DEVELOPING 'URBAN JUNGLE' AS AN INTEGRATED MODEL OF SURVIVAL: Learning from Nature in War Zones

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Abstract: This paper explores the relationship between conflict in the urban environment and natural systems of resiliency found in forests and jungles. Studying the different accounts of inhabitants of cities under siege during the Syrian Civil war, indicates that various sustainable practices were implemented within the built environment that helped inhabitants survive the devastating process. The innovative, circular economy allowed the inhabitants to survive their plight and lessened the intended effects of the destructive sieges. Drawing parallels with how forests and jungles utilize different natural systems, such as mycorrhizal networks, to increase resiliency, many lessons are inferred about sustainable resource management and efficient allocation in the face of different threats. The "Urban Jungle" is thus synthesized as a model that attempts to augment and maximize the practices inhabitants had devised through mimicking the model found in the natural jungle. Applying this model to conflict zones allows the evolution of survival tactics into a form of insurgent resilience, with wider socio-political ramifications on the survivability of the inhabitants, their political will, the effectiveness of the conflict, and sieges as a political tool.

Keywords: Sustainable design, urban jungles, low tech sustainability, peace building architecture, resilience

> "I don't know how to deal with you: your ID has one face of hell and the other of paradise", as he compared my husband's birthplace of Baba Amr with his residency of Al-Mahatta, known for its large number of Christian inhabitants" (Al-Sabouni 2015)

INTRODUCTION

In the introduction to her book *The Battle for Home: The Vision of a Young Architect in Syria,* Syrian architect Marwa Al Sabouni attempts to study how the urban structure and demographic fabric of her hometown of Homs in Syria had actually exasperated the division between the various groups in the city and helped degenerate peace into a civil war. Homs is popularly known as the "capital of the Syrian revolution", and Sabouni states that the built environment is "not irrelevant to that question" (Al-Sabouni 2015). She raises an interesting notion in stating that "architecture offers a mirror to a community and in that mirror, we can see what is wrong and also find hints on how to put it right" (Al-Sabouni 2015). Sabouni paints a picture of Homs before the war as a metropolitan place that saw different sects of Syrians coexist with each other harmoniously with mutual respect. It is thus justifiable to wonder how a seemingly coexisting populace fell into the tragic reality that exists today. The case of Homs sees a pattern replicated all over major cities in Syria were a brutal regime is sowing sectarian discord and attempting to forcibly change the urban morphology and demographics of cities for its own political and sectarian gains.

The Syrian civil war that started as a civil uprising in 2011 and quickly turned armed after a brutal government takedown is one of the twenty-first century's most tragic humanitarian crises (Marks 2018). The complexity of the conflict, with roots almost a millennium old, makes approaching it a particularly daunting task. This is effectively a conflict fifty years in the making since Hafiz Al Assad's coup in 1970 that brought a minority Alawite regime to the control of Sunni majority Syria under the guise of pan-Arabism. The sectarian angle taken by the regime saw the championing of the Alawite minority in all manners of government and any form of Sunni dissent brutally crushed (Tsurkov 2019). The 1982 Hama Massacres against agents of the Muslim Brotherhood being a very prominent example of this thinking that yielded tens of thousands of causalities (Allouche 2018). The dissent would remain prominent between the different sects of Syria, as the regime had actively attempted to feed into it to ensure its survival through its control of intelligence and secret service bodies. Introducing Alawite inhabitants from rural areas into specific neighborhoods in majority Sunni cities in the last 20-30 years and recruiting them for security and intelligence roles was another tactic the regime employed which gives a window into how an ideological and sectarian issue began to incorporate the built environment (The Syria Institute and PAX 2017, 17). The dynamics of altering the urban environment created a potential conflict zone that exploded in 2011 and spiraled into bloody conflict ongoing to this day. The makeup of Syrian cities with their segregated neighborhoods allowed the regime to selectively target and subjugate inhabitants in dissenting neighborhoods while ensuring and bolstering its presence in others.

