Disruptive Innovation. A redesigned strategy for building and managing sustainable communities: the Walas approach

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Abstract. The extreme complexity of urban contexts, the dilemma of the unpredictability of rapid change, and the increasing loss of self-orientation are just some of the challenges mankind faces in the Anthropocene era. To cope with it, no isolated action or usual strategy can help. Disruption is required. Social inequalities, degradation of urban areas, and poverty are just some of the aspects of urban fragmentation that, together with the ongoing exploitation of environmental resources, have led to an emergency that we cannot ignore any longer. To reconnect the threads and to guide cities towards a sustainable future we need to abandon traditional approaches and change our reference point.

Method. This paper focuses on disruptive innovation as necessary to redesign a strategy that will help cities survive the Anthropocene era by providing an example of good practice in urban regeneration and community redevelopment: the Walas approach. By introducing disruptive, gradual, flexible business models, through the combination of social and technological innovation, the paper demonstrates that it is concretely possible to reconnect cities to citizens, to build inclusive, vibrant and safe communities in these uncertain times.

Results. The implementation and application of a disruptive urban regeneration approach to projects have enabled World of Walas to achieve satisfactory results in Europe where degraded urban areas have been turned into vibrant, inclusive and safe communities.

Conclusions. Sustainable communities can be achieved only through collaboration, dialogue, and the imperative combination of the private and the public sectors. Starting with the redefinition of priorities, using a gradual, disruptive and holistic approach, the regeneration of degraded urban areas can become the turning-point for the sustainable development of cities.

1. Introduction
What is disruptive innovation? In Economy, researchers, writers, and consultants use the term disruptive innovation to describe any situation in which an industry is shaken up and previously successful incumbents stumble…. the problem with conflating a disruptive innovation with any breakthrough that changes an industry’s competitive patterns is that different types of innovation require different approaches [1]. Different approaches for different innovations suggest deep knowledge, imagination and the ability to think even the unthinkable as key to coping with disruption [2]. Disruptive innovations respond to complexity with easy, accessible and affordable solutions. Nevertheless, managing them is complex and it is a big challenge in times of deep uncertainty and fast-growing change.

Disruption is but not just an economic affair. Cities experience disruption caused by forces that dominate everyday life: climate change, terrorism, financial breakdown, congestions of various forms...
[3]. These forces break the city system configuration, and the extent to which it bounces back and evolves to other forms amplifies changes and affects feedbacks.

Urban regeneration can be key to building more resilient and sustainable cities and communities. It is a long – term transformative process that entails disruption and risk, leading to technological, typological and functional change at different scales. To be effective and create value, urban regeneration requires a holistic approach to consider and manage all interacting aspects and actors involved in the process. It is a big challenge for planners, architects, and real estate players. Contemporary urban regeneration schemes and approaches focus mainly on permanent transformations than consider dynamism and rapid change of cities; they follow the conviction that an enhanced physical environment is pivotal in the solution of urban problems … design itself encourages and signals outsiders’ economic prosperity [4]. The redevelopment of buildings and areas has become a goal to be reached in a certain timeframe to produce a profit. As a result, strong control, discipline, and gentrification lead to outdated interventions even before their realization [5].

Half of humanity lives in cities, and by 2030 more than 60% will be urban. Rural to urban migration, together with political and climate change refugees will have more and more disruptive effects on urban cohesion, causing an increasing fragility of urban systems. Humanity is at a crossroads. How to cope with fragmentation, loss of identity, fast-growing social economic and environmental fragility affecting cities? What disruptive innovation is required to make cities and human settlements inclusive, safe, resilient and sustainable?

In this paper, the author describes the approach used by World of Walas in its projects to provide concrete answers to the above questions. The approach has been developed, tested and it is continuously implemented by Walas Concepts, the research and planning global group working within the company. The author of this paper is a researcher at the Walas Concepts team.

2. World of Walas: Ethics at the ground

On the 27th of September 2015, the United Nations adopted 17 Sustainable Development Goals (SDGs) as part of the 2030 Agenda for Sustainable Development. The year 2015 marked the 15th anniversary of the Earth Charter, a document resulting from a 10-year dialogue with participants from all over the world.

