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# EUQ\_3T: Urban Therapy to Sustain the City of Solo

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**Abstract—** This paper is an action research. The background of this activity is an emergency action to cope the urban decay in Solo. This activity focused on improving the environmental quality of 3 types as follow: social-artificial-natural. This urban therapy, called as EUQ\_3T (Environment Upgrading Quality\_3 Types), created to sustain the city of Solo. According to the previous research, Solo has many urban disasters: (1) urban social disaster; (2) urban built disaster; and (3) urban natural disaster. To cope the several of urban disasters, Solo needs an emergency action, before these disasters happened more often, heavier and faster. As an action research, this activity depends on: implementation-empowerment-controlling; while the main processes are including: planning-acting-monitoring-evaluating. This activity is conducted by penta-helix teamwork: (1) government; (2) academic; (3) professional; (4) NGO; and (5) media. To control the implementation, this activity is evaluated by parameters and indicators that collected from many literatures, such as regulations, standards and textbooks. To improve quality of social environment, the author created SCCN (Solo Creative City Network); to improve quality of built environment, the author created KRATON (Kreasi Arsitektur dan Kota Madani - Creation for Architecture and Civilized City); while to improve quality of natural environment, the author joined the RSI-S (Restorasi Sungai Indonesia, Solo – Indonesian River Restoration, Solo). This action research has been done for the last 5 years. Now, the urban disaster of Solo is starting decrease, while the urban quality is starting increase. Nowadays, wherever the cities in Indonesia have not yet started therapy, then

**the city will toward decay or even necropolis. Thus, the recommendation of this paper is to immediately do the urban therapy as early as possible. Afterwards, the creativity from urban designers is the key of urban therapy.**

**Keywords—** EUQ\_3T, urban disaster, urban therapy, solo

## I. INTRODUCTION

Cities in Indonesia are currently experiencing a paradoxical condition. The city must meet the urban sustainable agenda, while there was being many urban disasters. In the other words, the city's main program is to achieve the sustainability of natural environment (ecologically), artificial environment (technically) and social environment (economically). On the other hand, the city's main conditions are urban natural disaster, urban built disaster and urban social disaster. Reference [1] shows that urban natural disasters included pollution, landslide and eruption; urban built disasters included fire, collapse and flood; while urban social disasters included riot, mass amuck and terrorism. Nowadays, the city of Solo is having a competition between sustained actions versus the urban decay condition. Accordingly, the city of Solo needs an emergency action to cope urban disasters. In other words, Solo needs urban therapy to make the city sustained.

## II. THEORETICAL FRAMEWORK

### A. Urban Sustainable

Reference [2] shows that the management of the social environment, built environment and the natural environment are the keys of urban sustainable. In other words, urban sustainable means an urban area that is able to compete

successfully in the global economy and maintain a culture of life and environmental compatibility.

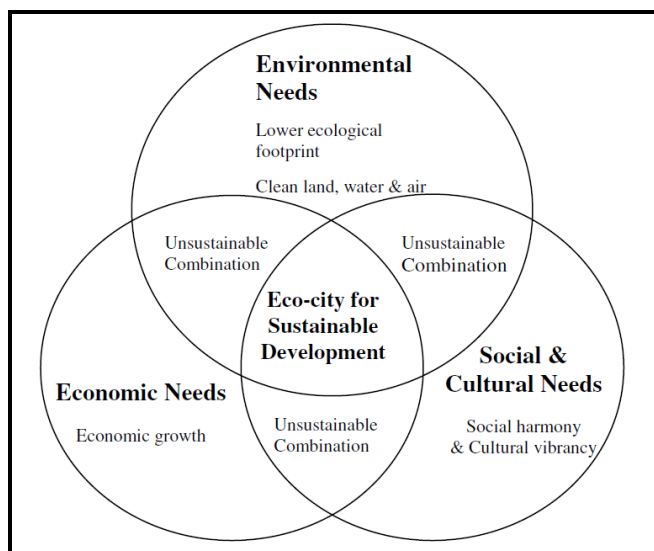


Fig. 1 Keys of Urban Sustainable  
(Source: Watson, 2003)

