RESTORING NATURE IN THE URBAN FABRIC: THE AMBIGUITIES OF THE CHEONGGYEcheon RESTORATION PROJECT
**Introduction**

“How is “restoration” of nature possible in an already very artificial city?”

Lee Yong Tae (One of the three team leaders of the Cheonggyecheon Restoration construction site)

Planners and supporters of the project have framed the revival of the Cheonggye stream as an exemplary success of “green” urban development. It allowed the destruction of a polluting motorway and the creation of a green public space in the very heart of the city. This initiative was developed to re-establish lost habitats, plants and animal species in the city and thus contributed to the vast project claimed by authorities of becoming an “ecologically friendly metropolis” (Commission for Architecture and the Built Environment). However, behind this apparent success of the project are many controversies.

Since more than six hundred years ago, a natural stream – the Cheonggye stream – was flowing in the heart of Seoul, and once used as a sewage disposal site as many shops and houses were situated in that area. However, it had been a constant troublemaker to the city as it resulted in city flood which gravely affected the inhabitants. The King Taejong and the following King Sejong of The Chosun dynasty there-
fore constantly made an effort to improve the structure of the stream. In the process of modernization and industrialization of South Korea in the mid-20th century, to relieve traffic congestion and cover up the polluted water, the authoritarian regime conducted a massive construction to cover up the stream with concrete and make an overpass road over the stream site (1967-1971).

In 2003, the Seoul Metropolitan Government (SMG) decided to bring the stream back to the city. The Cheonggyecheon Restoration Project was commissioned. The project entailed the removal of the Cheonggye expressway and revived the Cheonggye stream below. The project ran over a period of 3 years (from 2003 to 2005). The SMG discourse symbolised the transition from a “gray city” to a “green city”. The objective of this project was to restore historical heritage and a lost natural site, and to contribute to the creation of an image of an environmentally friendly, competitive global city.

**Defining the concepts**

**Restoration**

Restoration, according to the Seoul Metropolitan Government (SMG), is understood as making the stream "look as it was before". This definition is highly based on appearance and focuses less on the internal system.

To start with, they focused on improving water flow within the stream for the restoration of the ecological environment. After emphasizing the importance of water flowing, the SMG also tackled other environmental issues such as the improvement of air quality in the city.

Within the restoration framework, “economic restoration” was defined as redevelopment of Northern Seoul which had suffered from the unilateral development of the Southern part of the city. Economic restoration targeted the improvement of territorial values of the areas surrounding the stream.

The SMG eventually understood the “restoration of heritage” as retaining the aesthetic appearance of the historical character of Seoul mainly represented by the ancient bridges. However, their approach remained highly constrained by the idea that this restoration had to conform to the modern context of Seoul and thus that it should not cause any type of inconvenience to the economic activities occurring around the stream.

**Sustainable development**
In that document we decided to define “sustainable development” in its broadest definition. Therefore, we adopt the one of Gro Harlem Brundtland, written in 1987 in a UN report: "meeting the needs of the present without compromising the ability of future generations to meet their own needs". In this definition, the common future involves three pillars: economic, social and environmental issues. All three have to be sustainable in order for sustainable development to take place.

Due to their intrinsic vagueness, these two notions - "sustainable development" and "restoration"- allow room for various interpretations. As a result, the SMG and the various stakeholders understood these concepts in different ways, leading to the contentious dynamic in the fields of economics, ecology and heritage. Following the vagueness and possible contradictions of these two concepts, we would like to ask: in the case of Cheonggyecheon, was "restoration of the stream" really correspondent with "sustainable development"? Are "restoration" and "sustainable development" complementary concepts? How can they concretely be combined in the building of urban projects? Thus, the paper shows that SMG led the restoration of the stream in order to generate the sustainable development of Seoul. We will show that the conception of “restoration” adopted by the SMG was not sufficient to fulfill the objective of sustainable development.
I) Institutional and political process: a top-down approach

The implementation of the Cheonggyecheon Project has been greatly discussed and reviewed within academic circles as there has been growing interest amongst neighbouring Korean regions and in other parts of the world in applying this model of “stream restoration”. The project was rapidly labeled as a “best-practice” case. In trying to establish an applicable framework, there has been the need to analyze the political background of the project, the role of the different actors and the outcome resulting from the power relations.

It is notable that the Cheonggyecheon Project was implemented in four years only - it was initiated in 2002 and finished before the end of 2006. This achievement was rendered possible by a strong involvement of the Seoul Metropolitan Government and especially the Mayor of that time, Mr. Lee. However, in order to implement this project within such a short time frame, the municipality had to adopt a very centralized decision-making structure, thus reducing room for the participation of actors belonging to civil society. This centralized structure was highly visible when conflicts occurred, in the way the administration dealt with opposing movements.

A few words on the Mayor, his personality, his incentives

The core actor in the Cheonggyecheon Restoration Project was undoubtedly Mayor Lee. The restoration of Cheonggye stream was one of the main pillars of his program when he campaigned for Mayorship in 2002. It has been argued that this element was key to his victory. In addition, the Mayorship of Seoul is a very important position that is often considered as a path to the Presidency of South Korea - and indeed Mr. Lee became President in December 2007. As a consequence, the stakes were very high for Mr. Lee’s political career, and were a strong incentive for him to finish the project before the end of his mandate so that he could benefit fully from this achievement. This is particularly true since Mayor Lee is said to have a strong personality - he has been called “the Bulldozer”, and his leadership when he was CEO of Hyundai Construction was described as ‘despotic’ (Cho M., 2010, p. 8). In this context, all the conditions were united for the Mayor to be willing to play a predominant role in the implementation of the Cheonggyecheon Project.

