



Strathprints Institutional Repository

Suau, Cristian (2015) The MOBILELAND© garden : a radical landscape game. Creativity Game: Theory and Practice of Spatial Planning, 3. pp. 106-113. ISSN 2350-3637 , 10.15292/IU-CG.2015.03.106-114

This version is available at <http://strathprints.strath.ac.uk/57704/>

Strathprints is designed to allow users to access the research output of the University of Strathclyde. Unless otherwise explicitly stated on the manuscript, Copyright © and Moral Rights for the papers on this site are retained by the individual authors and/or other copyright owners. Please check the manuscript for details of any other licences that may have been applied. You may not engage in further distribution of the material for any profitmaking activities or any commercial gain. You may freely distribute both the url (<http://strathprints.strath.ac.uk/>) and the content of this paper for research or private study, educational, or not-for-profit purposes without prior permission or charge.

Any correspondence concerning this service should be sent to Strathprints administrator: strathprints@strath.ac.uk

IGRA USTVARJALNOSTI
teorija in praksa urejanja prostora

CREATIVITY GAME
Theory and Practice of Spatial Planning

THE MOBILELAND[©] GARDEN: A RADICAL LANDSCAPE GAME

Cristian Suau

University of Strathclyde, Department of Architecture, UK

www.iu-cg.org

Znanstvena revija, št. 3 / leto 2015
Univerza v Ljubljani
Fakulteta za arhitekturo in
Fakulteta za gradbeništvo in geodezijo
Ljubljana, 2015

Scientific journal, no. 3 / Year 2015
University of Ljubljana
Faculty of Architecture and
Faculty of Civil and Geodetic Engineering
Ljubljana, 2015

Naslov revije: Title of the Journal:

IGRA USTVARJALNOSTI
teorija in praksa urejanja prostora

THE CREATIVITY GAME
Theory and Practice of Spatial Planning

Urednici: Alenka Fikfak, Alma Zavodnik Lamovšek

Editors: Alenka Fikfak, Alma Zavodnik Lamovšek

Uredniki tematskega dela: Cristian Suau,
Saja Kosanovič, Carmelo Zappulla

Thematic section editors: Cristian Suau,
Saja Kosanovič, Carmelo Zappulla

Oblikovanje in naslovnica: Gašper Mrak
Lektoriranje: Mojca Vilfan
Prevod: Mojca Vilfan

Design and Title page: Gašper Mrak
Slovene text proofread by: Mojca Vilfan
Translation: Mojca Vilfan

Klasifikacija: (UDK) Renata Stella Čop, (DOI) Teja Koler Povh

Classification: (UDK) Renata Stella Čop, (DOI) Teja Koler Povh

Založila in izdala: Univerza v Ljubljani,
Fakulteta za arhitekturo in
Fakulteta za gradbeništvo in geodezijo

Published by: University of Ljubljana,
Faculty of Architecture and
Faculty of Civil and Geodetic Engineering

Spletna stran revije:
<http://www.iu-cg.org/>

Journal's Web Page:
<http://www.iu-cg.org/>

Spletna stran številke
<http://www.iu-cg.org/paper/2015/iu03.html>

Current Issue Link
<http://www.iu-cg.org/paper/2015/cg03.html>

ISSN 2350-3637

ISSN 2350-3637

Univerza v Ljubljani
Fakulteta za arhitekturo



Univerza v Ljubljani
Fakulteta za gradbeništvo in geodezijo



Cristian Suau: MOBILELAND[©] VRT: RADIKALNA IGRA V KRAJINI

THE MOBILELAND[©] GARDEN: A RADICAL LANDSCAPE GAME

DOI: 10.15292/IU-CG.2015.03.106-099 ■ UDK: 712.25:712.28 ■ 1.01 Izvirni znanstveni članek / Professional Article ■ SUBMITTED: September 2015 / REVISED: October 2015 / PUBLISHED: November 2015

IZVLEČEK

S pojavom urbanega krčenja v postindustrijskih mestih so povezane številne opuščene praznine. Ta študija preučuje izvajanje sistemskega oblikovanja in ekološkega urbanizma v mobilnih vrtovih. Vrt od nekdaj predstavlja nebesa na zemlji, tudi neformalno.

MOBILELAND[©] je prenosen vrtni sistem. Struktura vrta je v celoti iz predelanih materialov: iz transportnih zabojnikov, lesenih palet, avtomobilskih pnevmatik in drugih ponovno uporabljenih materialov. Sestavni deli so na voljo v različnih modulih in velikostih. Prestavimo jih lahko kamor koli, glede na letni čas, dogodek ali rastne potrebe. Vrt je v zelo kratkem času postal edinstveni prostor za igro kot državljansko prizorišče na prostem z igrivimi in rekreacijskimi površinami ter umetniškimi dogodki. Oblikovanje temelji na načelu ponovne izdelave: zmanjšati, ponovno uporabiti in reciklirati. S sodelovanjem z lokalnimi skupnostmi, univerzami in drugimi deležniki MOBILELAND[©] ponuja možnost nadgradnje odprtih prostorov in krepitve skupin v skupnosti prek različnih vrst začasne rabe. Te pobude »od spodaj navzgor« učinkovito izkoriščajo območje z izboljšanjem kakovosti življenja v soseščinah ter reševanjem širših okoljskih, ekoloških in krajinskih ciljev prek oblikovanja prostora, ki ga vodi skupnost.

