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ARCHITECTURE AS A TOOL FOR TRANSFORMATION:
PARTICIPATORY APPROACHES IN CONTEMPORARY ARCHITECTURE

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By

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ABSTRACT

This research presents a description of the role of the architecture and the role of the people that inhabit it, and the relationship between the two. The role of architecture had been losing its social relevance and credibility, becoming, for the most part, individualist and capitalist-driven. However, in recent years, it has been evolving gradually into a more socially concerned practice, in a process that can be described as a *change of mentality* in architecture. Simultaneously, the role of the people in the shaping of cities has become too important to ignore. The rapid rate of urbanization and their power of self-construction have put in evidence that a new approach and methods in the architectural practice are necessary.

Participatory architecture, the focal point of this paper, is where both roles come together. The history of participation in architecture and the roots of the concept are analyzed through literary research. Furthermore, the study of cases from different parts of the world but based on the same participatory philosophy, helps to give a comprehensive view of the social impact and transformational power this approach to architecture can have.

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CHAPTER I

1.1. Introduction

Architecture can be a transformative force for society; however, it has failed to be accessible for roughly 98 percent of the population. So, *how can it generate change if those who need it the most cannot afford it?* Architecture, or design in general, is an issue of social justice. It can provide opportunities and resources to groups that have been ignored by the society and the authorities, and help them feel included again. By adding buildings and spaces of social value, we open up a new set of possibilities for people living in disadvantaged conditions. Therefore, architecture cannot be just about building because its impact goes much further.

Architecture is not an individual endeavor. It needs involvement and cooperation from both parts, the architects, and the public. But *what happens when people are left to their own devices and pushed to build for themselves and by themselves?* Generally, underprivileged segments of society are not given power in the planning and building of their own environments. However, communities all over the world have proven to have the ability to organize and take action to address their own problems. There is no clearer example of this power of self-organization than the one we find in the shape of informal settlements and self-built housing.

Although the perception of informal settlements is, for the most part, negative, we must admit that they are an example of self-improvement and citizen empowerment. They are also examples from which architects and urbanists alike can refer to as alternatives to the increasing housing deficit, which is one of the main problems cities around the globe suffer from. However, these communities still face hardships and limitations, and that is why there is a need for the knowledge and skills of architects to offer well-designed and sustainable solutions to localized problems. After all, even small architectural interventions can bring big and meaningful change.

In this thesis, I described those two roles, that of the architecture and that of the community. I first analyzed the role of architecture and how it has been evolving from an individualist approach to a more socially concerned practice. I made reference to certain

moments in recent history (particularly in Latin America but not exclusively) that, in my opinion, were fundamental for this evolution or “change of mentality” in architecture as well as the work of architects who are exporting this new social approach to architecture. On the role of the community, as previously mentioned, I analyzed the case of informal settlements and self-construction in order to reach the main point of this document where both forces converge: *participatory architecture*.

By the analysis of participation in architecture and case studies, I tried to give a more comprehensive view of this new architectural procedure that is born communally, and that has received many names (activist, radical, etc.) and accolades. An architecture that is resilient because it has emerged in places with a complicated political and socioeconomic landscape. An architecture of context, with social awareness, born out of scarcity, without departing from aesthetics, which is experimental but explores and seeks inspiration in the local (in terms of materiality and construction techniques), linking the traditional with the contemporary.

1.2. Research problem

There is a disconnect between architecture and society. Today’s architecture has distanced itself from the people; it has become mediocre and repetitive. The architect-user relationship is more a business transaction than a collaborative relationship. However, architecture influences the development of people and cities in such an impactful way that, as architects, we have responsibilities that we have to assume. Those responsibilities go beyond just designing buildings. Architecture has a radical transformation potential that must be used in a pragmatic way.

If we do not rethink the way we approach architecture, social problems will continue to grow, the gap between wealth and poverty will increase, as well as the inequality of opportunities, violence, etc. In this context of social and economic inequality, and as a consequence of the demographic explosion and the vertiginous growth of our cities, the so-called informal settlements have arisen. Against all the odds, many of these settlements are better than complexes designed and built by professionals and the formal sector and

represent approximately 50 to 60 percent of the total housing built in our cities. Despite the scarcity of resources, the obstacles faced, and having been self-built, these settlements have important values and results to be recognized. The main factor in their success is attributed to be the active participation of their own inhabitants in all stages of their development.