United Nations Conference on Environment and Development (UNCED) has released The Rio Declaration in 1991, known as Agenda 21. According to Agenda 21 [Ref. 3], the document consists of a preamble and twenty-seven articles reflecting the general principles of sustainable development. Agenda 21 focused on human beings and their right to a healthy and productive life in harmony with nature. Reference [4] shows that the concept and idea of sustainable development has been widely explained by urban experts, both personal and institutional, both nationally and internationally. International individuals who published a study on the sustainable city are including: Leitmann (1999), Srinivas (1997), Moughtin (2005), Yeang (2006), Watson (2003), and Oswald (2003); while the national individuals are including: Budiharjo (1998), Sarosa (2002), and Soegijoko (2005). International and national institutions (NGO) which often explore issues of sustainable city are including: ICLEI-International Council for Local Environmental Initiatives (Canada); GTZ-*Gesellschaft für Technische Zusammenarbeit* (Germany); CASE-Cities as Sustainable Ecosystems (Australia); CA-Cities Alliance (USA); EMAS-Eco Management and Audit Scheme (Europe); ECP-Eco City Plan (China); and URDI-Urban and Regional

Development Institute (Indonesia). In addition, there are also many nationally and internationally forums competent with sustainable city. At the world level, there is the World Urban Forum (WUF) under UN Habitat, while at the national level there is Sustainable Urban Development (SUD) under the Ministry of Public Works Directorate General of Spatial Planning.

### B. Urban Quality

Reference [1] shows that there were many emerging tools to monitor, control or assess the degree of success of sustainable development programs, such as in the European countries with program of PETUS (Practical Evaluation Tools for Urban Sustainability), in the United States with program of LEED (Leadership in Energy and Environmental Design), and in Japan with program of CASBEE (Comprehensive Assessment System for Building Environmental Efficiency). In 2006, the countries that joined the European Union (EU) makes the European Commission engaged in monitoring the implementation of the sustainable development program, which is referred to as the EU Sustainable Development Strategy (SDS). To control it, it is made of sustainable development indicators (Sustainable Development Indicators or abbreviated SDI), which is composed of 10 themes, namely: (1) social development economic; (2) sustainable production and consumption; (3) community participation; (4) changes in demographics; (5) public health; (6) energy and climate change; (7) sustainable transport; (8) natural resources; (9) global cooperation; and (10) good governance. The sustainability assessment instrument may include [Ref. 4]: Environmental Impact Assessment (EIA), Strategic Environmental Assessment (SEA), Social Impact Assessment (SIA), and Health Impact Assessment (HIA).

Component of urban space divided into three kinds [Ref. 1], namely: (1) the natural environment, in the form of the elements that already exist in nature such as water, air, light, soil; (2) the built environment, which form elements are created by humans, such as: roads, buildings, installations, and vehicles; and (3) the social environment, which form the elements of a civilized society that have activities towards quality of life, such as: work,

vacation, worship and learn. According to Arsitoteles [Ref. 1], the city should be built in a brilliant and safe; while according to Vitruvius city should be robust, beautiful and powerful. Under the rules of the science of architectural design, the key factors of design are: (1) *firmitas* (strength); (2) *utilitas* (usefulness); and (3) *venustas* (beauty). In its development, the paradigm was developed further by Wotton (1624) to be: (1) firmness; (2) commodities; and (3) delight, and then further developed by Gropius (1930) to be: (1) technics; (2) function; and (3) expression, and then further developed by Schulz (1965) to be: (1) technics; (2) building task; and (3) form. Latest, in the law of Indonesia (UU No. 26/2007) also mentions the factor of spatial planning is a safe-comfortable-productive-sustainable [Ref. 1]. The pillar of sustainability was the healthy environment, an integrated social community and economic efficiency. Finally, the crystallization of some design paradigm above is: (1) safe; (2) comfort; and (3) delight. Safety factor has the meaning of effort avoidance of death threats; comfort factor has the meaning of effort avoidance of physical pain; while the delight factor has the meaning of effort avoidance of psychological pain.