Od odprtja v oktobru leta 2014 so oblikovalci, vodje skupin in prostovoljci ta prostor spremenili v prepoznaven javni dogodek. Danes vključuje površine za sedenje, počitek in rekreacijo ter vrt sončnic. Kar se tiče javnega izobraževanja, je MOBILELAND[©] prostor za igro, ki ponuja izkustveno učenje in učenje skozi prakso zunaj učilnice.

KLJUČNE BESEDE

sistemsko oblikovanje, ekološki urbanizem, mobilni vrtovi, ponovna izdelava, radikalna arhitektura in bioremediacija

ABSTRACT

The phenomenon of urban shrinkage in post-industrialised cities has generated many derelict voids. This study reflects on the implementation of Systemic Design and Ecological Urbanism applied in mobile gardens. A garden always represents the notion of heaven on Earth even informally.

MOBILELAND[©] is a portable garden system. Its structures are entirely made from reclaimed materials: shipping containers, timber pallet boards, car tyres, and any reused material. Components are available in different modules and sizes. They can be moved anywhere depending on seasonal, event-like and growing needs. In a short-term period, it has generated a unique play place by establishing an outdoor civic arena with ludic and recreational areas and open art events. Its design is based on the principle of remaking: reduce, re-use and recycle. By working with local communities, universities and other stakeholders, MOBILELAND[©] has the potential to upgrade open spaces and invigorate community groups via temporary uses. These bottom-up initiatives make adequate use of sites by contributing to the quality of life for neighbourhoods and addressing many wider environmental, ecological and landscape goals through community led place-making.

Since the opening in October 2014 designer, group leaders and volunteers have transformed this place in a well-know public event. Nowadays it holds seating, resting and recreational areas and a sunflower garden. In terms of public education, MOBILELAND[©] is a play place that offers experiential learning and research-by-doing outside the classroom.

KEY-WORDS

Systemic Design, Ecological Urbanism, Mobile Gardens, Remaking, Radical Architecture & Bioremediation

UVODNIK
EDITORIAL
ČLANEK
ARTICLE

RAZPRAVA
DISCUSSION
RECENZIJA
REVIEW
PROJEKT
PROJECT
DELAVNICA
WORKSHOP
NATEČAJ
COMPETITION
PREDSTAVITEV
PRESENTATION
DIPLOMA
MASTER THESIS

1. SYSTEMIC MAKING IN REINVENTED LANDSCAPES

'All men are designers. All that we do, almost all the time, is design, for design is basic to all human activity (...) Design is the conscious and intuitive effort to impose meaningful order.' (Papanek, 1971)

Our planet seems a vulnerable organism with limited resources. Our habitats demand a radical critique to recover polluted built environments. In order to implement smart game plans we have to think in bottom-up and collaborative initiatives that bridge the gap throughout joint disciplines beyond any prescriptive understanding of universal design.

We can generate new 'patterns of knowing' that are based on abstract, complex and randomized routes¹. The bridge is to connect theory and praxis (arts, design and science) in various scales of intervention. What radical landscape games should we play instead? Design System offers new capacities of spatial adventures that (re)fabricate alternative humane scenarios through ecological repairs, environmental synergies and social games. Nonetheless, what makes our landscapes 'systemic'? Systemic making is purely integrative: an integrator or assembler of parts potentially able to self-structure.

Etymologically the term 'radical' comes from Latin *radicalis*, 'of or having roots' (from Latin *radix*, 'root'). Its meaning 'going to the origin' or 'essential' is dated from late 17th century. Radical landscapes are non-conformist open spaces. They are closely connected with urban border conditions with marginal, informal, porous, frictional, edge, interface, hybrid and transitional features².

Given the current Neo-liberal economic model and speculative pro-privatisation trends, the proliferation of vacant sites is an everyday characteristic of our contemporary urban image. In order to combat the reductive stigmas against the right to the city and the democratic occupancy and shaping of public spaces, people are reclaiming disused lands³. Temporariness, adaptability and playability are the key components in the dynamic transformation of 'differential spaces'⁴.

If left to fall into abandonment of urban inertia, these gaps will have a negative effect on local neighbourhoods in terms of social health, wellbe-

ing, local businesses and environmental pollution. During the recent last years, due to recuperation of obsolete urban areas and increasing loss of green infrastructure, a revival of interest in community gardens and the implementation of alternative land uses has occurred in various European cities. The culturally multifaceted and complex nature of these community gardens makes it a relevant issue to be studied within different regional, national and European urban contexts. Generally the socio-cultural, technologic and economic functions of temporary allotment gardens offer an improved quality of life; remaking; ludic events; enjoyable hobby for relaxation and the deployment of smart agrarian technologies.