The institutions he created: the distribution of power
As soon as he accessed mayorship, Mayor Lee established the *Cheonggyecheon Restoration Project headquarters* (Jang Suh Noh, 2009, p. 25). This center was an exclusive task force dedicated to the project and mainly included elite technocrats. This organization was directly under the command of the SMG and offered a technical expertise. This center also benefitted from the resources and skills of other agencies, notably the *Seoul Development Institute* and the *Workshop for Cheonggyecheon Restoration*. These two bodies were used to assess the feasibility of the project, and answered directly to the Seoul Mayor (Cho M., 2010, p. 8). What has to be highlighted is that all these institutions are overwhelmingly composed of engineers, with few deliberative spaces concerning the project itself. Establishing such a technocratic administration enabled the Mayor to evacuate debates over the nature of the project, over its meaning in terms of sustainability, ecology and restoration. Depoliticizing the project and reducing it to a series of technical issues was a way to establish the hegemony of his own vision. The only body that he established in order to discuss the implementation of the project with members of the civil society (citizens, NGOs and businessmen) - the *Cheonggyecheon Citizens’ Committee* - was solely an advisory one, with no real power. Strikingly, all members of the Committee were nominated by Mayor Lee himself (Jan Suh Noh, 2009, p. 39).

**The way the conflicts were handled**

As mentioned above, the SMG was the main actor of the implementation process. This top-down approach in the policy-making process raises questions concerning the way in which conflicts and contestations within the project were handled. Firstly, the advisory body (the *Cheonggyecheon Citizens’ Committee*, gathering citizens, NGOs and businessmen) was diverse enough to disagree with mayor Lee, mainly over issues of heritage and the relationship they had with the SMG. However, their advice were rarely taken into consideration. This committee, initially created by mayor Lee, was dissolved as a result of these oppositions. The *Green Seoul Citizens’ Committee* was dismissed by the administration when it raised questions regarding the sustainability of the project (Myung-Rae, p. 9). The more significant coalition (*Citizens’ Coalition for Correct Cheonggyecheon*) led the administration to meet with NGO leaders, but no concessions were made on the part of the public authority (Myung-Rae, p. 10). Evidently, Mayor Lee allowed little room
for criticism and modifications of the project. However it is interesting to note that this top-down approach was not overwhelmingly criticize. Indeed some scholars and notably Professor Park, from Dankook University (Conflict Resolution Research Center), take the project as a successful conflict resolution case, praising the “leadership” skills of the SMG (Park, 2008, p.). This management has to be seen as a trade-off that enabled the public administration to meet a tight deadline. The conflict with shop owners - the only one that could really endanger the project - was tackled successfully in numerous official meetings.

II) Environment: "restoration of the stream" as a tool for "sustainable development"?

In this section, we will show the environmental goals of the restoration according to the SMG. We will then show the criticisms raised by the different stakeholders towards the environmental aspects of the project.

The flow of water and bio-diversity

According to Mr Lee Yong Tae (Team Leader of construction n°3), Cheonggyecheon project’s main restoration focus is the “flow of water”:

“First of all, I believe that circulation of water, or “flow of water” is a very important concept of sustainability. It is always better to have the water keep flowing, because it would allow the formation of habitats for living creatures, and if we could do that at the heart of the city, that would be creating sustainable environment for the city.” (Mr Lee, 29 March 2012, phone interview)

The most important point of the restoration was the stream. The flow of water was the main concept encouraged to create habitats for the establishment of an ecosystem around the stream. As some scholars put it: “Increased overall biodiversity by 639% between the pre-restoration work in 2003 and the end of 2008.” (Landscape Foundation Architecture, CGC restoration project).
Improving air quality

Air Quality was also at stake in the restoration issue. The Seoul Metropolitan Government (SMG) managed to “restore” air quality, as shown in a study led by the Seoul National Metropolitan University. It gives evidence of a general improvement of air quality between 2002 and 2005 (Heo, Y.I., 2006). These findings are consistent with the work of Han and Huh (2008), showing a decrease in temperature and an increase in the level of humidity. A similar outcome is observable in terms of biodiversity.

Destruction of the old overpass

Cheonggyecheon Expressway was a symbol of fast and cheaply built industrial giant which, according to Wassung (2009), experienced irreparable structural problems due to poor workmanship, unplanned excess pressure from traffic, and corrosion due to the emission of sewage gases underneath the road. Not only there was a massive decrease in the amount of carbon emissions resulting from the burning of fossil fuels, but the air and noise pollution that clogged up the city was also reduced. Cheonggyecheon project was going to destroy this expressway; by destroying this environment troublemaker, SMG could certainly associate the project with the idea of Seoul becoming a sustainable city.

Promoting public transportation

Furthermore, SMG was an active promoter for public transportation: it removed the road completely, which led to traffic congestion, and finally made public transportation as a more “reasonable option”. And as widely acknowledged, using public transportation more than private cars will save energy and reduce polluting the environment. In this respect, CGC restoration could really be an effective tool to pursue sustainable development. Its success is considered as a model to follow.

As in any other metropolis where the increase of individual car users is problematic, the SMG had to tackle the transportation issue. In terms of transportation, Seoul therefore initiated a new paradigm. Indeed, the city of Seoul had improved the bus system before dismantling the motorways. They invested both in a Bus Management System (BMS) and an Intelligent Trans-
port Service (ITS). Seoul metropolitan area was already equipped with a subway system going to the furthest places. In order to use it the fullest, they integrated the new bus system with the existing subway. The system was later adapted according to people’s needs, in order to prevent discontent. (GIZ and KOTI, 2001, p. 2-14).