### III. RESEARCH METHODS

The term action research came from the work of Kurt Lewin about the social dynamics in the United States in the 1940s. He intends to seek common rules in the life of the group through careful observation and reflection on the processes of social change in the community [Ref. 5]. Two important things in his work is the idea of a group decision and commitment to make improvements. According to Lewin, a prominent feature of action research is the party to whom the change has responsibility for the direction of an act which if going towards the repair and the responsibility to evaluate the results of the strategy or method that is applied in practice. The idea of action research initiated by Lewin is then developed from America, where the idea originated, to England, to the countries in mainland Europe, to countries in the Third World (especially Latin America) and to Australia. In a later development, the action research is developed by

one country may be different from other countries. Nevertheless, the basic principles remain the same.

Reference [6] shows that action research is characterized as systemic inquiry that is collective, collaborative, self-reflective, critical, and undertaken by the participants of the inquiry. The goals of such research are the understanding of practice and the articulation of a rationale or philosophy of practice in order to improve practice. Action research is any systematic inquiry, large or small, conducted by professionals and focusing on some aspects of their practice in order to find out more about it, and even eventually to act in ways they see as better or more effective. Action research is a form of self-reflective problem solving which enables practitioners to better understand and solve pressing problems in social setting. Action research lends itself to collaborative inquiry as well as to a strong sense of ownership of the inquiry process and the results. Thus the core components of action research include a focus on the practical and its betterment, systematic inquiry and reflexivity. In other words, action research provides a way of working that link theory and practice into a whole: ideas and action. Reference [7] shows that the steps in action research included: (1) planning; (2) implementation; (3) monitoring; and (4) assessment. The fourth step is to form a staple cycle. Action research is an ongoing strategy. Cycle consists of four steps are repeated to form a spiral: the reformulation of the plan, corrective action, more fact-finding, and reanalysis.

According to the literature above, an action research depends on: implementation-empowerment-controlling; while the main processes are including: planning-acting-monitoring-evaluating. To create implementation-empowerment-controlling, the first and the most important step is a whole community involved. It is, however, really hard and difficult how to begin. It actually needs many efforts and ways to involve the stakeholders of the city. The most strategic way is by collecting the tops of strength in Solo, either of bureaucrats, academics, businessmen, artists or community leaders. This effort requires many formal and informal meetings. In addition, this effort should also be done through the model solicitation publications, either in newspapers, TV

or internets. After lasting about one year, then began to be formed a community organizations concerned about how to sustain the city of Solo, which is named as SCCN. Solo Creative City Network (SCCN) is a networking forum of creative people in the city of Solo, which aims to create a variety of value-added, either in small, medium or large scale. SCCN was formed since the early of 2012 and comprised academic, practitioners, bureaucracy and public figures of Solo. SCCN is created to upgrade the quality of social environment. Then, in early 2013, to upgrade the quality of built environment, the community created KRATON (*Kreasi Arsitektur dan Kota Madani* - Creation for Architecture and Civilized City). The last, in the early 2014, to upgrade the quality of natural environment, the community created RSI-S (*Restorasi Sungai Indonesia, Solo* - Indonesian River Restoration, Solo). However, the members of each group or community are absolutely different.



Fig. 2 Empowerment and Community Involved in SCCN (left), KRATON (middle) and RSI-S (right)

Afterwards, the action of planning-acting-monitoring-evaluating from each group (SCCN, KRATON, RSI-S) has been simultaneously done. SCCN has planned to achieve Solo as creative city. In early 2013, SCCN has been widely disseminated to the public through a national seminar entitled: "*Menuju Kota Kreatif*" (Towards a Creative City). This event also involves three ministries, that is: (1) the Ministry of Tourism and Creative Economy; (2) the Ministry of Education and Culture; and (3) the Ministry of Youth and Sports. Having created SCCN as a whole community dimension, the treatment of the city of Solo focused on a specific object. According to the critical status in 2011, the element of economic disparity (socio-economic) is the most vulnerable. To cover this problem, it needs a large scale of economy creative. Regarding to the discussion result of SCCN, the strategic effort is to create added value in the rivers of the city within many tourism activities. The main argument is the