Figure 1: Computer Rendering of the Homs Dream project (Zein 2014)

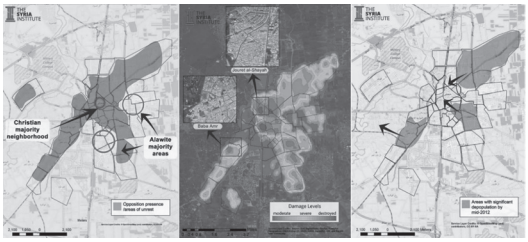

Figure 2: Map indicating areas of opposition in the city of Homs, destruction levels and subsequent depopulation (The Syria Institute, and PAX 2017)

This divide in Sabouni's city of Homs was exemplified with the controversial Homs Dream project. A seemingly huge urban development project located in historic Sunni neighborhoods only sought to displace the mainly Sunni inhabitants in Homs in a sustained demographic change effort (The Syria Institute and PAX 2017, 19). The project was characterized by evictions and land seizures beginning in 2009 and was referred to by the inhabitants as "Homs Nightmare". The fact that the project did not approach the Alawite neighborhoods in the city gave it a sectarian angle and fed into a general feeling of discord among the two groups. This was evident when the Syrian Protests began in the city of Homs on March 18, 2011; the main call of the protestors was to remove Mayor Iyad Ghazal, who had largely supported the project. After the government forces cracked down on the protestors using paramilitary groups called "Shabiha", formed mainly of Alawite individuals, the conflict turned into an armed and sectarian one that led to the destruction of the Sunni neighborhoods in an almost systematic way. Government attacks would target uninhabited buildings that were empty and had no military value (The Syria Institute and PAX 2017, 19), for this was bombardment for the sake of destruction and not winning a military battle, which feeds into the idea of targeting the urban environment and controlling resources for political gain.

Elongated sieges with a specific purpose to alter the built environment through systematic destruction and demographic change present an important architectural question: How does architecture react to forced attempts of altering it? This paper takes the Syrian case as a model of a modern conflict with an angle, beyond military victory and control, that forays into the socio-political dimensions of the urban environment. The paper aims to show that a city under stress acts as a natural system and not as an artificial one. Studying how natural systems of congregation such as forests and jungles function, and why they succeed or fail, a model of sustainable urban resiliency dubbed "Urban Jungles" can be delineated. This model envisions the city and its relationships, resource supply, and allocation as a jungle or forest. It attempts to mimic natural systems' constant search for equilibrium in the context of urban environments under stress.

1. CITIES UNDER STRESS

The Oxford English Language dictionary defines a siege as "A military operation in which enemy forces surround a town or building, cutting off essential supplies, with the aim of compelling the surrender of those inside" Breaking down that definition shows there are three main facets to it. The first being a military operation and thus a direct threat to the built environment. The second being cutting off supplies, which involves all forms of requirements for life and its sustenance. The third being the compulsion of those inside to surrender, indicating a forced subjugation to political will. This can indicate that the nature of the action is one that involves putting a built environment under stress, in order to induce change within it by force.

The tactics employed in the Syrian civil war by the Syrian regime forces in particular display a barbarity inspired by medieval siege warfare (Shaheen and Wintour 2017). The general strategy is to besiege a city or town and then pummel it with various munitions many of which, according to the *Landmine and Cluster Munitions Monitor*, are internationally banned, such as cluster bombs and fuel-air bombs in the guise of "barrel bombs" (Cluster Munition Coalition 2015, 12). The siege could go on for years and food, fuel, and medical aid would be cut off from the inhabitants that could not escape. According to one account published in *The Guardian*, a Syrian army defector, who was involved in such a siege in the Damascus suburb of Daraya as an opposition fighter, reported that "Daraya was placed under tight siege in November 2012 where similar to the Ghouta offensive, food stocks dwindled. The defector describes how civilians picked grass from sidewalk cracks to pad out their thin watery stems. He is haunted by memories of children wasting away from starvation" (Al-Arian 2018). The siege of Daraya would go on for four years with the rebels finally surrendering in 2016 after making a pact with the government forces to evacuate to Idlib, a rebel-held Northern Province.

Figure 3: Drone Image of Tariq Al-Bab in Aleppo (TRT World and Agencies 2016)

This strategy would be employed time and time again by sides fighting in the war, causing untold suffering and casualties to those who endured these prolonged sieges.