All in all, the project can be qualified as a success as it shifted away from a wasteful paradigm to a sustainable one. The implementation was done in a smart way, taking into consideration people’s demands, while based on “the visionary goal of then Mayor and current President Mr. Lee, in creating a city for people rather than for cars.” (GIZ and KOTI, 2001, p. 14)

**Critics: is this restoration really “sustainable”?**

Yet, despite, some successes, both restoration process and results can be criticized in an environmental point of view. The strongest critic addressed by scholars and political opponents is about the restoration of the water stream. This can be explained by the idea that water flows was the part of restoration that was the most put forward by SMG, when branding the stream. Therefore, we shall raise such criticism before to turn to other critics both in terms of outcomes and process.

**Critics on water flow: is artificial pumping a real "restoration"?**

The various stakeholders criticizing the environmental aspect of water flows argue that the restoration is not sustainable. Indeed, it is based on an artificial pumping system as well as a water circulation system. The most controversial point is the source of water. According to Mr. Yoon, the former president of Cheonggyecheon Restoration Propulsion Headquarter, defends SMG’s decision saying that it was impossible to make the water flow in a natural manner – all the “natural” water sources which used to be the sources of Cheonggye stream were all dried today (28 February 2012, CBS radio discussion). Therefore, they had to apply artificial measures to bring the water back to the stream. The water in fact comes from Han River, and it has to go through chemical/mechanical filtering process before it reaches the stream. After that, artificial pumping system has to be used to make the water come to the stream. In case of water pumping, as SMG today
has to spend 1.8 billion Won every year to pumping out water from Han River to Cheonggye Stream. Could this be a “real” restoration of the stream or nature? Cheonggyecheon looks green today; but can one really see it as “restoration”, considering the fact that it is being “forced” by artificial measures? In fact, even Mr. Lee, who actually worked for the headquarter, questions the idea of “real” restoration:

“Well, I do not buy into the idea of "restoration" in fact. How "restoration" of nature is possible in already very artificial city? ... I question the idea of the "real technical restoration of nature", especially at the heart of the city.” (29 March 2012, phone interview)

Here one could observe that the artificial water pumping system questions the very concept of “restoration of nature” that SMG mainly used in defending the project.

Another important problem is that Cheonggye stream project did not take “water circulation system” into account, which makes the project highly superficial; according to our interviewee, Professor Mun, Cheonggye stream restoration project is “fake”, as it failed to deal with the fundamental issue of the stream - which is water circulation system of the entire city: in this respect, “only the appearance [of Cheonggye stream] is green, not inside”.

“...one should have planned how to re-use already-used water, reduce the pollution of river water, prevent flood of water due to local downpour, and so on... by re-using the water, controlling flood, making the sewage system more effective, by doing these things we could have made the stream flow without artificial measures. Also, no matter how much it costs, one really has to improve the sewage system so that we could separate rain-water from sewage disposal, so that the rain-water and sewage would not flow into Cheong-Gye stream all together. These kinds of processes are needed for Seoul to be more ecological - however, currently we’re only flowing Han River water wasting too much energy - which is an easy way of going about it” (2, April, 2012, phone interview)

**Criticizing on the grounds of ecology**

Many proponents find the ecological meaning of Cheonggye stream restoration in the quality of water - their criterion of becoming an “ecological project” is whether the stream water is composed of clean water or not. However, improving cleanliness of water is just one of several conditions to be a stream restoration. Just focusing on having the clean water, one might end up diminishing the real ecological meaning of restoration. According to Dr Ahn, a vice-president of Citizen Environment Research Center, there are other conditions that the “restoration of stream” has to meet and not only improving the quality of water. These conditions include securing biodiversity and main-
taining a “riparian buffer zone” in order to stabilize the amount of water and to filter polluted materials coming from the land.

However, according to Seoul Environment Federation, "the process of restoration construction has not been environmentally friendly, it was done in a very short period of time emphasizing only on how it looks"; and it specifically points out the fact that "because of promenades made of cement material, layer of water permeability is decreased, and "riparian buffer zone" is insufficient (Joongang Ilbo, 2005). Here one can observe that putting too much emphasis on “flow of water” or “cleanliness of water” could hide other important meanings of “restoration” or “sustainability”, which could be, in this case, source of water, the way of bringing back the water, consideration on entire water circulation system, and ecology system.

**Criticizing the environmental aspect of the process**

Sustainable development requires to take environmental issues into account on the implementation process. On that point the Seoul Metropolitan government has been weak.

First of all, it is unclear from the research whether low-impact building materials were used for any part of the restoration. Some of the new bridges were built using reinforced concrete, which due to its high energy intensity and carbon emissions is not an environmentally-friendly building material. There is also no indication that the restoration plans underwent any sort of sustainability audit to assess the social and environmental impacts of the architecture and materials to be used.