A good practice of radical landscape recovery is the Scottish initiative called 'Stalled Spaces': <https://www.glasgow.gov.uk/stalledspaces>, which has been implemented to reanimate abandoned sites through temporary uses of vacant or under-utilised public and private plots in order to deliver a range of agile actions enabling physical renewal and fostering community empowerment in Glasgow, Scotland and beyond. By working with local communities, industry, universities and other stakeholders, temporary uses and innovative technologies are developed to reanimate open spaces. These bottom-up initiatives make effective use of sites by contributing to the quality of life for neighbourhoods and addressing many wider environmental, ecological and landscape goals through community led place-making.

Community gardens are dynamic open laboratories for landscape pattern making that constructs transitory, elusive or spontaneous spatial manifestations. They express the legacy of 'urban naturalism'⁵ per se. They are self-organisations led by bottom-up agencies, autonomous social dynamics and spatial activation by remaking. They differ in sizes, areas and shapes due to cultural, climatic and topographic conditions. Temporary community gardens offer immense opportunities to rethink new landforms that can retrofit and transform our built environment. They are elementary models of an evolutionary landscape.

Stalled Spaces Glasgow <https://www.glasgow.gov.uk/stalledspaces> is a radical landscape recovery initiative that reactivates abandoned sites through temporary uses of vacant public and private plots to deliver a range of agile recovery actions enabling ecological renewal and fostering local community empowerment. The aim is to explore radical environmental, ecological and technological landscape solution by testing agile micro-recovery strategies in brownfields (Figure 1)⁶. This study contributes to the urban enhancement with mobile greenery throughout site-specific interventions in Scottish cities by involving university, networked agencies and beneficiary groups. Within this framework, MOBILELAND[®] appears as a unique radical landscape scheme to remediate a polluted land field in South Glasgow⁷.

5 "Urban naturalism represents the insertion of picturesque into the city and confined to a self-structured or evolutionary organism. If the picturesque represents domesticated attractiveness, the notion of naturalism denotes the crudeness of autonomous living systems governed by the logic of the survival of fittest." (Tafari, 1976)

6 "The remaking of the European postindustrial landscape –as complex and dynamic systems- involves fundamental alterations of the land. Brownfields are mainly based on the principles of rebuilding and transformation. Therefore, how can the 'Grand Paysage' become an instrument of memory whilst open to changes and inventions?" (Suau, 2013a: 57)

7 MOBILELAND[®] consists of a temporary garden situated at Gorbals (South Glasgow) that

1 Like in informal urban structures we can systemically identify similar conditions of informality, irregularity, self-organisation, transgressibility and complexity of pattern structures in formalised urban voids (Zappulla et al., 2014).

2 "Border conditions are linked with the establishment of socio-economic forces that rule the production and occupancy of every-day spaces in cities. This phenomenon represents a "new geography of centrality and marginality" (Bayat, 2000), which is characterised by motion, contestation, internal asymmetries, and discontinuous transgressions between territories in friction." (Suau, 2015: 175)

3 Borders are places of 'heterotopia', which are governed by cultural, economic and political pressures in unlabeled places. So this type of 'instant urbanity' constructs transitory, intermittent or spontaneous conditions that flee from any conventional planning (Suau, 2014).

4 "The Production of Space establishes the reconciliation between mental spaces (the space of the intellectuals) and real space (the physical and social spheres in which we live). It bridges the gap between the realms of theory and practice, between the mental and the social, and between philosophy and reality through art, literature, urbanism, architecture and economics." (Lefebvre, 1974)

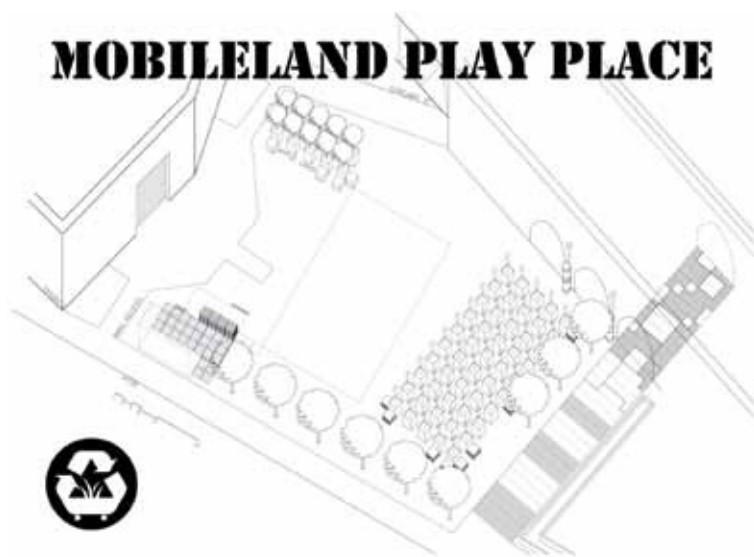


Figure 1: Axonometric view of the MOBILELAND© garden and its main amenities (Source: Suau, 2015).

