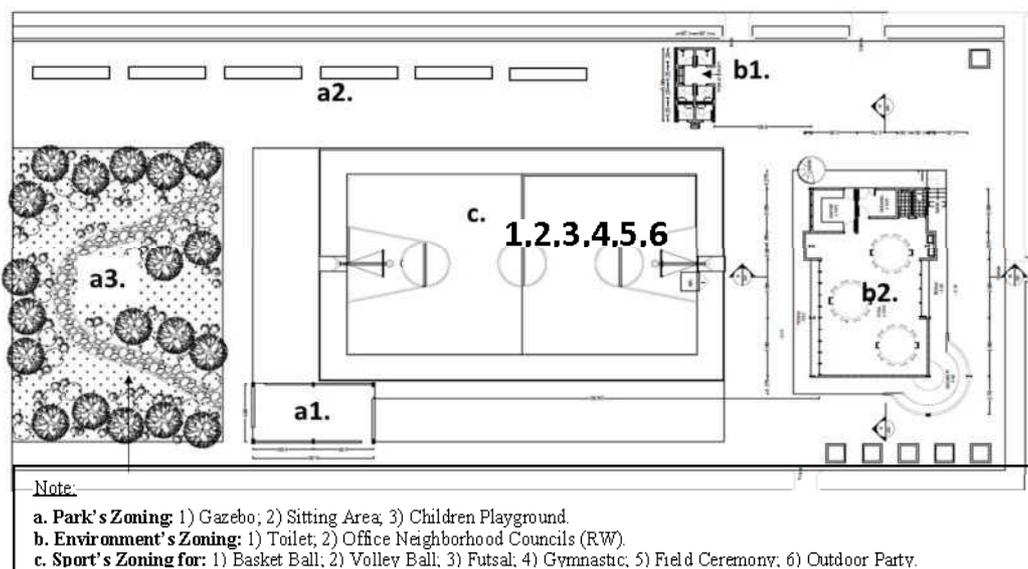
To make Green Open Space (RTH) Activities as a Hybrid-Symbiosis concept, it is necessary to group activity zoning based on the similarity of activities that consist of: 1) Park activities, which include parks, recreation parks, city parks and urban forests; 2) Environmental Activities, which include Environmental Playgrounds, Open Theater, Pool and Street Vendors (PKL); 3) Sports Activities, which include Playground, Golf Course and Golf Practice; 4) Other Activities which include Advertisements, Strategic Mining, Wastewater/Dirty Water Treatment, Stool, Recycling, Bicycle Parking, and Vehicle Parking. This grouping of activities must be linked to the needs of the local housing community.

The Green Open Space (RTH) Activities based on zoning groupings, are divided into three activities, namely, Park Activities, Environmental Activities, and Sports Activities. All of these activities must be adjusted to the needs of each Neighborhood Councils (RW), based on the results of a survey of the stakeholders and the Chief of Neighborhood Councils (RW) 015, and it could be grouped based on the Symbiosis and Hybrid Concept concepts such as: 1) Park Activities that could be Hybrid-Symbiotic with Gazebo, Seating, and Park for children to play, 2) Environmental Activities include, Office of Neighborhood Councils (RW) which could be Hybrid-Symbiosis with, Security Bedroom, CCTV Surveillance Room for the environment, Meeting Room which could be used also for Party/Karaoke activities, Toilet, Pantry, Warehouse, Chief of Neighborhood Councils (RW) Room and Administration Room; 3) Sports Activities for Basketball Fields which could be Hybrid-Symbiosis

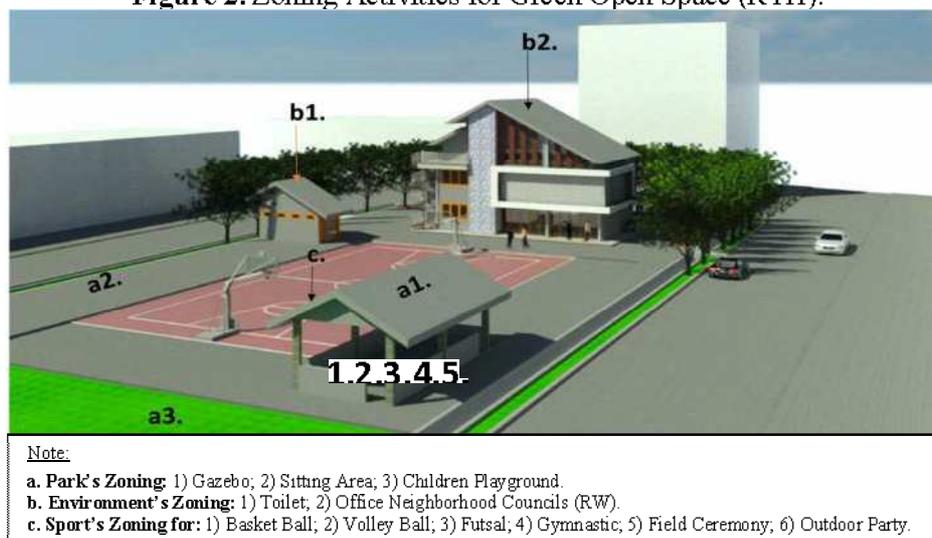
with Volley Field, Futsal Field, Gymnastics Field, Ceremony Field and also for party activities in the field.