Also, considering pollution aspect, the elevated highway has proved to be really hazardous when being dismantled. The authorities found out that it was ill-maintained, that it would collapse due to erosion process and that lots of pollutants were lying under it, threatening public health in the area. Its dismantling had to take into account this feature in order to avoid further pollution. (GIZ and KOTI, 2001, p. 7) Yet, after the demolition of the Expressway and the road covering the Cheonggyecheon, 1.14 million tons of garbage and waste was left over. The city sold the 76 000 tons of reinforcing bars and steel materials for reuse in other construction projects, for a total price of 5.3 billion won. The construction waste was broken down into building aggregate. 75% of the total waste generated was recycled, and 25% was sent to a landfill (Deok Kang and Robert Cervero, 2009, p.29)

Here, one can observe that the SMG’s environmental approach based on their own interpretation of “restoration” is being contested by other stakeholders who are putting emphasis on other aspects of this concept.
III) The economic issues of the project

*Branding Seoul: restoring the image of the city*

The sustainable discourse embedded in the Cheonggyecheon Restoration Project included a strong economic dimension. One of the main legitimizing argument of the project was to create a positive image of an environmental-friendly global city. The SMG believed that by providing attractive urban amenities they could bring positive long-term economic effects and “restore” the competitiveness of the city. “The campaign reflected a firm belief of the mayor Lee that the new image of the stream, culturally vibrant and environmentally pleasant, will make the city a business and financial hub of Northeast Asia”. (Kal; 2011) Thus, linked to the notion of “city spectacle”, the stream restoration represents a strong economic symbol that aims at attracting investment and promoting competitiveness not only within the area of the stream but to the city in general. However, despite impressive numbers, the economic costs and benefits are not absent of controversy. As any other allocation of resources with redistributive effects, there are “losers” (local merchants, users of the old freeway, rent payers, etc.) and “winners” (project developers, citizens benefiting from urban amenities, landlords, etc.).

The economic costs and benefits of the restoration project include the destruction and removal of the freeway (including its maintenance and repair cost savings), merchants relocation and financial compensation, maintenance of the greenway and the real estate and transportation impacts.
The official cost of the stream restoration project (without including other related costs) was US$313 million. However, had the Cheonggyecheon Expressway remained, it would have required US$90 million and 3 years of repairs to secure the safety of the aging structure (a total of approximately US$270 million). Moreover, the stream has served as a catalyst for an estimated US$1.98 billion worth of capital investment in Cheonggyecheon-area. Essentially, in the short term the stream project was very expensive, but on the long term there is a strong belief that the stream will bring more economic benefits. (Hwang; 2004)

Concerning the global cost including maintenance and transportation, Yoo (2000) estimated it to be close to US$1 billion. Now for the benefits the margin gap for the estimation is bigger. The economic benefits of not having to maintain the old freeway, health-care cost savings and the contingent valuation of non-market resources linked to the environmental gain sum up to the figure of almost US$672 million. Additionally, the impact of the land value rise is estimated with a large gap from US$198 million to US$2.9 billion. Thus, one can argue that the cost of the project is very concrete and tangible, occurring on the short-term, whereas the economic benefits occur on the long-term and are usually harder to estimate. According to this study the point where the net-benefit becomes positive would be in 5-7 years.

One of the most tangible impacts of this “urban entrepreneurialism” (Harvey; 1989) is seen on the land values nearby the area of the greenway, which advocates frame as economic development and critics might frame it as a gentrification process. Not only nearby offices and retail shops are requesting higher rents, but new residences in high-rise apartments are appearing, taking advantage of the public amenity linked to the stream restoration.

The surrounding areas, which used to be occupied by buildings from the 1970s and houses for the poor, are being cleared to make space for the construction of new commercial and residential buildings to be occupied by affluent residents. (Kal, 2011) The neighboring areas of the Cheonggye stream have become a vibrant cultural attraction. Nice modern-styled restaurants and other shops have sprung up along the stream on its both sides. (Young; 2010)

Before the restoration, residences were situated well beyond half a kilometer from the freeway. They indeed enjoyed some mobility and accessibility advantages, however, these were eclipsed by disamenities concerning the noise and pollution that the freeway produced. Therefore, the freeway corridor presented real benefits mainly to non-residential business, which increased the region’s economic productivity by lowering transport costs. However; the urban amenities impacts conferred by the restored greenway to
residential and non-residential buildings certainly surpass the mobility advantages related to the old freeway, specially taking into account the successful substitution of a massively expanded busway network for the lost freeway capacity. Within a 500-metre buffer, non-residential properties are generally worth more after the stream restoration. Also, residential parcels within 3 km of the restored stream are worth 5–8 per cent more per square metre (2001 to 2006) than comparable parcels more than 3 km away. Additionally, the “retail land value might have gone up near the urban greenway in anticipation of more high-salaried, professional-class workers and residents being attracted to the area.” (Kang; 2009, pp.2790-2791) The restoration of the stream led to the increase of the price of land by 30-50% for properties within 50 meters of the project. This is double the rate of property increases in other areas of Seoul. (Kim; 2009)

As mentioned, despite all these impressive numbers, it might still be too soon to consider the restoration of the economy of Cheonggye area as a sustainable economic development. It is clear that the project has attracted capital, but will the high-cost of artificially pumping the water (approximately US$1.58 million every year) be maintained if an economic crisis oblige the government to rethink their priorities?

A “fake” economic restoration?

To better understand the economic objectives of the Cheonggye stream project, it is necessary to have in mind the economic geography of Seoul during the previous decades. Historically, the Northern part of the city had always been the most prestigious and prosperous part of Seoul. But, during the 70s, the face of Seoul was dramatically modified by the massive constructions decided by the authoritarian developmentalist regime. These investments were not spatially balanced and aimed extensively at the South of the city. As a consequence, the South developed at impress rates, and the once-rich Northern part of Seoul started shrinking (Hong, 2011).

The municipality wanted to revive the economic dynamism of Northern Seoul and the construction of the new stream precisely appeared as a means of restoring the balance between the North and the South of Seoul (Hankyul Kim, 2010). Outwardly, as we said before, this objective was successfully fulfilled: the land value and the prestige of the area did increase. However, it is not sure that talking about “restoration”, as the proponents of the project did, is such a relevant choice of wording.