Inspired by the Earth Charter, after years working for large development companies, investment companies, cities, and governments, in 2010 Gerben van Straaten founded World of Walas to offer a fundamentally different approach to urban and community development. His vision was a new way of thinking, of working, and of doing to change policies, finance, places, communities, and enterprise sustainably. It was soon after the 2008 crises that hit Europe and most of the West, and the decision was a very challenging one. Based on the Earth Charter Principles, van Straaten implemented the Earth Charter Cities Manifesto (ECC), a call to action for cities and citizens that can be defined as the most inclusive values framework that wants to deliver a contribution to sustainable future. The Walas approach grounds on the ECC and on the conviction that cities start with people and solving our world’s biggest challenges is possible and affordable if, and only if, we work together. Collaborate or die: a strong assumption that perfectly suits our time.

Since that date, World of Walas has been growing fast, doubling in size at least once per year, counting in 2019 over 25 companies with projects operating in the Netherlands, Germany, and Canada.

The Walas approach to urban (re)development and regeneration stands on the following key assumptions:

- The battle for a sustainable future will be won or lost in our cities.
- Cities are the engine of the economy.
- Cities are made of people.
- Cities are ecosystems, living organisms engaged in a continuous changing and exchanging process.
- To successfully achieve n independent policy targets at least the same number of independent policy instruments are required (Tinbergen Rule).
• More with less: gradual investment and gradual growth based on the implementation of local resources can provide stronger results with significantly less investment upfront in the long term.

World of Walas is not just a design and consultancy company. It is active in education with the Earth Charter Educational Center and the Unesco Chair. As CEO, Gerben van Straaten shares his experience and the Walas approach as a keynote speaker at many international conferences and trades as well as at many universities as an invited lecturer.

All Walas projects stand on strong Ethics and are measured against the chapters of the Earth Charter, the Earth Charter Cities Manifesto, and of the SDGs.

3. The Walas approach to urban development and regeneration. Why, How, and What.
The Walas approach to urban development and regeneration is a combination of knowledge, research, strategies, and practice. As described in figure 1, it is based on three core phases that are also grounding questions: why to design that specific project (the motivation), how is it possible to achieve solutions in a comprehensive, integrated way (the strategy and the tactics), what to do (the project).

![Figure 1: The why, the How and the What in circle.](image)

Walas’ business and planning model is grounded on these three phases which are rooted in ethics. The Why, How, and What are not separate moments rather they interrelate through six steps of the building and planning process:

• design, prepare, care (First In)
• venture, brand, perform (Last Out)

First In Last Out defines Walas’ commitment to its projects. Walas accepts longer investment and repayment periods to meet the goal of value creation within communities. Contrarily to current players in rampant property development who are Last In First Out, Walas stays invested in communities by continually addressing their changing needs to help them grow sustainably.

The Why, the How and the What are at the basis of the planning process followed by Walas in projects. Figure 2, figure 3 and figure 4 describe how the process is structured in more detail.

The Why phase is the First In one (figure 2). Walas starts working on the context to analyze it through the lenses of the Earth Charter and Earth Charter Cities Manifesto and four assessment indicators (A, B, C, D). The aim is to define major key drivers, as well as fragilities, strengths, and potentialities as a result of synergic forces acting systemically within the urban context and affecting the project. The final goal (to create sustainable communities) stands at the basis of the process itself.
The How phase (figure 3) defines strategies and tactics to adopt to reach the final/starting goal in that specific context.

**Figure 2:** The Why phase disclosed.

It starts with the vision outlined in the Why phase, goes through steps and assumptions rooted in Walas Ethics until the definition of the actions to be taken and the project outline. The Walas EcoGrowth Plan (gradual economic growth concerning social, cultural and environmental issues) is at the basis of this phase.

Once the strategy and tactics have been defined, the What phase (figure 4) provides more underpinning in project planning and design, project building, and project implementation. Walas turns knowledge into practice by investing in the long term. Gradual investment and gradual growth are key to create value. The design follows function, and function derives from needs. To become a place, space must be flexible, adaptable to a mixed-use even in the long term.