Third, expressing the concept of Green Open Space (RTH) in accordance with the Hybrid-Symbiosis study that is needed in the Pluit housing complex was (see Figure 2 and 3):

- a. Park activities that can be Hybrid-Symbiosis with: 1) Gazebo; 2) Seating Area; 3) Children's Playground.
- b. Environmental Activities that can be Hybrid-Symbiosis with; 1) Toilets; 2) Office Neighborhood Councils (RW) offices located in buildings include: a) Security Bed Room; b) Space of the Chief of Neighborhood Councils (RW) and Administration Room; c) CCTV surveillance room for the environment; d) Meeting Room that can be used also for Party/Karaoke activities; e) Toilet Room; f) Pantry; g) Warehouse.
- c. Basketball Field Sports Activities that can be Hybrid-Symbiosis with: 1) Basket Ball Field; 2) Volley Ball Field; 3) Futsal Field; 4) Gymnastics Field; 5) Field for Ceremony; and also for parties in the field (Outdoor Party).



**Figure 2.** Zoning Activities for Green Open Space (RTH).



**Figure 3.** Three Dimension Zoning Activities for Green Open Space (RTH).

The analysis of the Hybrid-Symbiosis concept results in: 1) Green Open Space (RTH) could create sense of ownership for the residents living in the residential area; 2) Green Open Space (RTH) became a territorial boundary as a symbol of respect of the residents; 3) Green Open Space (RTH) gave the impression of inviting and strengthening the communal bonding between the residents [15].

#### 4. Conclusion

Designing with the Hybrid-Symbiosis concept is not only for one activity, but could also be used for other activities (multifunctional), hence, activities in the Green Open Space (RTH) are sustainable activities. This is a manifestation of the Hybrid-Symbiosis concept between residents and the Green Open Space (RTH) activities which are a Binary Opposition. Besides that, the Green Open Space (RTH) acts as a symbol of respect towards the boundaries, adds the sense of belonging, and strengthens the resident's communal bonding.

This concept could answer the main issue; that is: increasing the activities in the Green Open Space (RTH type H2) and reducing the individualism issue amongst the residents in the residential area in Jakarta, especially the Pluit Residential area. The design results of the expression of the Green Open Space (RTH type H2) that are based on the Hybrid-Symbiosis concept could also be used for the Green Open Space (RTH) in other Neighborhood Councils (RW), especially in the Pluit area, but should be adapted to the existing conditions and the common desire amongst the residents.