city of Solo as a waterfront city before. The passion for creating creative economy with a touch of local culture is the root of the key challenges in entering today's global era and later period. City of Solo as the former ancient city international airport, which has many traces of the past achievements of civilization, deserves raised again in the present, with a touch of 'eco-cultural design'. To gain awareness of the stakeholders, the idea of "*Impian Kota Air*" (the Dreaming of Waterfront City) has been published to the public through local newspapers. Furthermore, in the end of 2013, the acceleration to implement of "*Impian Kota Air*" turns more quickly, along with togetherness and awareness among city stakeholders, i.e.: government, employers, community leaders, academics and the general public. To reach that dream, it needs a pilot project. The ancient rivers in Solo are including *Bengawan Solo*, *Kali Anyar*, *Kali Laweyan* and *Kali Pepe*. According to discussion result of SCCN, the pilot project "*Impian Kota Air*" is *Kali Pepe* River. Learning from experience, government projects usually fail to meet the needs of the community. The project is more than spending budget rather than serving the real needs of the community. Therefore, the development model of Community Action Planning (CAP) is more appropriately applied than the top-down models in the city of Solo.

Having got many meetings and discussions conducted by SCCN, either in City Hall (*Balai Kota*), office of sub-district (*Kantor Kecamatan*), office of village (*Kantor Kelurahan*), or house of citizens (*Rumah Warga*), there were many results. The need for space and the building is actually raised by the citizens themselves, while the city government will act as executor. In other words, the standard physical development is to be the domain of government, while the non-standard physical development is becoming public domain. Standard physical developments are including: sediment dredging; city sewers; river channelling; road construction; inspection manufacture; and wastewater treatment plant. Meanwhile, non-standard physical developments are including: communal kitchen; communal drying manufacture; procurement of waste banks; the art hall of riversides; and other creative facilities as a result of

the excavation of local potential. The efforts of the creative economy in the river region, however, are able to provide a great added value. It needs not only some periods of time, but also a focus of development step. Through the participatory development models with the riversides residents, there was built the concept of Javanese-3R: *Resik-Rejo-Rejekeni*. The concept of '*resik*' (healthy) is to create the river be clean again in the short term (less than 5 years); the concept of '*rejo*' (worthy) is to create the river be beneficial in the moderate term (5-10 years); while the concept of '*rejekeni*' (wealthy) is to create the river be scene of new jobs for riversides residents in the long term (after 10 years). The concept of '*resik*' has implemented on *Kali Pepe* since year 2013, i.e.: sedimentation dredging by department of public works; sporting and cleaning by the stakeholders; design competition by the local community of *Kali Pepe*; and bicycle Sunday morning on riverside of *Kali Pepe*. In the year 2014, the project of sediment dredging is still happened, and will be finished by the end of this year.



Fig. 3 the Action Research Step in SCCN, 2011-2015:  
Planning-Acting-Monitoring-Evaluating

#### IV. DISCUSSION

Reference [1] shows that urban disaster is divided into 3 types as follows: urban social disaster; (2) urban built disaster; and (3) urban natural disaster. Reference [3] shows that the main factors of urban social disaster in Solo are: (1) leadership crisis; (2) economic disparity, and (3) cultural hypocrite; the main factors of urban built disaster are: (1) invasion, (2) occupation and (3) expansion; while the main factors of urban natural environment are: (1) pollution; (2) exploitation, and (3) extinction. According to reference [1], the urban quality status of Solo in 2011 can be shown as follow:

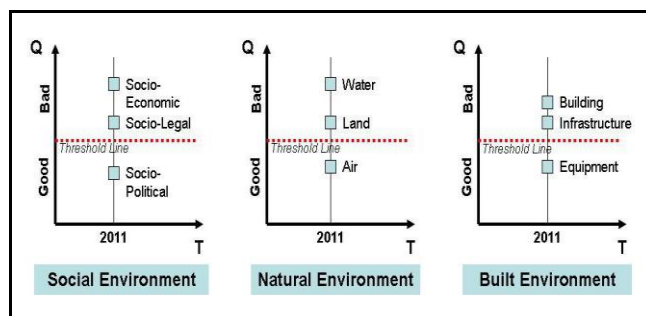


Fig. 4 Scheme of Urban Quality Status in Solo in 2011  
(Source: Qomarun, 2013)

The city problems, however, have grown in many aspects of field and been developed to an uncontrollable situation. Social conflict tragedy, in the form of riots and acts of anarchy, has a higher frequency, either due to economic polemics, politics, law, sports or 'Sara'. Since independence era up to 2007, there were 15 times of such tragedy. Major flooding in urban areas also showed a higher frequency. Since the era of independence until 2007, Solo experienced 5 major floods, e.g: 1966, 1980, 1999, 2005, and 2007. In 1985 a huge fire happened at Kraton Surakarta which was spending important heirlooms from 10 generation of Mataram Kingdom (PB II-XII). The tragedy of the fire in the city are also becoming more frequent, i.e. from 23 to 96 times/year only in the period 1990-2007. To cope the several of urban disasters, Solo needs an emergency action, before these disasters happened more often, heavier and faster. As an action research, this activity depends on: implementation-empowerment-controlling; while the main processes are including: planning-acting-monitoring-evaluating.