Before the construction of the stream, the area was famous in Seoul for its retailing shops. Several thousands of small and big stores were spread in the locality. Shopkeepers were offering various kinds of products, ranging from electronics to ironmongery. Most of the stores were decrepit, symboliz-
ing the decay of the Northern part of the city. The majority of the shopkeepers earned relatively moderate income and were not owners of their store.

The project of the stream gravely affected 6,000 of merchants (Min, 2011). These traders, whose shops were located alongside the stream, could not afford the sudden rise of the rent due to increase in land-value. Therefore, even though their stores were not destroyed by the construction works, they *de facto* had to leave the place. According to the Korean law – and more precisely to the “Law on Land Acquisition and Compensation for Public-Benefit Projects” – the State was not obliged to compensate these displaced traders since the Cheonggye stream was considered as a project benefiting the whole city, and since their shops were located in a private land not immediately included in the layout of the project.

The merchants were represented by the *Cheonggyecheon Merchant’s Commercial Rights Protection Committee* (CMRPC), that quickly became a very vocal opponent to the stream project. Between June and July 2003, the CMRPC organized 5 public demonstrations in favor of the compensation of the affected traders. The protestation movement grew in intensity: the first demonstration in June 2003 only gathered 3000 people, while the last demonstration in July reunited more than 220,000 angry demonstrators. Violent clashes with the police were reported by the media (Jeon, 2003).

The SMG finally proposed a so-called compromise and announced that a big commercial complex – named as “Garden Give” – would be constructed and give priority to the displaced vendors. The authorities also promised to offer a financial compensation so that traders could afford such a move. The CMCRPC, though not fully convinced, did anyway not have the power to prevent the project from happening.

The stream was thus constructed, and in 2010 the Garden Five commercial center finally opened. Yet, today, the promises of the State to the affected shopkeepers seem to remain largely unfulfilled. Only 40% of the 6,000 merchants to be displaced managed to obtain a shop in the new commercial center and only 28% are the owners of their newly acquired shop (Min, 2011). Indeed, the charge for a shop in Garden Five is extremely high (due to the increase of land value in the area), and the financial support provided by the State seems largely insufficient in comparison. The CMCRPC argues that most of the shopkeepers could just not afford moving to Garden Five. Many traders therefore had to move to another part of the city or simply stop their activity.

As for the other merchants who could afford staying in the Cheonggye area, their fate does not seem to be preferable. With the destruction of the highway and the reorganization of the area, the access to the shops for motor-
ized vehicles has become more difficult. Moreover, even though the crowds of pedestrians – and therefore potential customers – has exponentially increased in the streets next to the stream, this new mass of walkers coming for cultural purposes did not benefit the traditional commercial activity of the place – namely electronics, ironmongery and other kinds of hard material. Mr Lee, an official from the CMCRPC, argues that “in fact, restoration effectively killed the commercial district here”. And indeed, the revenues of the local merchants decreased by 30% between 2003 and 2012 (Min, 2011).

The culture-based marketing implemented by the SMG that succeeded in establishing a new economic dynamism in the city did not include former traditional forms of commercial activities that used to prevail in the locality. Given these facts, is it genuinely relevant to use the expression “economic restoration”?

To sum up, we can observe here how the municipality used its very own conceptions of “economic restoration” and “sustainable development” to build up the economic rationality of the project. When it comes to economic restoration, they only focused on possible economic benefits which could come from the project - their focus was on balancing regional economic development, by encouraging redevelopment of Northern Seoul - not considering devastating effects it would have on small businesses along the area. As for the economic sustainability, SMG only concentrated on the notion of creating continuous wealth via green methods (not releasing polluting materials) - turning a blind eye to “socio-economic sustainability” which considers resource redistribution and the rights of all citizens (in this case, “commercial rights” of the merchants). Therefore, SMG’s process of “restoring economy” via restoring the stream can be considered as imposing their partial interpretation of the two concepts.

### IV) The politics of Heritage restoration

In the case of the Cheonggye stream, the link between the concept of “restoration” and “sustainable development” can be addressed through the specific issue of “heritage restoration”. Indeed, sustainable development and heritage are theoretically narrowly linked; but these vague terms which reflect several realities and address various interests and temporal horizons can also result as a source of social and political conflict when they are formally interpreted and used in the design of urban projects. The “sustainable heritage restoration” policy of the Cheonggye stream highlights the stakes that can arise from such type of conflicts.

*Heritage restoration and sustainable development*
Before the “World Summit for Sustainable Development” held in Johannesburg in 2002, an ecological and environmental definition of sustainable development used to prevail. This Summit affirmed a broader definition of the term and allowed to include social and cultural factors, including heritage conservation and restoration, as key objectives of sustainable development projects. Therefore, from 2002 onwards the approach has been more and more to consider sustainable development as a tool for heritage restoration and, inversely, to consider heritage restoration as a means of achieving sustainable development objectives. (Coleman, 2004, p.4)

According to international organizations, such as the UN, heritage conservation is nowadays considered as serving the objectives of sustainable development alongside three main channels of action:

Firstly, there is a parallel which is made between “natural heritage” (natural environment) and “cultural heritage” (historic and cultural environment). Just as natural heritage, cultural heritage is non renewable. It is thus considered as a responsibility to preserve and restore it in order to pass it on to future generations for ensuring continuity between past, present and future.