Another facet of these strategies would be that electricity would be almost nonexistent. Electricity supply to besieged areas is quickly cut off when they are first surrounded, as a means of what Amnesty International calls the "Surrender or starve" strategy (Shaheen and Wintour 2017). This poses various risks, especially with the loss of refrigeration of food, as well as the loss of electric heating and cooling systems, which could prove devastating as the seasons pass. According to one account published in *The Guardian* during the siege of Eastern Ghouta by a survivor, "Fridges don't exist as part of our life. Anything that needs electricity is not used. Thank God we don't have cholera yet" (Shaheen and Wintour 2017). Fuel for heating and local electricity generation would also be cut off except for what smugglers could bring into the city, which would be at a much higher price. After the populace has been pummeled and succumbs to the siege, pacts with the regime would see the inhabitants evacuated in the now-infamous green buses to the last remaining pocket of resistance in the north-western province of Idlib (Denselow 2017).

Physical destruction of the built environment would only ensure the temporary displacement of a targeted population; ensuring the permanent eviction takes further steps. One facet of that were accounts of land registries that were intentionally burned down by regime forces to destroy any evidence of land ownership and deny returning inhabitants the right to their property (Chulov 2017). The regime went a step further to solidify the eviction when it issued a very controversial lawcalled "Law Number 10" on the 2nd of April 2018. This law stated that property owners had thirty days to register and present proof of ownership of what was effectively now rubble (Al-Shami 2018). Failure to present that proof would result in the confiscation of property by the government with no compensation. This law would effectively forfeit targeted populations' right of return to the cities they had inhabited and allowed the Assad regime to introduce new populations of loyalists into neighborhoods, as it redeveloped these areas according to its own agenda. With displacement, the destruction of evidence, and persecution, Iran, the Syrian regime's ally and biggest sponsor, has been utilizing this tactic to introduce Shiite families loyal to both regimes thereby replacing the original inhabitants. This has been seen in the area of the valleys between the Lebanese border and Damascus and even in Homs itself. For example, 300 Iraqi Shiite families have moved into Daraya, a suburb of Damascus, in an effort by the Syrian regime to create a belt of loyalists around the city to avoid any future threats (Chulov 2017). This puts into perspective the extent to which the Syrian regime wants to usurp the cities of Syria and evict their inhabitants. The question remains, how do the inhabitants of urban environments under threat resist?

1.1. THE ISOLATED SYSTEM: EMERGENCY ARCHITECTURE FOR SURVIVAL

In a traditional macro grid-supplied urban environment, a completely besieged city can be thought of as an isolated thermodynamic system in terms of resources. This system would have a finite amount of energy (resources), where energy cannot be created or destroyed only transformed. It would only move towards more disorder and loss over time as the energy is transformed, eventually attaining a level of high entropy. Entropy is the measure of the disorder within a system where the energy is in a state that is very difficult to harness. Under such a system, a siege tactic that isolates the system would serve its intended purpose of resource starvation as a function of time turning the system into one of high entropy. However, if the system finds a way to obtain energy from a seemingly infinite source from within the boundaries of the system, then the thermodynamic cycle is broken, and the system can move to a state of less disorder. In urban environments that are isolated, renewables such as solar and wind energy, rainwater, urban farms, and recycled materials can effectively break the isolation of the system and become a closed system. A closed system is a system were energy can pass into the system, while matter cannot due to the existing boundary layer. Under such a system, consumables traditionally supplied from outside the city limits, such as energy, water, and food are cut off due to the siege. Renewables, however, can still penetrate the siege when harnessed and utilized. This can impede the intended effects of the siege and allow a window of hope to those targeted.

There are plenty of examples of how Syrians were able to innovate in response to the barbarity of the sieges and effectively transform their environment from an isolated system to a closed one. These were

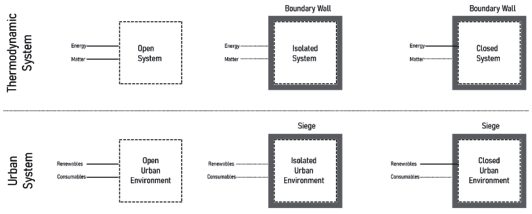

Figure 4: Thermodynamic and Urban Models are comparable in the way they manage resources (Author 2019)