It is the interface where Radical Architecture design studio⁸ (Suau, 2015) uses to experiment 1:1 proof of concepts and prototype buildings. As open source place it engages students and tutors in critical thinking, problem solving and decision making of every-day life. This learning process also implies the progressive consolidation of environmental ideas, ecological experiments and landscape abilities through systemic thinking, teamwork and collaborative design ownership.

Through the accumulated experiences of Nomadic Allotments© (2010) and MOBILELAND© (2015) initiatives, the aim of mobile gardens is to implement radical, inclusive and affordable design solutions by integrating architecture, urban ecology and landscape fields (Figure 2). The relevance and potential of the mobile gardens for future urban developments so far offers great potential at local, national and overseas levels.

accommodates educational; building and gardening; and ecological activities: <http://mobilelandglasgow.wordpress.com/> It is the first Stalled Spaces Award held by the University of Strathclyde. This initiative is supported by the Glasgow City Council Stalled Spaces (GCC), University of Strathclyde and the Glasgow Project Office (GPO) in collaboration with the VIP and MUSE educational programmes. It represents a unique Knowledge Exchange and educational initiative led by Dr. Cristian Suau since October 2014. Internationally MOBILELAND© has debuted in the Glasgow Pecha Kucha Show and 'The Month of Design' in Ljubljana (2014) and recently joined the COST Action TU1201 Network 'Urban Allotment Gardens in European Cities' in Nicosia and Birmingham (2015) and the EXPLORATHON '15 Glasgow (2015).

⁸ Radical Architecture (RA), AB964 & AB965 Design Studies 5A: Department of Architecture, University of Strathclyde. This design unit was led by Dr. Suau (design unit tutor/reviewer). Refer to RA website/blog (student design process; unit description; lectures; presentations; and literature reviews): <https://strathradicalarchitecture.wordpress.com/> and RA exhibition book: http://issuu.com/cristiansuau/docs/ra_exhibition_booklet_a4 (Accessed on 15 September 2015).

Figure 2: Presentation of design solutions (top images) and outer panorama of the MOBILELAND© garden during weekend activities (bottom image). (Source: Suau, 2015)



THE CITY AS A CLASSROOM



2. PRECEDENTS ON METHODS OF REMAKING

The logic of remaking waste represents a visionary challenge that takes a significant role regarding the reshaping of living conditions and the reconversion of urban gaps into productive landscapes in cities. Since 2004 I have investigated various agile systems of fabrication applied for emergency dwellings, mini-farming or community gardens in deprived urban zones or even remote environments. The outcomes are three distinctive technologies: PHS© Pallet Housing System (2004); Tyrespace© (2006) and Nomadic Allotments (2010). They are mainly affordable solutions, which give response to mankind in natural disasters and *urban emergency* in shantytowns or immigrant camps. The eco-designs are based on the application of manufactured waste, such as disused timber boards and rubber. Each fabrication process reuses waste as structural frames with low-tech building techniques⁹. Some reused materials last more than others. Depending on the specific properties of each material or component and quality control of building systems, different uses and lifespan were achieved.

A. Tyrespace© is "a-prototype based on the reuse of tyres. Geometrically it consists of a compact polygonal layout where walls and roofing are structured mainly by combining and strapping car and motorbike tyres. Several climatic simulations, has thoroughly been analysed and detailed based

⁹ "Eco-design is closely related to life cycle thinking. All my case studies deal with the principles of Reusability, Recyclability and Recoverability of urban industrial waste such as packaging. They explore structural capacities to become inhabited devices such as playgrounds, dwellings or furniture. Low-tech fabrication is the optimal medium to test eco-design outcomes throughout the method of 'bricolage' or DIY. The term is borrowed from the French word bricolage, from the verb bricoler, the core meaning in French being, "fiddle, tinker" and, by extension, "to make creative and resourceful use of whatever materials are at hand" (regardless of their original purpose)." (Suau, 2013c)

on constraints of the modular structure. The outcomes are elastic frames –‘webs’ or semi–domes that lightly touch the ground– with potential applications in sheds, bridges and games.” (Suau, 2013b)

B. PHS© (Pallet Housing System) “is an innovative housing frame. It constitutes an ecological response by reusing timber–shipping boards applied to compact dwellings. It can easily be assembled or disassembled. Neither cranes nor scaffolds are used to connect walls with floors or roofs because the bare pallet board operates like an adjustable ladder itself. There are two types: cubic and triangular (A–frame) solutions. The modules are assembled and embraced mainly by boards, tensile components or metal connectors. These components are available in the shipping and packaging manufacturing. The PHS© has been climatically tested by employing passive techniques such as orientation, building shape, and colours, available local materials, and shading devices. They have similar base modulation: 80cms x 120cm. In terms of spatial distribution, the PHS© provides a central kitchen/bath core with sleeping room. All these case tests are handmade fabrication systems. These geometries and modules are the result of the specific structuring potential. Summarizing, junk–frames formulate a rapid implementation of variable and interchangeable structures with interior adjustable buffers and panels capable to contain different types of occupancy and climatic variation. Each structure fosters the notion of a do–it–yourself ‘kit’ and demonstrates a strong spatial playability and adaptability” (Suau, 2012a), in line with the need for decarbonisation of the built environment.