This activity is conducted by penta-helix teamwork: (1) government; (2) academic; (3) professional; (4) NGO; and (5) media. To control the implementation, this activity is evaluated by parameters and indicators that collected from many literatures, such as regulations, standards and textbooks. To improve quality of social environment, the author created SCCN (Solo Creative City Network); to improve quality of built environment, the author created KRATON (Kreasi Arsitektur dan Kota Madani - Creation for Architecture and Civilized City); while to improve quality of natural environment, the author joined the RSI-S (Restorasi Sungai Indonesia, Solo –

Indonesian River Restoration, Solo). This action research has been done for the last 5 years. In other words, this activity is focused on improving the environmental quality of 3 types as follow: social-artificial-natural. This urban therapy, called as EUQ\_3T (Environment Upgrading Quality\_3 Types), is created to sustain the city of Solo. The following are the actions research to cope urban disasters in Solo:

#### A. SCCN: Improving Quality of Social Environment



Fig. 5 SCCN as the 1<sup>st</sup> Type of EUQ\_3T

The most dangerous of all urban disasters in Solo is an urban social disaster, which is caused by: (1) leadership crisis; (2) economic disparity; and (3) hypocrite culture. To avoid urban social disaster, the stakeholders of Solo try hard to release its factor within creative city and networking. On the other word, these activities will simultaneously release the root factor of urban social disaster. To release the leadership crisis, SCCN created cultural creative. The city of Solo, which is formally often called as Surakarta, is now designed according to the public participation, so that the results can always be grounded. For example, Jokowi (the Mayor of Solo 2005-2012) had a 27-meeting with community to solve the city problem. As a leader of community in Solo, Jokowi was glad to hear, to talk, and to discuss the problem until finding the solution. Finally, both the Mayor and the community have agreement. So, beginning with the movement to restore the function of the public space in the Villa Park, Banjarsari, by principled *nguwongke wong* (cherish each other), Solo began to appear with some other creative programs related to Javanese culture. Afterwards, the *kirab* tradition is

recognized to around the world for explaining the Javanese ceremony in relocation of the community.

To release economic disparity, SCCN organized eco-designed creative. Solo will continue to evolve and reinvent creative design, along with all municipal entities, toward the eco-cultural city. For coming years, Solo will revitalize the existing rivers, to be designed into new creative spaces, and then combined with the socio-economic activities in the area of the land. Through the participatory development with the river side residents, then there was built the concept of Javanese-3R: *Resik-Rejo-Rejekeni*. The concept of 'resik' (healthy) is to create the river be clean again in the short term (less than 5 years); the concept of 'rejo' (worthy) is to create the river be beneficial in the moderate term (5-10 years); while the concept of 'rejekeni' (wealthy) is to create the river be scene of new jobs for riverside residents in the long term (after 10 years). Afterwards, to release hypocrite culture, SCCN created penta-helix team. Good governance is the most serious problem in Indonesian government. Good governance has 8 major characteristics, namely: (1) participatory; (2) consensus oriented; (3) accountable; (4) transparent; (5) responsive; (6) effective and efficient; (7) equitable and inclusive; and (8) follows the rule of law. To get good governance, the stakeholders of Solo create 'penta-helix' team that containing 5 groups, namely: (1) government (Mayor, Bappeda, DTRK, BBWS, DPU); (2) NGO (Ngreksa Lepen, SCCN, YUF, SKK); (3) academics (UNS, UMS, ISI, ATMI); (4) professionals (artists, businessmen, architects, designers); and (5) media (Solopos, TATV, Joglosemar, RRI). BPK (*Badan Pemeriksa Keuangan*-Supreme Audit Agency) gave a WTP (*Wajar Tanpa Perkecualian*-Fair without Exception) score for budget accountability Solo fiscal year 2010. This assessment was the first time obtained having previously got a WDP (*Wajar Dengan Perkecualian*-Fair within Exception) score or even unfair score.