This directs the attention back to the communities, to find answers in them. It reaffirms the idea that social problems cannot be solved by external agents unless the power of self-organization and self-construction of the people is used as well. Throughout this work, I try to rediscover the concept of *participatory architecture* and support the ideology that a socially engaged architecture is a valid alternative, and perhaps the only sustainable one in the long term, to face the social issues of the cities today.

1.3. Research objectives

Overall, the main purpose of this thesis is to shed light on the concept of participatory architecture and how it can be used as a powerful tool for transformation.

The general research objectives are:

- To establish the importance of the relationship between architecture and the people it serves, and to explore how that relationship and the approach to architecture has changed over time.
- To recognize that although both architecture and the people can work and find success independently, in reality, both need each other and have lessons to learn from each other. Truly successful projects are those that arise from that architect-community relationship.
- To visualize architecture beyond a commercial point of view in order to humanize it and have it be meaningful, through the inclusion and true participation of the communities involved.

1.4. Methodology

This thesis follows the methodology of literature research through the reading of books, articles, and reports written on the subjects of socially engaged design, human settlements, and participatory architecture. The majority of these were found online. In addition, I used multimedia resources such as videos of interviews, conferences, and lectures from architects mentioned throughout this document and whose line of work falls into the realm of my research topics.

Although I did not only focus on Latin America, many sources I found useful for these topics were situated in this context. Due to this, much of the research had to be done in Spanish and later translated into English.

1.5. Thesis structure

This thesis is structured as follows:

Chapter I: consists of the introduction to the thesis, the research problem and objectives, the methodology used for the research, and the general outline for the structure of the document.

Chapter II: *Architecture as a tool for transformation*. This chapter gives an introduction to the state of architecture and the problems it faces nowadays and how it is failing to reach the majority of the population. It provides a view of social issues affecting our cities and what architecture is doing (or not) to address them. It focuses on what the real goals of architecture should be and how the architecture of the past decades has been falling away from achieving them. However, it ends on a more positive note because it offers an insight into a change of mentality and social awareness that is returning to the architectural practice in the form of activism.

Chapter III: *About informality and community empowerment*. This chapter revolves around rapid and massive urbanization in cities of developing countries and the proliferation of informal settlements as a response to that phenomenon. It emphasizes the

fact that architects and urbanists alike must look at these as examples of community self-organization as empowerment. This chapter explains that although major changes must be done at a political level, architecture, even at a small scale, plays an important role in transforming society. It highlights the importance of the inclusion of underprivileged segments of society and their active participation in the decision-making process. It finds value in their participation, evidenced in how they have taken action by their own hands and built their houses adjusted to their own needs by themselves. Chapter III ends up concluding that architecture should be people-centered; after all, “architecture is not a goal in itself but a way to improve people’s quality of life.”

Chapter IV: *About participation and architecture*. This is where the previous chapters converge into the concept of participatory architecture. It explores the roots of the concept, its history, and the different meanings, types, and levels of participation. In this chapter, I mention the topic of architectural education because I consider it is the point where the gap between the architectural practice and society starts to form, but also where we can take measures and do something about it. Lastly, I included *participatory architecture initiatives* from the Global South (examples from Sub-Saharan Africa, Latin America, and South Asia) chosen because, despite being located in different parts of the world, these projects share remarkable similarities as they are based on the same architectural philosophy. For those cases, there is an explanation of the context, how they were implemented, how participation was approached, and the impact and possibilities they have for the future.

Chapter V: will reach conclusions on the positive and challenging aspects of participation in architecture. And will try to make recommendations on how to apply the principles and promote participatory architecture as a regular practice, starting from the architectural education, so that it can become a new pragmatic model for architecture.

CHAPTER II

Architecture as a tool for transformation

Architecture is a difficult profession that requires the commitment of many parts. If we are not ready to do our part, to strengthen human relationships, there is little we can do.