C. Nomadic Allotments©

The Nomadic Allotments¹⁰ project was delivered in collaboration between Borough Market and students from the Welsh School of Architecture, Cardiff University and led by Rachael Davidson and myself. The chosen venue was Jubilee Market at Borough Market. The Nomadic Allotments’ structures were constructed from reclaimed materials such as Euro–pallets and packaging waste. They offered a variety of growing, eating and seating areas for market–goers, local visitors and residents alike. The mini–allotments were launched in July 2010 as part of the London Festival of Architecture 2010 providing the focus for Borough Market’s pop–up Food Exchange. Following the Festival local residents accessed to invaluable growing space in an area that currently lacks of green space. The allotments also acted as an educational platform for local schools.

What can we play instead by reusing industrial waste? Volunteers learnt on agile fabrication, reuse of junk materials and urban gardening techniques. We obtained an international prize as the best ‘Recycling Project’ at the London Festival of Architecture 2010 and widely published by Architects’ Journal (AJ), The Guardian, BBC, Domus and University media. The lesson of these series of workshops lies on the notion of eco–fabrication applied in undergraduate architectural education¹¹. The culture of each workshop

offered new learning tools for smart design decisions by repurposing industrial waste. This initiative shows how to bridge praxis and research, based on flows of retrospective criticism and prospective visionary urban environments¹². Regarding the increasing levels of industrial waste released by our carbon–based culture, there is still a certain lack of inventiveness in how we might deal with these materials by ‘upcycling’ and reusing them in the building or landscape sectors.

3. THE MOBILELAND© GARDEN: FROM BROWN TO GREEN

A radical landscape recovery initiative called “MOBILELAND” has recently been implemented in Gorbals, South Glasgow (Scotland) (Mobileland, 2015a) to reactivate an abandoned site through temporary uses in vacant plots and phytoremediation soil treatment enabling physical and biological recovery and fostering community empowerment. By working with local communities and university, agile interventions are developed to reanimate a given brownfield. This bottom–up initiative makes effective use of rundown sites by contributing to the urban quality of life and addressing ecological, landscape and architectural goals.

MOBILELAND© <https://mobilelandglasgow.wordpress.com> is a radical landscape recovery action that reactivates abandoned sites through temporary uses of vacant plots and community–led place making. MOBILELAND© (Mobileland, 2015b). Is the first Stalled Spaces award held by the University of Strathclyde. It represents a unique Knowledge Exchange initiative led by Dr. Suau since October 2014. This radical landscape solution is the core project of the Glasgow Project Office led by Dr. Suau and supported by both the Glasgow City Council (via award and KE services) and the University of Strathclyde through the VIP and MUSE programmes. In few months MOBILELAND© has established an innovative open public space fed by educational, recreational and open art events. MOBILELAND© is an adaptable, portable and modular compact landscape scheme, which has the potential to enhance other public spaces and empower future communities (Mobileland, 2015c). Structures are entirely made from reclaimed materials such as containers, timber pallet boards, metals and any reused material based on the principle of remaking and eco–design. Since the opening in October 2014 both teams and volunteers have answered the design brief with playability and originality.

In summertime 2015 MOBILELAND© implemented a phytoremediation action that brings a unique public intervention of sunflowers into the Glasgow’s everyday infrastructure by transforming a brownfield site into an open public garden that was vacant and deactivated into a social and eco–

Compactness, Lightness and Speed. Those factors are not just mere definitions but contain the new principles, which rule the world of design. For instance, if we focus on the notion of compactness, it appears as a manifesto of Elementarism against oversized architecture. Smallness opens up unexpected trails of spatial production and provides new functional flexibility with spatial interoperability; do more with less.” (Suau, 2012b)

12 “Nomadic Allotments© was part of a live design project carried out in Borough Market (London), summer 2010. It explored the possibilities to build up low–tech systems with zero environmental impact. It offered a feasible solution to construct your own allotment without having a land. Each mobile mini–allotment was constructed from reclaimed materials mainly pallets boards (frame) and packaging cases.” (Suau, Davidson, 2011)

10 Refer to official website: www.nomadicallotments.co.uk (Accessed on 15 September 2015).

11 “By studying historically the spatial evolution of architecture, we observe a gradual dematerialization of the space, from mass towards film. Contemporary space in formal cities is lacking of playability. Users take an active role and the inventiveness of survival logic allows for the development of dynamic spatial frames ruled by three main factors:

Figure 3: Outer view of the inflatable cinema (top image) and inner view of the cinematic space at MOBILELAND© garden (bottom image) (Source: Suau, 2015).