Secondly, cultural heritage is considered as a manifestation of human genius and history. Its diversity, including controversial sides, is a way of acknowledging the past, understanding cultural and social systems and providing a foundation upon which appropriate decisions for a sustainable future can be taken. (Coleman, 2004, p.8)

Finally, heritage restoration appears as a way of serving the objectives of sustainable development to the extent that it can be a way of redressing
power structures in giving voice to those who could not contribute to history. Giving local communities the ability to manage their own physical and cultural environment (by protecting and restoring heritage sites) is perceived as a way of empowering citizens through participatory approaches and serving the social dimension of sustainable development. (Coleman, 2004, p. 14)

If the restoration of the Cheonggye stream is concomitant with the diffusion and the popularization of these approaches, it appears that the implementation of the project drastically challenges these three main channels of action. To begin with, it appears that the SMG’s definition of “heritage restoration” did not include any objective of intact preservation of the historic and cultural environment (no continuity ensured between past, present and future). Hence, it jeopardizes a main dimension of the social and cultural interests to combine the principles of sustainable development and heritage restoration. Secondly, it appears that the democratic and participatory approaches promoted by those who advocate for a comprehensive framework mixing the objectives of sustainable development and heritage restoration were not part of the project. Indeed SMG led the project without integrating at all citizens’ points of view about the heritage restoration, thus putting at high risk the chances of success to reach the social imperatives inherent to the concept of sustainable development.

The Cheonggyecheon Heritage restoration project

“There can be no denying that the project is an astounding success and that former Mayor Lee Myung-bak and now president, and all Koreans, have much reason for pride.” (Alan Biggs, The Korea Times, 28/06/2010)

The SMG emphasized the importance of heritage restoration as a way of “restoring national pride” (Jang Suh Noh, 2009, Chapter 3) rather than building continuity between past and future. The aim of the project was thus not merely to preserve monuments in their intact shape but rather to use them for enhancing the attractivity of the stream as a recreational place. Hence, the Cheonggyecheon Heritage Restoration Project led by the SMG favored a definition of “heritage restoration” putting the emphasis upon two main criteria:
- A restoration which should permit to avoid all type of physical inconvenience such as traffic congestion or flood risk
- A restoration which should be “aesthetic”: avoiding any possible damage to the relics and permitting their reuse for decoration and city-branding.

Following these two criteria, the SMG’s position was anything but “conservationist” in terms of heritage restoration strategy. Indeed the leaders of the project did not try to restore the relics that were unravelled during the dismantling work, to their initial condition (invoking flood risks, traffic con-
gestion and possible damage to the relics). Such a point of view was not shared by all, and some civil society organizations defending a “conservation-ist” point of view – keeping heritage intact – opposed the SMG’s philosophy. The three main points of conflict were as follows:

- Civil society organizations opposed the relocation of a bridge (Gwangtong-gyo) to another place
- The SMG refused to relocate another bridge (Supyo-gyo) to its original location.
- The SMG refused to conserve the stone embankment at its original site and it was relocated for decorating the modern cement revetment of the newly decided location of Gwangton-gyo.

Concerning the first two conflicts around the bridges, The Citizens’ Committee and the Cheonggyecheon Solidarity (regrouping around ten small organizations and some academics) filed an application at the Cultural Heritage Administration in order to designate the two original sites of the bridges as “national historic sites”. The application was accepted by the national agency and consequently the bridges came under heritage control at the national level. However, the claims of civil society organizations remained vastly unheard and the bridges were not kept at their primary location.

Regarding the third point of conflict, it appeared that the contractor who took care of the stone embankment damaged it when digging the ground, due to a lack of proper protection measures. The civil groups filed a complaint against Mayor Lee and, later on, the judiciary provided evidence upon the fact that the SMG actually allowed the contractor to not follow the recommendations of heritage experts. Moreover, as the stones were reused for the decoration of the new site of Gwangton-gyo, this measure was harshly criticized by civil society as an ‘anti-historical’ one. However, the reassembling and re-installation of King Yeonjeo’s stones at their original site as asked by civil society organizations did not occur and the SMG managed to follow its initial plan in spite of the protests.

In conclusion, it appears that the heritage restoration of the Cheonggyecheon Restoration Project did not fit the criteria of sustainable development. It did not aim at preserving heritage intact and passing it on to future generations, neither did it try restoring history in a way that could reflect diversity and allow acknowledgement of the past as a guide for a sustainable future. Finally, and even more strikingly, the decision-making process completely overpasses civil society’s claims who, in a sustainable development perspective, is supposed to constitute a key actor in the management of cultural environment.
Conclusion

The main idea we have grasped by analyzing the contentious dynamic of different actors of Cheonggyecheon Restoration Project is that their specific interpretation of restoration tend to emphasize on appearance, and this led to several criticisms accusing its restoration as a "fake" restoration. Another important aspect is that sustainable development can be used as a legitimizing tool to put forward a policy and reduce criticism. Thus, in this case study sustainability is used less as a real objective and more as a strategy to deflect opposition. Their way of "restoring" environment, economy and heritage did not imply or assure the sustainable development defined by the Brundtland report. We conclude that in this contemporary competitive globalized world, a city like Seoul used more the sustainability concept as a brand-marketing tool to improve its image and attract investment and less to promote the preservation of environmental, social and economical resources for future generations.
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I: Could you describe a little bit what you did during the project?

L: I was focusing more on the landscape architecture part, as that was my speciality. So basically what we did is that, as this is a city stream, we put concrete structure on the sides of the stream, and we made holes on each side so that it can control the water level (during the monsoon season, it has to control the amount of water). For the bottom of the stream, we put bentonite material which can prevent the water from going directly under the ground (prevent it from permeating through the earth directly) so that the stream can flow till it meets Jung Rang river in the end. It is a material made of clay, it would allow 20% of the water permeate through the earth, and 80% of it will keep flowing till it reaches Jung Rang river.