**Figure 3:** The How phase disclosed.
The Why, the How and the What is defined by four pillars/indicators whose function is to provide an ongoing balance between design/prepare/care and venture/brand/perform steps and, by consequence, the optimization of First In Last Out process.

3.1. Scalability of the approach
The Walas approach is a combination of knowledge, research, strategies, and practice. It is rooted in the analyzed context with inputs from the global stage. The Why, How and What process, the core of the approach, is defined by clear steps and pillars/indicators whose function is to widen the boundaries of the scope of intervention. No matter if a district or a single building: once the process starts, a big amount of data and information are managed to focus on a wider horizon than the proposed scale, both in spatial and temporal terms [6]. The approach is complex, integrated and holistic to cope with complexity. It is an innovation in urban planning as it combines Ethics, technics, vision, social and environmental care with economic growth (EcoGrowth Plan). The approach is a disruption in urban development and regeneration for at least the following reasons:

- *A different perspective*. The approach focuses on concrete community value and community care as key in the process. The respect for the community of life and the redefinition of the I-we interrelation is why the process begins and ends. Ethics on the basis widens the view angle, and an even bigger effort in balancing all the aspects involved in the process is required. Walas approach handles all these aspects in a concrete holistic way.
- *Awareness as the starting point*. Self-awareness is a crucial step within the Why phase. It is aimed at building the general reference frame through the Earth Charter principles. Self-awareness helps reduce subjectivity and focus on common needs and expectations.
- *The global-local ongoing interrelation*. While the Earth Charter offers a framework to build awareness at the global level, the Earth Charter Cities provides a focus on the local context. The results from the self-assessment step, when compared to the self-awareness ones, define the key drivers for the future vision. In this way, the local context is analyzed as connecting and connected part within a wider system.
- *Flexibility and diversity as a keyword*. The approach is complex to deal with complexity. It discloses through three main phases and several steps. A wide set of principles, aspects, and tools come into play in a synergic way. Such a systemic structure makes the approach flexible, and the result of a smart combination of diverse parts.
- *A neverending process*. The approach starts as an ex-ante evaluation process leading to the definition of the best strategies to the fulfillment of the final goal: to build sustainable
communities. The design project is not the last expected result, rather it is the foundation on and around which the community is built. From this moment on, the approach works as an ex-post evaluation process by measuring the strategies and the actions taken against the ethical principles by referring them to the ongoing changing environment. If necessary, actions and strategies are re-addressed and re-defined to suit change.

4. Walas in practice: from carbon to Carbon6

In 2012 the National Institute of Statistics in Heerlen (CBS for short) decided to move its headquarters to a new building. The location of this institute had been promoted by the government itself to relaunch the entire region of Limburg, whose economy, until the 1960s and 1970s, had been characterized by coal mining and processing. The decision to relocate the institute was therefore particularly unfortunate because it added to the long list of disused spaces that populate the city, contributing to the image of Heerlen as a declining urban center.

The Dutch Government contacted Gerben van Straaten to develop a new concept for the 4 hectares wide area and the 50,000 square meters buildings, including the entrance building to the old mines, now a UNESCO World Heritage Site. Walas started the elaboration of the planning process by following the Why, How, and What approach, and CBS was relaunched Carbon6. Today it is a vibrant and growing community giving a job to more than 1200 people.

4.1. More than the sum of the parts.

Carbon6 is a combination of projects. The increasing value this project has created from 2012 till today is the result of a strong synergic interrelation of parts: projects, tools, technologies, human and economic resources. Carbon6 is more than the sum of these parts. How did Walas come to such a result? As explained in the previous section, the Walas approach to urban development and regeneration requires the answer to three core questions. The Why designing the CBS project was defined by the emerged main needs: pollution due to coal mining and processing during decades, abandonment of the city in search of new job opportunities, ageing and service gaps and degraded areas and aged buildings. On the other side, a strong tradition and identity defined the community DNA, and the local and national administration was very actively involved in changing the situation. Figure 5 describes the main fragilities emerged during the Why phase and the SDGs directly affected by them.

| Main needs/fragilities | Goals affected by emerged needs/fragilities |
|------------------------|--------------------------------------------|
| Environmental pollution due to carbon mining and processing | 3, 5, 9, 12, 15 |
| Abandonment in search of new job opportunities, ageing and service gaps | 1, 4, 6, 8, 10 |
| Degraded areas and aged buildings | 11, 13, 14, 16 |

Figure 5: SDGs affected by fragilities from the Why phase.