#### B. KRATON: Improving Quality of Built Environment

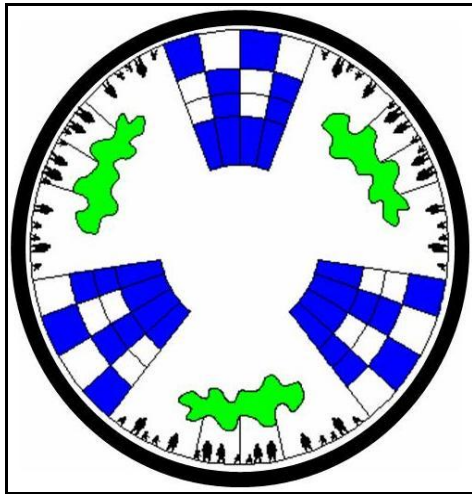


Fig. 6 KRATON as the 2<sup>nd</sup> Type of "EUQ\_3T"

The main factors of urban built disaster are: (1) invasion, (2) occupation and (3) expansion. Invasion means the development of built environment through natural environment eviction; occupation means the development of built environment by using illegally other built environment; while expansion means development of built environment through social environment eviction. To release all of those factors, now and then architects and urban designers should accommodate the green building concept, known as *Greenship*. The implementation of green buildings here will give the following results: ecological sustainability, conservation of energy and various natural resources, financial efficiency, a competitive edge and responsible world citizens. In short, green buildings will contribute to the sustainability of the world we live in. To get a green certificate, there are numerous prerequisites or conditions to be fulfilled: the construction process should not damage the environment; the use of environmentally friendly materials that take into account the 3R — reduce, reuse and recycle — and energy and water efficiency. The Green Building Council of Indonesia (GBCI) was established in 2009 and its members comprise construction professionals, prominent property sector figures, government officials, educators and researchers as well as NGOs that are concerned about the environment. GBCI is a member of the World Green Building Council (WGBC), which is headquartered in Toronto, Canada, and has 64 countries as members. It only recognizes one GBC

in each country. GBCI conducts intensive public information and awareness campaigns and issues green building certificates in Indonesia based on evaluation that is specifically designed to Indonesian standards and is called *Greenship*.

Being an architect and urban designer studio, KRATON (*Kreasi Arsitektur dan Kota Madani - Creation for Architecture and Civilized City*) has accommodated the *Greenship* in its project. To design hotel and office, KRATON refers to *Greenship-NB* (New Building); to redesign hotel and office, KRATON refers to *Greenship-EB* (Existing Building) and *Greenship-IS* (Interior Space); to design house and villa, KRATON refers to *Greenship-Home*; and to design urban, KRATON refers to LEED (Leadership in Energy and Environment Design). The projects have held in KRATON are including: Omah-3C (*Cedak-Cilik-Ciut*), Solo; Ronggowarsito Heritage Hotel, Solo; Master Plan of Eks-Pabrik Gula Colomadu; Kepatihan Urban Settlement, Solo; Kali Pepe Revitalization, Solo; Jayengan Urban Planning and Design, Solo; and Urban Design of Green Batik Laweyan.

### C. RSIS: Improving Quality of Natural Environment



Fig. 7 RSIS as the 3<sup>rd</sup> Type of "EUQ\_3T"

Having upgraded quality of social environment and built environment as above, then the following are described the action research to cope the condition of the natural environment (flora, fauna, physical). The main factors of urban natural environment are: (1) pollution; (2) exploitation, and (3) extinction. The most dangerous of all natural elements in Solo is river pollution. In the aspect of the natural environment, the types of organisms endemic in Solo increasingly disappeared along with the times. Based on data from BLH (Environment Agency), thousands of species of fauna category are currently living tens only, while



tens of thousands of species of flora are also lived tens only. In addition, with regard to the amount of each species of flora and fauna, is also already totally reduced. Today, most species of flora and fauna that are still alive are collected in zoos and parks of the city, such as in *Taman Satwa Taru Jurug*, *Balaikambang* and *Sriwedari*. Meanwhile, according to the water quality of rivers, 14 rivers in Solo have exceeded the threshold of quality standards of *Prokasih* (*Program Kali Bersih*-Clean River Program).