- Solano Benitez

There is a debate about the real and ultimate purpose of architecture. For some, architecture has a merely functional, practical purpose: to provide shelter for the different activities of our daily lives (work, living, leisure, etc.). For others, architecture goes beyond that and should provide quality content and space to the city while maintaining its aesthetic pursuit. But can architecture, not only as a product but as a practice, have an even more consequential and impactful purpose?

In my own personal experience seeing how architecture can impact people's lives for the better (or the worse) depending on how it is approached, I agree with the current of thought of many contemporary architects that use design as a powerful instrument to effect social change. Design can disturb current narratives. Design can rupture the present with counter-narratives. It has the ability to catalyze societal transformations (Fuad-Luke, 2009).

What makes today's architecture truly contemporary is that it no longer focuses solely on buildings but on people. It is the architect's duty not only to dedicate himself to "building" but to creating spaces that promote human interactions, exchanges, commitment, actions. Thus, contemporary architecture should be seen as a tool for improving people's quality of life by introducing changes to their surroundings that can generate positive outcomes.

In architecture, even small endeavors can have great consequences. On a small scale, a well-designed school can positively influence individual learning and help children to identify themselves as parts of a broader community. On a larger scale, urban planning

that offers not only the basic requirements of housing, transportation, and commerce, but also parks, public squares, and cultural facilities, can increase the quality of life for all inhabitants, bolster civic pride, and have a positive impact on the city's economy. Design is a tool that helps us do more than just survive; it helps us live.

However, in practice, professional designers have traditionally focused on the 10 percent of the world's population that can afford their goods and services (Smith C. E., 2011). As observed by design entrepreneur Dr. Paul Polak, "the majority of the world's designers focus all their efforts on developing products and services for the richest 10 percent of the world's customers. *Nothing less than a revolution in design is needed to reach the other 90 percent*". In architecture, the gap is even worse, reaching only 2 percent of the population. Architect John Gavin Dwyer claims that "quite simply, the architecture profession has failed to create a way to deliver design that's accessible to the other 98 percent".

According to the United Nations, roughly one billion people live in extreme poverty with limited access to clean water, education, and health care. Therefore, regarding our role as architects, we should ask ourselves if we are doing enough by just providing our services to those who can afford it. *Is it enough? How can we, as architects, use our training for the greater good?*

2.1. Design as an issue of social justice

Design is really an issue of social justice. Being able to have access to high-quality design should not be a privilege if we consider that high-quality design does not equal expensive construction. For example, if a person does not have enough money to pay for the services of a private institution and, instead, has to seek a free, public one, should they expect less quality of space? And this example can be translated to not only buildings but to public and open spaces as well. Are people living in disadvantaged areas expected to have lower-quality housing and public areas? Design quality and physical surroundings of our activities contribute not only to the activities themselves but to our physical and psychological development.

As architects, we are supposed to understand the importance of this relationship between the built environment and people's wellbeing, and it should be a common goal in the architectural profession to use our work to reach it. However, the realities of our practice make that almost impossible. There are obstacles such as low pay or the scarcity of community-focused job opportunities that are very difficult to ignore.

Although most architects share the belief that good design and good deeds can go hand in hand, reality shows a different scenario. Architecture, especially that of the last decades, has been put more at the service of economic and political interests than at the service of social issues. However, it should be our duty to remind ourselves whom the built environment is built for in the first place and try to expand our practice to advocate for more people. Taking as examples privatized public spaces, they might seem like public assets, but some of them usually have strict limitations on who can physically enjoy them. In theory, genuinely public space is to be enjoyed by the public at large, but that is not always the case. Depending on how they are designed, public spaces might actually make people feel unwelcome, restricted, left out, etc., and this is an issue of *social justice*. Simply put, everyone, regardless of race, gender, class, or economic power, should have direct access to the expertise of architects.

For French sociologist Pierre Bourdieu there are three forms of capital that exist in every sphere of human activity and, to varying degrees, influence people's decisions and activities:

1. Economic capital, comprising financial resources like cash and assets
2. Cultural capital, encompassing knowledge and skills
3. Social capital, involving the relationships among people in families and communities

The development of all three forms of capital is necessary, but the problem comes when we give more importance to just the economic one. Undoubtedly, economic capital has become more dominant in our societies, and cultural capital is complicit in that dominance. Both almost totally eclipse and diminish the need for social capital.