developed as forms of emergency architecture that utilized at heart sustainable thinking about resources and survival modalities of spatial resistance. The system was comprised of many elements that worked together and transformed energy harnessed from consumables to renewables. Early warning systems using walkie-talkies and messaging apps allowed rudimentary communication between the inhabitants that not only gave civilians time to seek shelter, but also provided doctors and medical crews notice to prepare and be ready to deploy immediately. Another tactic was to relocate high-value targets, such as field hospitals to mountain grottos, or underground basements (Center for Civilians in Conflict 2016). One account from besieged eastern Ghouta indicated the utilization of an improvised solar oven by placing mirrors on a satellite dish and focusing sunlight through small mirrors on a hanging pot of metal, a system similar to solar towers (Arbini 2015). In the besieged town of Douma, residents used rudimentary solar panels to power a water pump and restore the water supply for the residents (Mohammad, 2017). Another account from Damascus by journalist Youmna Al Dimasqhi indicates the use of rudimentary green roof gardens for planting food. Dimashqi reports the account of an inhabitant named Hamid that implemented this system on his rooftop, “At the beginning, I put sixty bags of dirt in a fifteen square meter (160 sq ft) area,” said Hamid, “but when the blockade tightened, even more, I expanded the area to thirty square meters (320 sq ft). I planted things like arugula, radishes, parsley, cilantro, and lettuce. That’s how I was able to avoid the crazy prices of the market” (Al-Dimashqi 2015). This account is a cogent example of reactive sustainable survival tactics utilized that if implemented on a larger scale could effectively diffuse the effectiveness of starvation tactics while providing a green roof cooling effect and urban farming potential. Fuel shortages essential for heating, cooking, and transportation were dealt with by extracting fuel from plastics rather than oil. The process involved melting the plastic that would produce a gas that would then be piped and cooled, which would produce a yellow liquid that could be used as an alternative fuel (Agence

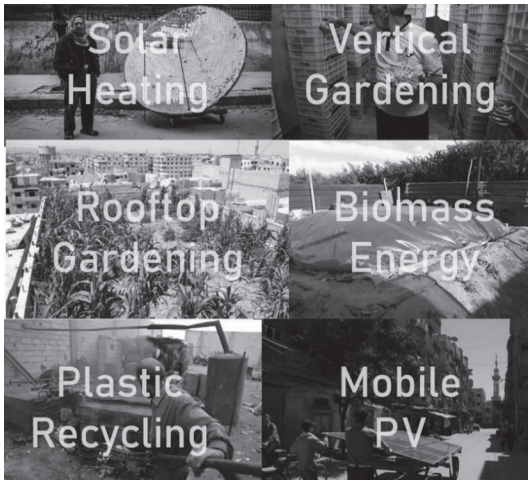

Figure 5: A myriad of rudimentary systems applied by people in conflict zones that embody perfect sustainable design thinking (Hall 2017; Shaheen & Wintour 2017; edited by the author)

France-Presse 2016). This process is not sustainable, as the plastics are consumables and there exists obvious safety and environmental hazards in the extraction and burning of diesel and plastics, however, it indicates to what length the management of resources had reached.

Combining these innovative systems transcends the immediate need for survival and becomes a show of resilience and political will. By opting to hold out and innovate to survive rather than be evicted, the inhabitants were, in fact, making a political and existential statement. Refusing to acknowledge the regime’s authority, and refusing to forfeit their presence, is a form of insurgency and resistance by its own right. The major lesson this provides is that energy, food, and water in their various forms are often used as a tool of war and siege. Consequently, sustainable design practices have a natural role to play in conflict zones. The horrible experience of how people in the besieged areas in Syria were able to survive for such extended periods of time raises the notion of whether the built environment itself could “fight back” and were built in a way that would neutralize barbaric practices such as “Surrender or Starve”. The idea would be that these practices would deter the effectiveness of such strategies to the point that they become unviable to those who would consider using them, effectively changing the rules of the game. Practices of sustainable design, such as rooftop urban farming, off-grid electrical use, and passive house cooling and heating, are all examples of low-tech rudimentary sustainable design systems. However, the question remains of how exactly these systems and strategies could be combined into a functioning ecosystem that would ensure energy, equity, and resilience on an urban level.

2. NATURAL JUNGLES: A MODEL FOR RESILIENCE

Architecture by nature is a complex art that transcends the empirical understanding of the sciences it is involved with. In engineering, we find notions of equilibrium guiding many processes with definitive answers that can be predicted (e.g., a=a). Architecture or successful architecture, on the other hand, should present a variable model, where it's more than the sum of its parts; a kind of architectural genesis rather than synthesis (e.g., a=a+b). This idea is integral to the philosophy that drives the architecture of conflict zones, as the building must answer and deal with a plethora of things more complicated than simply the physical attributes of the environment itself.