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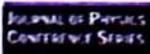
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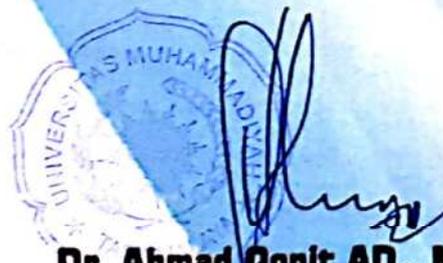
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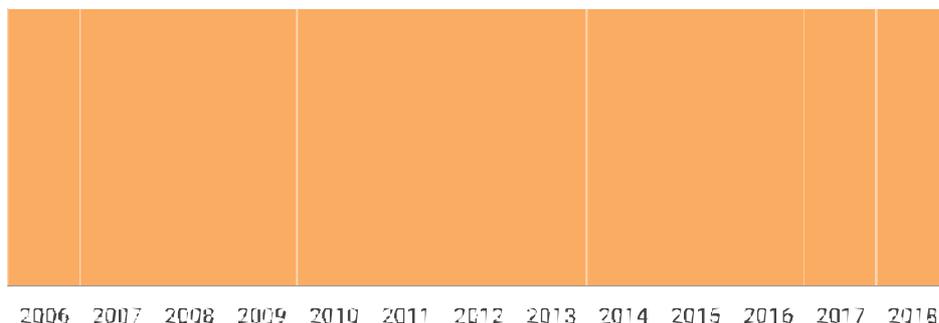
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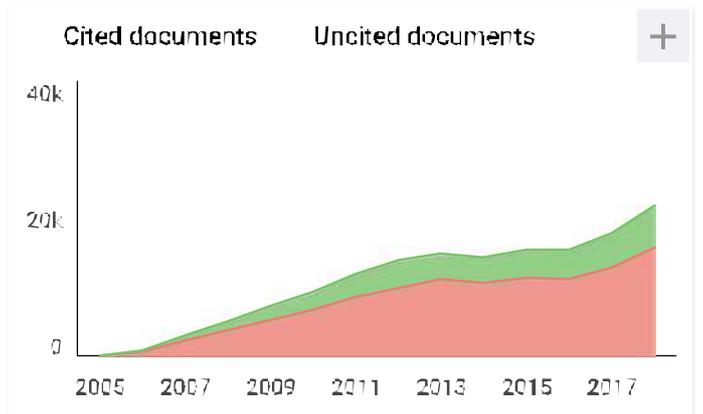
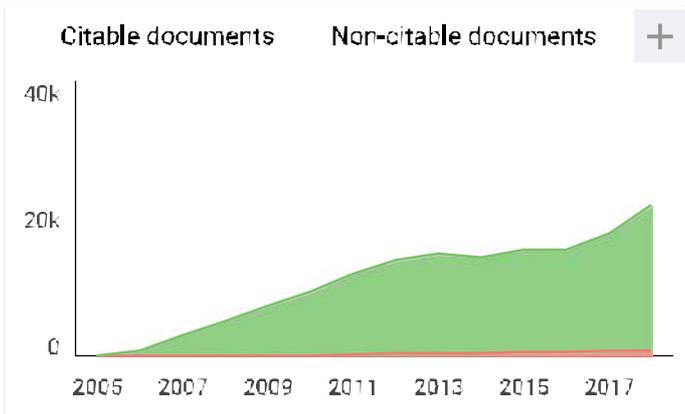
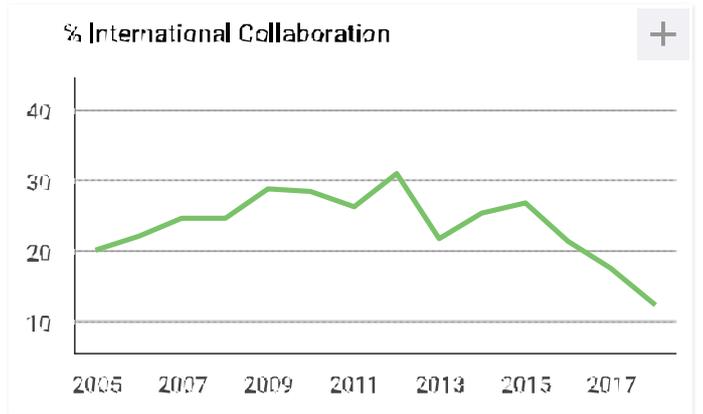
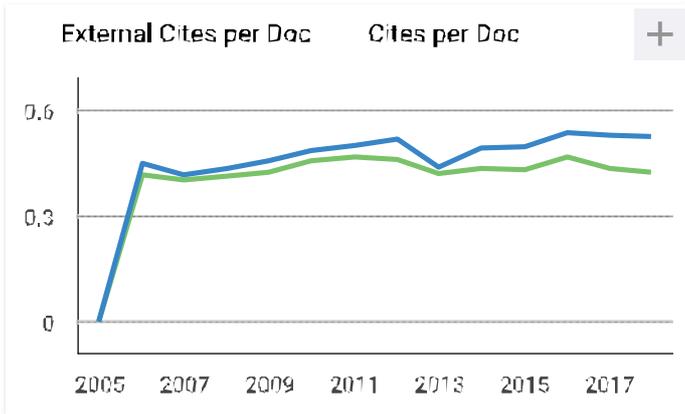
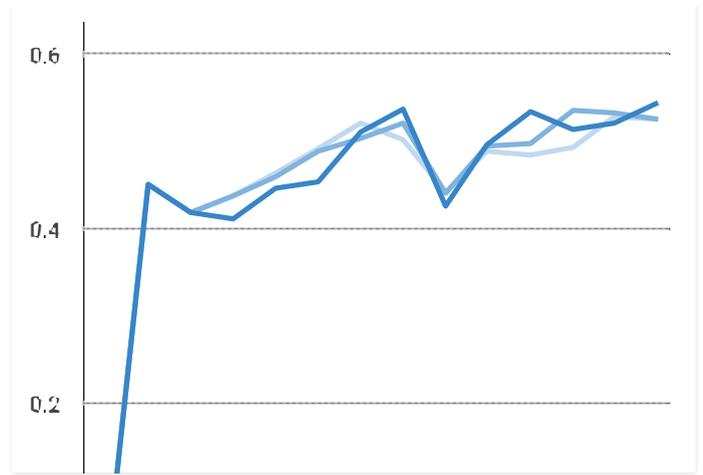
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