Today, the vast majority of the world's nations endorse the universal mantra of capitalism. It has become the default model for economic and material progress. (Fuad-Luke, 2009)

This also translates into architecture and has impacted it in many negative ways. When the profession leans more toward economic goals, architectural production, generally, becomes mediocre and predictable. Architects are pressured to carry out projects that are more repetitive, of lower cost, at a faster rate, and with a higher profit margin. Under this production model, the space for creativity and innovation becomes almost non-existent. Meanwhile, concern for cultural status has led architecture to produce buildings where the pursuit of the form (usually unconventional and increasingly extravagant) becomes the main objective, and the functional aspects take a backseat.

These two types of capital, unfortunately, overshadow the role of social capital in architecture. In addition to having financial and cultural value, buildings can provide social value to a community. The architecture of social capital allows us to face social problems such as the growing gap between wealth and poverty, inequality of opportunities, violence, etc.

Currently, in the world, only 2 percent of the population owns or controls about 50 percent of the planet's resources, creating a gap of inequality never seen before and leaving a high number of people living in desperate and hopeless conditions. For these reasons, social capital today plays a significant role within communities that feel abandoned by their governments and marginalized by the rest of society. Social capital becomes a tool for resilience in these communities. In the absence of economic or cultural capital, the support of family, friends, neighbors, and community members transforms into an asset to overcome obstacles and reach common goals.

Something is in the air. Call it community-based design. Call it architecture for people. In any understanding, socially conscious architecture seems to be blossoming again.”

- Robert Ivy, Architectural Record editorial, 2005

2.2. Who do we design for?



Figure 1. The dichotomy between the architecture for the wealthy and the poor. Source: (Cruz, 2014)

The advance of capitalism is one of the leading causes of the rapid proliferation of high-end architecture in fast-growing economies around the world. This architecture became a global sensation, and architects began to be seen as celebrities. The “icon” era was the result of pure architectural creation that finally found a globalized market and an audience ready to consume it. As expected, not only the public was attracted to this type of

architecture, but also architects were excited about the opportunity and the freedom to make the buildings of their dreams come true. In addition, capitalism also generated a rapid urban migration and a dramatic marginalization, resulting in the explosion of informal settlements. Thus, creating a scenario where pockets of mega wealth are surrounded by poverty (Cruz, 2014).



Figure 2. Galaxy Soho in Beijing by Zaha Hadid. Source: Hufion + Crow

In a certain way, architecture lost its way or, at the very least, its real purpose. What it is being produced is, for the most part, market-driven and dehumanized. A work that does not help ‘build’ societies, that does not contribute to city development, and that it is mainly inclined towards being profitable. There was an almost complete lack of leadership from architects, and what their architecture could contribute to society at large.

However, times are changing, and now, more than ever, it is becoming evident that architects do need to engage a broader spectrum of social issues if they are to remain relevant. After this realization, we should also question *why is architecture failing to work*

for those whom it is supposed to serve? Then maybe this will lead us to the question of who is left out of the decision-making process?

Social issues are not easy to approach and even less easy to give a *solution* to. Combating poverty, hunger, inadequate housing, and medical care, politically and economically motivated migration, lack of education, and inhumane living conditions, especially on a larger scale, undoubtedly requires action at a political level. Yet architects all over the world are, in increasing numbers, using their knowledge and skills to offer well-designed and lasting solutions to localized problems. They are proving that design can play a significant role in solving the world's most critical problems, perhaps one small intervention at the time (Smith C. E., 2011).

For architect Teddy Cruz, a new approach to building means challenging the traditional top-down planning process, confronting bureaucratic challenges, and encouraging dialogue among local constituencies. Cruz has studied the relationships between social and urban structures, and his work has long focused on the issues facing unplanned settlements along the border between the United States and Mexico. He is an outspoken critic of the way architecture is typically practiced in highly developed countries, where it primarily serves financial interests. “The most inventive, progressive, experimental projects have not happened in China or the Emirates (where architecture is so often treated as an object or icon),” he has said, “but within the context of infrastructure, in Latin America.”