THE CITY AS A CLASSROOM



logically productive land. Sunflowers are a very effective plant for cleaning soils contaminated with industrial waste. It is being seen around the world as a clean, cost effective and environmentally friendly way to reclaim and reuse land. Sunflowers are being used because of their quick growth and size and their visual appeal. The sunflowers take in the toxins from the soil as they would nutrients, at the end of the year's growth the plant is removed from the site and destroyed.

In addition, MOBILELAND© (Mobileland, 2015d) is also an educational initiative led by Dr Suau as part of the VIP programme at Strathclyde. It offers experiential learning and practice-led related research outside the classroom (Figure 3). It engages students and tutors in critical thinking, problem solving and decision making of every-day life.

This learning process also implies the progressive consolidation of environmental ideas, ecological fundamentals and landscape abilities through systemic thinking, teamwork and collaborative design: <http://www.strath.ac.uk/viprojects/viprojects/mobileland/>

4. THE YELLOWFIELD© PROJECT

This summer a pioneering landscape recovery initiative called YELLOWFIELD© (GREEN GLASGOW, 2015) at MOBILELAND© garden took place in South Glasgow (UK) to reanimate the existing greenfield with 50 sunflower planters and phytoremediation soil treatment enabling physical and biological recovery through temporary uses of vacant plots and community led place-making. In synchronicity with the agenda Green Glasgow 2015, the project also intended to create environmental awareness and debate on smart sustainable ideas locally through the transformation of a brownfield site into an open public garden and ecologically productive land. The purpose of this bottom-up intervention was to reanimate alternative brownfield sites. This project aims to reanimate future brownfield sites: from Brown to Green. YELLOWFIELD© (MOBILELAND, 2015e) started in May 2015 with the planting of 200 sunflower seedlings and was completed in August 2015 once the plants culminated their annual lifespan. The main focus point was the art and social interaction of *Phyto-remediation* through temporary landscaping in the urban environment. Sunflowers are a very effective plant for cleaning soils contaminated with industrial waste. It is being seen around the world as a clean, cost effective and environmentally friendly way to reclaim and reuse land. Sunflowers are being used because of their quick growth and size and their visual properties (figure 4). The sunflowers take in the toxins from the soil as they would nutrients, at the end of the year's growth the plant is removed from the site and destroyed (HERALD SCOTLAND NEWS, 2015).

The YELLOWFIELD© project demonstrated how ecologically driven activity can be woven into existing urban environments and will hopefully instigate the start of more productive landscapes around the city (Figure 5) (URBAN REALM, 2015). Generally the key activities for future interventions are as follows:

Figure 4: Panorama of the YELLOWFIELD© installation in MOBILELAND© gardens. (Source: Suau, 2015)





Figure 5: The YELLOWFIELD© installation before sunflowers' blooming. (Source: Suau, 2015)

A. Bio-filtration

Bio-filtration is the reduction of polluting chemicals in the environment through the use of plants. The urban planting of sunflowers can be particularly useful because of their large bio mass and big root system, as well as being quick to grow.

B. Phytoremediation

Sunflowers are a very effective plant for cleaning soils contaminated with industrial waste. It is being seen around the world as a clean, cost effective and environmentally friendly way to reclaim and reuse land. Sunflowers are being used because of their quick growth and size and their visual appeal. The sunflowers take in the toxins from the soil as they would nutrients, at the end of the year's growth the plant is removed from the site and destroyed.

C. Water Management

A major problem in cities is the concern with surface run off water that can lead to flooding and associated pollution. The planting of sunflowers because of their biomass and large root system can be a very effective drainage vehicle in the urban environment.

D. Wild Pollinator Conservation

Bees and wild pollinating insects are in progressive decline. Sunflowers are very good for these pollinating insects. The planting of sunflowers on a large scale in the city will be hugely valuable in supporting the irreplaceable contribution of wild insects and will help to stall their decline.

5. SITOPIA: TOWARDS EDIBLE LANDSCAPES IN BROWNFIELDS

Nowadays *brandism* or propaganda vehicles of corporations – whose clean their reputation throughout eco-friendly leveling – are mainly drive many eco-food projects in Europe. Allotments, orchard and urban gardens are embedded in a profound tradition of an agrarian culture in the UK. During this economical crisis, edible landscapes can effectively operate as both productive and non-productive (recreational) systems. Genuine edible al-

lotments or community gardens are the result of bottom-up farming game plans that offers various patterns and typologies (co-ops, mini gardens, etc.). Agrarian ecology is always connected to low environmental impacts regarding social, air quality and water footprints. From brown to green: Prior to any urban farming experience we have to remove all soil toxics from site throughout a phytoremediation programme. MOBILELAND© in Stalled Spaces is an ecological urban catalyst in brownfields. The cases of MOBILELAND© and YELLOWFIELD© (Figure 6) are used as a suitable precedent for future vacant plots in urban brownfields. Edible places are perfect places to apply soil bioremediation and urban pollination (Mobileland, 2015d).