Architecture has a role in reacting to the challenges facing groups living in daunting conditions. Sustainable design thinking is, therefore, a major pillar that is required when managing meager resources to build resilience and enhance survivability. This thinking not only works to avert armed conflict through increased resource equity, but minimizes collateral casualties and suffering if conflict occurs. Aggressors would seek to limit or cut off resources to certain groups or, during actual warfare, target lifeline buildings such as food markets and water and electrical utilities, which would prove disastrous on a humanitarian level. The nexus of food-water-electricity is a sacred one in urban resilience models and, without established resource equity that would distribute these to different groups, conflict finds a breeding ground. Through providing resource equity to various groups, the sense of injustice that some social ethnic or religious groups would feel could be averted. This in turn, provides the extra layer of resilience to the inhabitants of the built environment during armed conflict, where architects can ensure that the built environment they designed is working to augment the survival of its inhabitants. This double role makes sustainability a major goal that must be implemented as an essential part of diffusing conflict and neutralizing it.

Resilience in architecture is a byproduct of an entire integrated assembly rather than simply a layering of elements. Thus, architectural and mechanical systems transcend beyond their obvious roles and become players in this ecology of conflict resolution and survival. Perhaps there is no better analogy or model of an ecology under threat of annihilation than jungles, forests, and deforestation. The Amazonian jungle, for example, has been dwindling due to deforestation at an average rate of approximately 19,613 km^2 a year between the years of 1995 and 2015 (Ometto et al. 2014, 576). This astoundingly large area is almost twice the size of the Middle Eastern country of Lebanon (10,452 km^2). Yet, even with so much depletion, we still consider whatever is left of its original state the Amazon

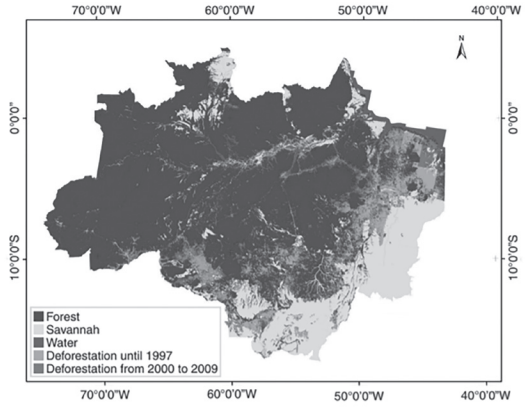

Figure 6: Decrease in the size of the Amazon Jungle over the years (Ometto et al. 2014)

"jungle", hence still sustaining itself as it stands and not what it was. This would perfectly embody the idea that in a city embroiled in conflict, where certain parts of the urban environment are targeted or inevitably destroyed, what is left remains functioning rather than the entire system collapsing. Only parasites living off those trees would die, and, thus, we must remove this parasitic nature of dependency on a single building or utility, such as an electrical and water utilities, for supply. Rather than make all buildings parasites that live off these centralized buildings, each building becomes a tree in itself where if it falls, it only affects itself.

Furthermore, the nature of a jungle's decentralized resource transport and allocation networks present an exceptional model of how symbiotic relationships can help proliferate a system, while not making the dependency a liability. The roots of the trees are interconnected with underground fungal networks where they share nutrients and water called "Mycorrhizal Networks", as seen in figure 7. This allows smaller trees in the more shaded part of the jungle that cannot photosynthesize, due to the extent of canopy and the lack of sunlight, to proliferate and survive (Grant 2018). Peter Wohlleben, author of the bestselling book *The Hidden Life of Trees: What They Feel, How They Communicate—Discoveries from A Secret World*, recalls an account of a gigantic beech tree stump that was felled around 500 years ago, but was still green with chlorophyll. This discovery led him to conclude that the only way this was possible was that the interconnected roots of the trees were still supplying the stump with sugar, keeping it alive in a botanical sense (Wohlleben 2016). Here, the parasites become part of the system, as they provide the interconnections between the trees for a small energy fee of nutrients. This newly defined parasitic nature becomes an important part of the ecology and the same idea can be applied to inhabitants

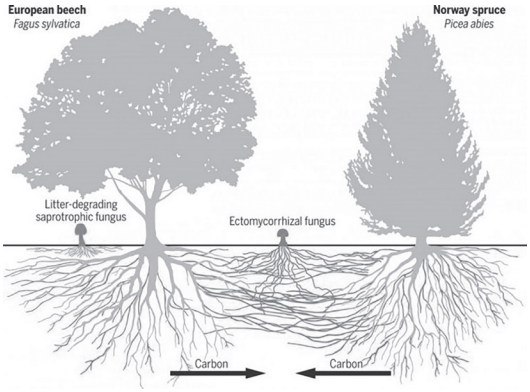

Figure 7: Forest trees interconnected through mycorrhizal fungal networks that can interlink numerous tree species. The hyphal networks provide an avenue for carbon to be transported between the trees (Van Der Heijden 2016)