The most significant of parameters for river quality are the BOD (Biochemical Oxygen Demand) and COD (Chemical Oxygen Demand). BOD parameter is used to measure the amount of oxygen needed micro-organisms in river water to decompose organic substances, which amounted to 3 mg/l; whereas the COD parameter is to measure the amount of oxygen required for the river water oxidation process, which is equal to 25 mg/l. The survey results of 2007 by BLH Surakarta shows that the river at an average content of BOD reached 60 mg/l of standards 3 mg/l; while the average content of COD reached 100 mg/l of standards 25 mg/l. Thus, the rivers in the city of Solo have exceeded the threshold and even very dangerous to health and life, because the level of ugliness has multiplied times of quality standard. As a simple picture of the changes in water quality in the river in Solo is Jenes River conditions. The river was once renowned as the access to the main transport ships from Pengging-Pajang-Demak. Currently, the upstream conditions in the form of banners (natural water gushing) is still alive and remains clear, however, when in the downstream has turned into a foul-smelling river and stinging. Locals even changed his name to *Kali Kencing* (river which has a foul odour). Thus, the condition of the surface water quality in the city of Solo has been touched in a very bad state of the quality standards set by Ministry of Environment. According to this situation, RSIS (Restorasi Sungai Indonesia Solo-Indonesian River Restoration, Solo) has firstly decided to upgrade Kali Pepe River, and then the other river will be managed soon. There are five big rivers in Solo: (1) Kali Pepe; (2) Kali Jenes; (3) Kali Tanggul; (4) Kali Anyar; and (5) Bengawan Solo.

This paper is an action research to cope urban disasters. This activity is focused on improving the environmental quality of 3 types and then called as EUQ\_3T (Environment Upgrading Quality\_3 Types). To cope the several of urban disasters, Solo needs an emergency action, before these disasters happened more often, heavier and faster. As an action research, this activity depends on: implementation-empowerment-controlling; while the main processes are including: planning-acting-monitoring-evaluating. This activity is conducted by penta-helix teamwork: (1) government; (2) academic; (3) professional; (4) NGO; and (5) media. To control the implementation, this activity is evaluated by parameters and indicators that collected from many literatures, such as regulations, standards and textbooks. To improve quality of social environment, the author created SCCN (Solo Creative City Network); to improve quality of built environment, the author created KRATON (Kreasi Arsitektur dan Kota Madani - Creation for Architecture and Civilized City); while to improve quality of natural environment, the author joined the RSI-S (Restorasi Sungai Indonesia, Solo – Indonesian River Restoration, Solo). The main result of research is the urban disaster of Solo is starting decrease, while the urban quality is starting increase. Nowadays, wherever the cities in Indonesia have not yet started therapy, then the city will toward decay or even necropolis. Thus, the recommendation of this paper is to immediately do the urban therapy as early as possible. Afterwards, the creativity from urban designers is the key of urban therapy

#### REFERENCES

- [1] Qomarun, *Dinamika Perkembangan Kota Sala, 1746-2011*, Yogyakarta: Disertasi Arsitektur-UGM, 2013.
- [2] Budiharjo, Eko dan Djoko Sujarto, *Kota yang Berkelanjutan*, Dirjen Dikti Departemen Pendidikan dan Kebudayaan, Jakarta – 1998.
- [3] Watson, Donald, *Time Saver Standard for Urban Design*, New York: McGraw-Hill, 2003.
- [4] Qomarun, *Healing the City of Solo by the Javanese-3R: Resik-Rejo-Rejeki*, Bandung: Proceeding Artepolis5 Arsitektur-ITB, 2014.
- [5] Burns, A., *Collaborative Action Research for English Language Teachers*, Cambridge: Cambridge University Press, 1999.
- [6] McCutcheon, G. & Jung, B., *Alternative Perspectives on Action Research: Theory into Practice*, Vol. XXIX, No. 3, 144 – 151, 1990.
- [7] Kemmis, S. & McTaggart, R., *The Action Research Planner*, Victoria: Deakin University, 1982