Regarding community phase, we have to set up fluid conversations among organisers, volunteers and users. The leader team has to be opportunistic and good on making 'tactics'. They should not ask for permission. We have to find the right fit for the right place. What we have to generate is an innovative 'social enterprise' on growing food on wheels or bags; or in inflatable pavilion. Like the fairy tale's portrait of "Hansel and Gretel", all our landscape should be edible!

How can we create sustainable edible landscapes? What is *Sitopia*? In ancient Greek, *sitos* means wheat; food and *topos* means place. The construction of an eco-polis it is possible if we embrace both formal and informal



Figure 6: Planters hosting over 200 sunflower plants at MOBILELAND© Garden. (Source: Suau, 2015)

aspects of green economies mainly focused on continuous outdoor learning; local entrepreneurship and empowered citizenship. Let's reflect on alternative models. For instance, what can we learn from the Cuban urban agriculture system? Organicoponic offers an intense, high-yields raised farming scheme, which operates as part of a fine grain network. How can we apply and adjust them in our cities? Perhaps we should rethink the meaning of radical landscapes and trigger challenging visions like *vegetable tourism* in cities.

6. CONCLUSIONS

Firstly spatial experimentation requires agile recovery strategies. Games provide new opportunities to subvert rules and turn conventions upside down. Can we play new landscape architecture with less? This study explores the potential playability of elementary ecological design able to conceive and fabricate new spatial supports by taking into account socio-economic and environmental constraints. What mobile games should we implement instead? In doing so, urban ecology transforms the sense of design process into a participatory ludic fabrication beyond utilitarian meanings, which is self-regulated by unpredictable spatial configurations. Hence the power of playing with less gives new concepts like compactness, lightness and speed of fabrication applied in the activation of vacant lands. Both designers and occupants became *play-makers*¹³.

Secondly mobile urban gardens in brownfields can operate as productive and non-productive (recreational) systems. How brown becomes green? The selected case demonstrates how ecologically mobile gardens can transform brown urban environments into green ones. Prior to any urban farming experience we have to remove all soil toxics from site throughout a phytoremediation programme. The exemplary case of YELLOWFIELD© can be used as a suitable precedent for future vacant plots in urban brownfields. Hence genuine edible allotments or community herbal gardens are the result of bottom-up bioremediation strategies.

How can we create sustainable edible landscapes? The construction of an eco-polis it is possible if we combine formal and informal aspects of green economies mainly focused on continuous outdoor learning and empowered citizenship. It generates new typologies too (co-ops, mini gardens, etc.). Edible places are perfect places to apply soil bioremediation and urban pollination. To create edible public spaces we have to apply the following model:

- Community (available landscape/targeted groups)
- Learning (reskilling capacities)
- Business (local-based)

¹³ "Students also learn from the simplicity of eco-design that offers high design with low-tech through affordable solutions. After the completion of my studios, the design brief is periodically reviewed by feeding it with the notion of remaking of industrial disused materials such as metal, timber, rubber or any packaging components with constructional potential. The power of playing with less reveals spatial compactness; structural lightness and speed of fabrication." (Suau, 2013d)

Mobile gardens provide places to play and to learn about agrarian technologies as well as to do something useful for your collective development through affordable techniques for food production, planting and harvesting in cities. The implementation of temporary uses for mobile allotment gardens offers a variety of opportunities to deliver social, environmental and economic benefits. They perform as a catalyst for community actions; produce an improvement in the aesthetics and rebrand stigmatised residential areas; contribute to the green infrastructure of the city; and provide safe public places for local dwellers. Nonetheless there exist some significant obstacles to developing temporary uses for community gardens such as the level of soil toxicity in brownfields. They are often related with the stigmatisation of public spaces as territories of crime: the sin-city caricature of cities. There are also general concerns that (a) they are difficult to return to original owners or (b) the inappropriate development or management of these initiatives will attract further problems to the beneficiary community.

7. ACKNOWLEDGEMENT

This article is the result of a trans-disciplinary research endeavor. Its development would not be possible without the generous support of many contributors from the fields of architecture, art, landscape, urban studies, gardening and environmental engineering. I specially give my thanks to the artist and gardener Amanda Currie and the urban planner David Barceló from Glasgow City Council (GCC).

The authors would like to dedicate this study to the memory of Edison Suau Camus – a radical designer, humanistic intellectual and inspiring father – who has recently passed away. We also wish to thank to all students from MOBILELAND Strathclyde (period 2014–15) and volunteers who were involved in implementing this eco-design initiative in Gorbals¹⁴. Also we express our gratitude towards the Glasgow City Council and also the support from Norrie Innes and the Barras Art and Design (BAaD).