Figure 8: Photograph indicating how the damage in a jungle would be confined to where the deforestation occurs (Gibbs et al. 2010)

of urban environments. They are the resource parasites that can play an integral role in helping interconnect the resources created and gathered by these low-tech sustainable systems from energy, water, and food, and distribute it intelligently where it is needed most to ensure the survival of the entire jungle.

Even when a natural jungle is under a sustained attack of deforestation or parasite infestation, the way its ecology is built helps it survive. When a tree is under threat it releases volatile organic compounds to warn others of an impending attack, which allows them to ramp up chemical production for defense (Karban et al. 2014, 45). Trees even utilize underground networks to send signals to each other, warning them of imminent threats (Babikova et al. 2013, 1). Douglas-fir trees, dying inside due to drought and western spruce budworms, have been found to transfer photosynthetic carbon to neighboring receiver Pine trees through the mycorrhizal networks. This aids in the recovery of the forest and its succession after a specific disturbance (Song et al. 2015, 2). This astounding look into the dynamics and relationships of forests and jungles allows us to see them as more than simply a congregation of trees, but as a true ecosystem that is far from static.

A jungle is not made of smaller jungles just as water is not made of smaller "waters", it is the result of the whole of its various elements that comprise it. With such thinking driving the analogy, buildings become the trees in which smaller natural elements thrive around and within. This idea of a balanced ecology transcends the mechanisms of dependency for survival and becomes a broader allegory for the idea that it could achieve self-sufficiency. For, if we cut down part of the jungle, we would have a smaller yet fully functional jungle, until the last tree is felled, whereupon the jungle ceases to exist (figure 8). A natural jungle, therefore, is an exceptional case study of resource allocation, not unlike the way the urban environments in besieged Syrian cities functioned under resource stress and direct attack and it is based on these findings that we can construct a model of resilience.

2.1. URBAN JUNGLES

To translate these rudimentary applications of sustainable building systems into a dedicated urban resilience model, we must synthesize a new way of treating the relationship between cities, buildings, and resources modeled on the processes that occur in natural jungles and forests. This would see a nexus of the individual and the group work in tandem to help decentralize and give autonomy to people, in terms of resource independence and identity expression. Traditionally, cities are supplied by municipal water systems, food trucks, and electrical utilities through a large infrastructure that delivers these resources to every architectural unit or building (figure 9). However, this presents a vulnerability to the population as striking or controlling the utility or centralized resource would leave the entire populace at risk. To address this vulnerability, sustainable design thinking is needed to create resilience and equity. The urban system must abandon this "macro grid" thinking and replace it with a "microgrid" one that would help inhabitants of different neighborhoods feel they have control of their neighborhoods and resources.

The term "Concrete Jungles" has long been used to describe cities in terms of the physical material with which they are built. Concrete, a hard and cold material, implies a static, lifeless existence when, in actuality, buildings are far from that. It would be as misguided as assuming jungles are made of wood, rather than living, breathing trees. This one-dimensional focus on the materiality of an object must transcend into a

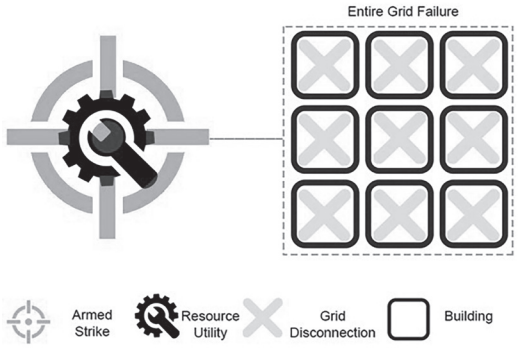

Figure 9: Model of traditional Macro Grid Utility Connected Urban Environment (Author 2019)