I: Do you think this is relevant to what we call as “sustainable development?”

L: “Sustainable development” is a very tricky term. What we mean by “sustainable” in fact can be anything. What we focused on, however, is two things: 1) circulation of water, the idea of “water flow” 2) allowing the citizens to experience city in a more close-to-nature state. First of all, I believe that circulation of water, or “flow of water” is a very important concept of sustainability. It is always better to have the water keep flowing, because it would allow the formation of habitats for life, and if we could do that at the heart of the city, that would be creating sustainable environment for the city. People say that it's a “fish globe”, because we prevented the water from permeate through the earth; but this is not true. Our main purpose was to make the water flow, and to do that we have to make them flow, not penetrate through the earth. So here you see the how difficult it is to define sustainability, it really depends on
how we understand it: yes, it is not “natural” that we prevent the water from permeating; but by doing that, we can make the water flow, which can encourage the formation of habitats at the heart of the city, which makes the city close to the concept of “sustainable city”.

I: Where is the source of the water? From what I know, it is artificial in that it artificially pumps out the water from Han River. What do you think of that? Could it be really “restoration” of the stream?

L: Yes, the water comes from Han River, and it has to go through chemical/mechanical filtering process before it reaches the stream. And yes, we have to use artificial pumping system to make the water come to the stream. Could that be a “real” restoration of the stream? Well, I do not buy into the idea of "restoration" in fact. How "restoration" of nature is possible in already very artificial city? You see, 10 million people live in seoul, it is already very artificial; just think about making parks, putting some trees - do we really "restore" the nature by doing that? I question the idea of the “real technical restoration of nature”, especially at the heart of the city. When "restoring" the stream, i was focusing more on "making citizens closer to more agreeable, close-to-nature environment", and the idea of "flow of water". Yes, pumping water from the river is true, we are using artificial pumping for that. but the flow of the water itself, making it flow through the city and eventually merged into a nature river, is indeed ecologically positive success. Before this project, Cheongyecheon area was far away from environmental-friendly; the air was highly polluted, and the city space with extremely artificial concrete-made overpass structure was certainly not something that citizens could enjoy; we removed that artificial architecture, put trees and water and nature, making it a more agreeable city-space for citizens so that they could enjoy the city in more close-to-nature state; that is already a very big step toward "restoration" or "sustainable development” that I believe in.
2nd Interview: Professor Jo Myung Rae (Dan Kook University, Urban/Real-Estate studies), participating as a counselor in Cheonggyecheon restoration citizen committee created in 2012

I: I saw that you have been criticizing Cheonggyecheon project led by the former mayor Lee. In your point of view, what is the most wrong thing that should be corrected?

J: CGC restoration was a very good opportunity for Seoul to be born as a new “ecological” city, however it is a “fake” restoration. CGC project initially promoted that it would restore the ecology and history/culture, however it was a lie. CGC restoration should not only be just about reviving the flow of water; the matter should concern meeting criteria/conditions to become an “ecological” city. Although it would take more time, restoring CGC “in a right way” (properly, appropriately) is necessary for Seoul to become a human, ecological, and cultural city; therefore, this “fake” restoration is lamentful.

I: What would be the reason of thing wrong doing? If it was that wrong, then how come it was supported by a large population?

J: At that time, former mayor Lee really wanted to finish it during his term of office; therefore, his ecological restoration is only a “pattern” on the surface - he did it without listening to the others carefully. Yes, despite this, it was supported by citizens and today called as a successful project which is considered as a “model” to follow for various local institutions (they are copying this model of process, which is very problematic) - this is because of the citizens’ low level of conception of restoring ecology and history.

I: You have criticized the stream for using an artificial water pumping system; what could have been done for this project to be more “ecological”?

J: Today anybody can say they would make “ecological city”, but most of the time only the color of the surface is green, and it is not the restoration of ecology where living creatures live and eco-system works - it’s only the appearance that is green, not inside.

Seoul is a city created by Oy-Sa mountain, Nae-Sa mountain, and Cheong-Gye stream. The city is created followed by several water streams - one should have gathered and collected these little streams out and include them to the Cheong-Gye stream. Also, one should have planned
how to re-use already-used water, reduce the pollution of river water, prevent flood of water due to local downpour, and so on... by re-using the water, controlling flood, making the sewage system more effective, by doing these things (which are considered as principles of Seoul city planning) we could have made the stream flow without artificial measures. Also, no matter how much it costs, one really has to improve the sewage system so that we could separate rain-water from sewage disposal, so that the rain-water and sewage would not flow into Cheong-Gye stream all together. These kinds of processes are needed for Seoul to be more ecological - however, currently we’re only flowing Han River water wasting too much energy - which is an easy way of going about it.
3rd Interview: Yang Yoon Jae, the head of Cheonggyecheon Restoration Propulsion Headquarter (2003-2005)
Collected from a radio discussion which was aired in Feb. 28, 2012 (CBS)

Park: The basic plan of the restoration construction is wrong, and not ecologic. First, they have put concrete (material) frame around the stream. If you dig into the CGC a little bit, it's actually "a fish bowl" (blocked with concrete floor and walls).

Yang: That is absolutely a false rumor. One digs it and he will know; one cannot make it that way. Prof Park, we have put 50cm of "Bentonite" material on the floor. Bentonite is a material made out of real mud. The walls, because it’s a city stream, they had to be concrete structured. Yes, both walls are concrete. The floor is mud, and the below is the natural earth. We had to put Bentonite so that the water doesn't through the earth and keep flowing. The lower part of the stream, there is no more concrete walls, and there it becomes the natural stream and meets JungRanng-stream.