How to cope with such complexity? What sound strategies and tactics to turn fragilities into strengths? Walas deployed the necessary forces to face the challenge and deliver a value result: BlueWorxx, CarbonBlue, CarbonGreen, Farm2Future, Dudoc are some of the necessary tools to achieve the several targets imposed by the project concept. BlueWorxx is a platform of technological innovations, industries, companies, entrepreneurs and academia. It builds partnerships and promotes mutual thriving. In projects, innovations and partners are put in smart combinations to enhance feasibility and overall impacts. By it, Walas acts and operates at the local level with a vision rooted at the global stage. CarbonBlue offers Carbon6 solutions to reduce energy costs and reliance on the energy grid, and the transition to cleaner energy sources. It is a “project in the project”, that has converted an empty and unused space into a parking area, a solar energy factory, a rainwater collection and reuse
system all at the same time. CarbonGreen generates, stores and provides heat to Carbon6 buildings using biomass energy. It provides more than 50% of the baseload energy with a very short Carbon Dioxide cycle and little waste, the latter reused as fertilizer in Urban Farming projects. The average Carbon Dioxide saving is around 350,000 kg/year, which helps reduce both emissions and costs. Farm2Future explores, researches and provides integrated solutions to food health and security as agricultural systems to produce food in urban areas, integrated pest management, innovations in biomaterials. It combines applied research and food production with education to farmers and students. Rainwater from CarbonBlue collection and reuse system irrigates the nearby Urban Farming area whose products are sold weekly to the community. Dudoc connects sustainable innovations to the market. It is a hub that connects citizens, entrepreneurs, and students interested in sustainable development. Dudoc operates through a series of innovation centres as part of the Walas projects.

BlueWorxx, CarbonBlue, CarbonGreen, Farm2Future, and Dudoc provide Carbon6 with solutions leading to a positive assessment against SDGs, as described in figure 6 and figure 7.

| Tools       | Main Goals addressed by each tool |
|-------------|-----------------------------------|
| BlueWorxx   |                                   |
| CarbonBlue  |                                   |
| CarbonGreen |                                   |
| Farm2Future |                                   |
| Dudoc       |                                   |

Figure 6: SDGs addressed during the How phase.

Figure 7: SDGs reached by Carbon6 as an integrated project.

Carbon6 is an integrated project founded on strong Ethics and conceived as a long term, gradual development. The process started in 2012 and at the date, it is not yet completed. Nevertheless, Walas has improved the financial performance of the project quite dramatically since taking it over, and a positive increase in value creation has been registered by the Heerlen community, which is actively
involved in events (markets, festivals, expositions) organized both inside and outside the buildings and in the surrounding area. Carbon6 is a concrete example of how an abandoned, degraded area can be turned into a vibrant, sustainable and financially viable community with growing environmental, social and economic revenue. It is an example of how it is possible to reconnect the what to the how [7] and to the why.

5. Conclusions
What is a disruptive innovation in urban development and regeneration? World of Walas is a valid example as it breaks and shakes up usual planning and business models by embracing risk in its whole. It changes the reference point: a bottom-up approach instead of a top-down one, qualitative growth instead of a simply quantitative one, focus on people and function instead of on shape and design as a final goal, flexibility to turn space into place. Walas turns the perspective of urban development and regeneration upside down and helps build awareness. Must we change? Yes, we must do it now. Can we change? Yes, if we choose to. Will we change? Yes, it is still possible with the right tools. Cities are key for sustainable future development. Urban planners, architects, decision-makers, and politics have a great responsibility in shaping the future of communities and the earth. They are but often not prepared to cope with ferocious, rapid harsh, destabilizing and, above all, unexpected change. The Walas approach is particularly aimed at town planners and architects whose responsibility in shaping the future of cities is great. They can make a difference. It is also aimed at those commercial developers who decide that business as usual is not the solution for a sustainable future. What will be beyond 2020 depends on us and on our ability to let the cities and their communities be what they need to be. It is possible. It has already been done.

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