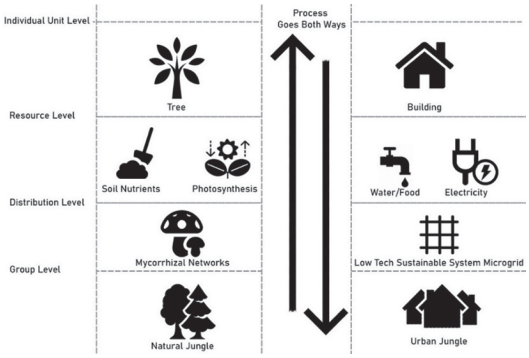

Figure 10: Urban Jungle Model indicating how it builds resilience through a process that goes both ways (Author 2019)

multidimensional understanding of its relationships. Thus, that term must evolve to a more modal description of "Urban Jungles" that can provide a case for both symbiotic and self-sufficient practices that can support conflict architecture. The evolution of this term is equally symbolic in the evolving sense of how we approach the identity and role of an urban environment. The grand concept that lies at the heart of this idea is that change starts within the smallest scale, in this case a self-sufficient tree. As more similar trees (buildings) exist, they congregate to form the urban jungle that is represented as an urban district with interconnected systems sharing resources created by this tree. This would ensure a system of elements that becomes more than the sum of its parts, as this urban jungle or district would play a role in the expression of identity of the trees. A jungle for example of Palm or Kapok trees would be different than a jungle or forest of Elder or Elm, yet functioning equally the same. This translates into non-homogenous societies, where the expression of identity is crucial as a form of resilience and a way to mitigate the feeling of persecution felt by groups under sustained attack.

Under such a design philosophy, sustainability is not layered into the buildings in the guise of its separate systems as is the norm, but the driver behind building a balanced ecology, where all the various elements symbiotically work together to create this "jungle" (figure 10). This is a testament to the resiliency of the system that is both reliant and independent at the same time. Decentralizing macro grids by replacing or augmenting them with micro-grids of different resources created by low-tech rudimentary sustainability applications that weave within buildings is no different from Mycorrhizal networks ensuring the tree feeds the jungle and the jungle feeds the tree, whichever one fails first. These networks would also provide communication between the different buildings to prepare, allocate, and minimize the damage.

Driven by such a model the urban jungle can proliferate, grow, and expand in a resource-sustainable way due to processes embedded within its ecology. However, if the authority were to "deforest" the jungle, it would not fall in a domino-like effect but would isolate the direct damage and mitigate the collateral and indirect damage to other trees, while being sustained by these other "trees" (figure 11). This system would work from the ground up, from micro to macro, to provide the failsafe against systematic conflict or persecution by authorities (macro to micro), through decentralizing resources and empowering the populace.

However, it is important to indicate that this resiliency only buys time in the face of a sustained threat. In the end, the jungle or city can only fend off a sustained attack long enough. Here, it is the collective responsibility of others not involved in the threatened system to utilize the time the resiliency has bought to understand the crime that is occurring and work actively to stop it. Just as people today protest deforestation and enact laws to protect jungles and forests, the same must be applied and enforced in the context of urban

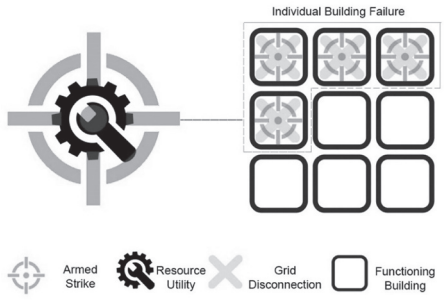

Figure 11: Evolved "Urban Jungle" model that is independent and resilient from Macro Grid and Utility-Based strikes or control (Author 2019)

environments. Cities are more than concrete jungles, they hold within them the life, memories, histories, and future of all who live within them. These troves of humanity must be protected at all costs. The world has watched for years the heroic survival of both the people of Syria and failed them time and time again. This model offers a blueprint for resilience in the hope that, if this ever occurs again anywhere in the world, it will buy those under threat enough time for the world to finally understand its role in saving them.

CONCLUSION

Cities and their dynamics are no exception to natural systems. Urban jungles attempt to create independence for the groups that inhabit these islands as energy justice, sustenance, and equity, and pave the way to social and economic independence. This has a direct effect on the socio-political dynamics of the ruled vs. the ruler and empowers these communities to stand up for themselves. Cultivated from the Syrian model, urban models of resilience give people the chance to express without succumbing, withstanding the surrender and starve strategy for years. This paper has shown this model of sustainability as a powerful multilayered tool that goes beyond simple resource management and conservation and has a socio-political and economic factor that can change the reality of many under threat around the world.

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