REFERENCES

- Glasgow Green Year (2015). *Yellowfield event*. Accessed on 3 November: 2015<http://www.greenglasgow.com/CalendarAug22.html>
- Herald Scotland News (2015). *Sunflowers turn brownfield into green site*. Accessed on 3 November: http://m.heraldsotland.com/news/13628529.Sunflowers_turn_brownfield_into_green_site/
- Lefebvre, H. (1974). *The Production of Space*. Malden: Blackwell Publishing. Paris: Editions Anthropos, trans. Donald Nicholson-Smith, pp. 329-340
- MOBILELAND (2015a) *Yellowfield*. Accessed on 3 November: <https://mobilelandglasgow.wordpress.com/2015/08/20/yellowfield-on-stv-news-and-urban-realm/>
- MOBILELAND (2015b) *MOBILELAND case study*. Accessed on 3 November: <http://www.urbanallotments.eu/fileadmin/uag/media/Birmingham/COST-Bham-poster-programme.pdf>
- MOBILELAND (2015c) *MOBILELAND report*. Accessed on 3 November: http://www.urbanallotments.eu/fileadmin/uag/media/Nicosia_report/Nicosia_report_NK.pdf

¹⁴ Wondering why sunflowers are blooming in the Gorbals? (Piper, 2015).

- MOBILELAND (2015d) *MOBILELAND explorathon Glasgow*. Accessed on 3 November: http://issuu.com/cristiansuau/docs/explorathon_presentation_small
- Papanek, V. (1971). *Design for the Real World: Human Ecology and Social Change*. New York: Pantheon Books.
- Piper, L. (2015). *Wondering why sunflowers are blooming in the Gorbals?* STV NEWS. Accessed on 3 November: <http://glasgow.stv.tv/articles/1326948-sunflowers-grown-in-glasgow-gorbals-as-part-of-landart-initiative/>
- Suau, C. (2012a). The Art of Eco-frames. Lessons of Innovative Low-tech Fabrication in the Design Studio. PLEA2012 - 28th Conference, Opportunities, Limits & Needs Towards an Environmentally Responsible Architecture. Lima, Peru 7–9 November. Accessed on 24 October 2015: <http://plea-arch.org/ARCHIVE/2012/>
- Suau, C. (2012b) The Power of Less. In De Vos, Els (eds.) *Theory by Design: Architectural Research Made Explicit in the Design Teaching Studio*. Antwerp, Artesis University College, p. 353–362.
- Suau, C. (2013a). Grand Paysage: Transformations between Memory and Invention in Europe. *MADE Journal*, 8, Cardiff, The Welsh School of Architecture, pp. 66–67. Accessed on 24 October 2015: <http://issuu.com/wsarchi/docs/made-issue-8>
- Suau, C. (2013b). The Power of Less: Eco-design by Remaking. Accessed on 24 October 2015: https://www.favut.cz/attachments/bBlshOgZmSSldNTMwMzE1NTg1MDE2NTM2ZmM3MDA5ZDAwBjoGRVQ/favut_suau_the%20power%20of%20less.pdf?sha=f1356cd3
- Suau, C. (2013c). Minimum Game Plans. Eco-Design and Low-Tech Fabrication in Studios. *The Creativity Game, Theory and Practice of Spatial Planning*. Vol. 1, pp. 35–39. doi: 10.15292/IU-CG.2013.01.034-039
- Suau, C. (2013d). The Power of Remaking: Lessons of Innovative Eco-Design in Design Studios. *MADE Journal* 7, Cardiff, The Welsh School of Architecture, pp. 52–63. Accessed on 24 October 2015: <http://issuu.com/wsarchi/docs/made-issue-7>
- Suau, C. (2014a). Transgressive Urbanism: Borderlands and Urban Informality of American Cities. In Sørensen, C., Liedtke, K. (eds.): *Specifics: Discussing Landscape Approaches*. Hamburg, Jovis Verlag, pp. 144–149.
- Suau, C. (2015). The Pan-American Highway: Informality Urbanism in Latin American Border Cities. In Kite, S., Odgers, J., McVicar, M. (eds.) *Economy and Architecture*. New York: Routledge, pp. 175–186.
- Suau, C., Davidson, R. (2011). DIY: Do It Yourself. In Lascelles, M. (eds.) *The Union Street Urban Orchard: A Case Study of Creative Interim Use*. London: The Architectural Foundation, pp. 79–80.
- Tafari, M. (1976). *Architecture and Utopia Design and Capitalist Development*. Massachusetts: MIT edition.
- URBAN REALM (2015) *Yellowfield*. Accessed on 3 November: www.urbanrealm.com/diary/446/Yellowfield.html
- Zappulla, C., Suau, C., Fikfak, A. (2014). The Pattern Making of Mega-slums on Semantics in Slum Urban Cultures. *Journal of architecture and urbanism*. Vol. 38, iss. 4, pp. 247–264, doi: 10.3846/20297955.2014.987368.