Park: What I'm criticizing is that if we say we're going to restore the CGC, the most important point is to make the water circulation system right in the natural-state. What I mean is that during the period of drought, the underground water has be a supplement, and then during the period of flood the underground water has to stay where they are, this kind of system has to be created, but because we have put Bentonite or concrete that kind of thing we have stopped the natural flow of water.

Yang: Ah, you are not really aware of the situation.
A stream occurs when the underground water comes out above the earth's surface. That's a stream. Then urbanization happens on the both sides of the stream, and underground level has gone down. Therefore, many streams in Seoul have dried. (streams dried away).

When there was some water in CGC, it was during the summer monsoon season, and the water was sewage. So long time ago Seoul government has buried the sewage pipe there on both sides.

Then they are connected to JungRang sewage disposal site, and this was covered by concrete cover. So we need to restore this, and as you know, CGC itself was originally almost half-artificial stream, historically.

During the Sejong Dynasty period, the water was gathered and became a puddle, and they have "dredged" it. Dredged it, and then they had it flow away polluted materials/water within the stream. Therefore it was half-stream, half-sewage system. And during the monsoon season when the flood happens, all of them were swept away all at once and the trashes were pushed away to Han-river.

After 300 years later, it was dredged again. At that time, they put stone walls, until the CGC 3-road (the name of the road) today. Then the bridges were built. people keep saying our CGC today is artificial, but CGC itself was originally artificial. And then today we are trying to restore the way it was before.

What I'm saying is that originally CGC was not a "natural stream" which has water keeps flowing naturally.

**Park:**
Then, if it was an artificial stream, it is wrong to say that CGC is restored, or say that "we're going to restore as a nature-state".

**Yang:**
No, we only say CGC restoration, not restore it as natural-stream.

**Park:**
There was something like that when former mayor Lee announced it. In any case, the important point is that the entire Seoul has a big problem ecologically in its water system. Therefore it has to be something related to how to restore the water-ecology, how CGC should be in this big flow, these issues has to be examined.

Therefore, I think, the CGC itself is just "exhibition governance".

**Question:** Prof Park, today CGC water is being pumped at the Han-river artificially. Would there be a way of flowing water without this system? do you think?

**Park:**
First, the maintenance fee of CGC today is outrageous. When Seoul government said they were going to restore, they said the maintenance fee will be 1.8 - 2 billion. Today it's 8 billion every year. Therefore it need extreme amount of energy supply. And this became the model of stream restoration, and this wrong way has been duplicated when restoring other streams all around the entire country.

**Question:** Do you think it is possible to make "natural' CGC stream, without this artificial measure?

**Park:**
Korea's stream character is that during the winter there is little water; and during the summer there is a lot of water. It is artificial that the stream has the same amount of water flowing in
the winter as the summer; using artificial pumping. During the winter there could be less water. Without artificial measure it could be possible, as the water could come from Backwoondong-stream.

Yang:
No, we have examined all the streams which could be brought down to CGC, there is no water. Today, the northern-Seoul population is 5 million (entire Seoul is 10 million). And all the water is supposed to be merged with CGC. But all these water streams, have dried away. Water from Nam-mountain is the same. Backwoondong-stream, Samchungdong-stream, Okindong-stream, all the water we have checked so far, there is no water. No water not even during the summer, not to mention winter. The subways are going through CGC station, Euljiro, Jongro stations. When they were constructed, to save the budget, the depth is not that much. So the underground water level is very low, and it is being supported. It cannot come to CGC naturally. Today we're pumping out 20000 ton water everyday and flow it to CGC. Making natural flow of water in CGC? That's completely not true. misunderstanding is not just misunderstanding it's much more than that...
It is realistically impossible.

(Moving on to another topic: Culture Heritage)

Park:
When former mayor Lee came to office, he said that CGC restoration was to change the face of Korea, so that GwangTong-bridge, SooPho-bridge - the original bridges of CGC - would come back with their original shapes. But as you know, SooPyo-bridge is now in the JangChoongpark. And instead of it, they just made a bridge out of wood. CGC project has to include some important concept of restoring the history as well. but the headquarter, at first it prepared some stuffs, but then as it became very complicated and sensitive issue, it skipped this issue.

Yang:
Because, the CGC restoration in 2005, is just the beginning. It has to be restored over 100 years, or 200 years. And about the SooPyo bridge, at that time we followed the advice of the Culrural Heritage committee members. That bridge was highly corroded (rust), and even though we brought it to CGC, its width does not meet the width of CGC. Therefore we decided to prepare some measures ahead, so that when the area gets developed at the lower part of the stream, the bridge can be placed meeting the widths of CGC which shrinks as it goes down to its lower part.

The measures are already prepared, and GwangTong-bridge also, if we restore GwangTong-bridge on the site where it was, it is not possible if you think about the traffic and other bridge placed before. it is almost like making an adult wear what he used to wear when he was a child. Here again, what I'm saying is that our CGC project was the first attempt to restore the stream and where is a room to improve it, and like I said, we have prepared the measures which would allow it to be improved in the future. CGC restoration should be restored over the next coming years, and we did not project this as the final completion - that's why we have prepared measures for next following restoration project; however, I must say that I, as an expert, made every effort to conform to environmental criteria and did what is best for it to be the ecological stream; future restoration project should not be used as a political tool which would disrespect what has been done so far.