The tendencies seen in Latin America over the past fifteen years are a look back towards a simpler construction to make better architecture more accessible for the general public. Chilean architect Alejandro Aravena and his project Elemental are a clear example of this. About his architecture philosophy, Aravena explains that the more complex the problem, the more of a need there is for simplicity. “I really appreciate that I was trained in an environment of scarcity. Somehow, it is a very efficient filter against what is not strictly necessary”, he says. Although, in theory, this architecture is of simple, basic construction, it is at the same time highly innovative. Innovative not only in the way it deals with the form but more remarkably in the way it deals with materials, resources, techniques available, and limited budgets.

We believe that the advancement of architecture is not a goal in itself but a way to improve people's quality of life. Given life ranges from very basic physical needs to the most intangible dimensions of the human condition, consequently, improving the quality of the built environment is an endeavor that has to tackle many fronts: from guaranteeing very concrete, down-to-earth living standards to interpreting and fulfilling human desires, from respecting the single individual to taking care of the common good, from efficiently hosting daily activities to expanding the frontiers of civilization.

- Alejandro Aravena¹

2.3. A gradual change of mentality

This turn towards a more local, material-oriented, humanized, and socially responsible approach to architecture did not happen overnight. It took a gradual change in mentality about how we see architecture and what architecture should aim for. In the last years, there have been several moments that showcase that gradual change and the growing interest in this approach.

In January 2016, Aravena was awarded the Pritzker Architecture Prize recognizing his architecture as epitomizing “the revival of a more socially engaged architect.”² Definitely, this was a moment in architecture that made visible to the general public the changes that contemporary architecture had slowly been going through. The works of his Santiago-based firm Elemental include a participatory design process in which the architects work closely with the public and end-users. By being “innovative and inspiring, [Aravena] shows how architecture at its best can improve people's lives.”

¹ Introduction by Alejandro Aravena. Curator of the 15th International Architecture Exhibition

² Jury Citation: Alejandro Aravena | The Pritzker Architecture Prize

Months before, Aravena had been selected as the director of the 2016 Venice Architecture Biennale. His curatorial work for the Biennale followed the same path his architectural work does. He wanted to add the social, political, economic, and environmental dimensions to the cultural and artistic ones that already belong to the scope of issues to which architecture is expected to respond.

As explained by Aravena *“the advancement of architecture is not a goal in itself, but a way to improve people’s quality of life,” and the biennale’s aim was that to share with a broader audience the work of people “looking for new fields of action, facing issues like segregation, inequalities, peripheries, access to sanitation, natural disasters, housing shortage, migration, informality, crime, traffic, waste, pollution and the participation of communities.*

*The always menacing scarcity of means, the ruthless constraints, the lack of time, and urgencies of all kinds are a constant threat that explain why we so often fall short in delivering quality. The forces that shape the built environment are not necessarily amicable either: the greed and impatience of capital or the single-mindedness and conservatism of the bureaucracy tend to produce banal, mediocre, and dull built environments. These are the frontlines from which we would like different practitioners to report, sharing success stories and exemplary cases where architecture did, is and will make a difference.”*³

Architecture to make a difference, to improve people’s lives, to address social issues... all of these might seem like utopian ideals, but to many architects, nowadays, they are not out of reach. To them, these are the logical outcomes of work that not only pursues the aesthetics or the capital but changes its focal point towards the people and their needs, involves them in the process, and strives for social empowerment.

Going back a decade, to 2010, the Museum of Modern Art (MoMA) in New York opened an exhibition called “Small Scale, Big Change: New Architectures of Social Engagement,” which showcased eleven architectural projects on five continents that “respond to localized needs in underserved communities.” The architects highlighted in this exhibition have sought to retrieve some of architecture’s spirit of social

³ Introduction by Alejandro Aravena. Curator of the 15th International Architecture Exhibition

responsibility. They seem more interested in engaging a wide range of human experiences than in developing grand manifestos or utopian theories, which is something that differentiates them from socially engaged movements of the past, more specifically the early modern architectural movement.

From a handmade school in Rudrapur, Bangladesh by Anna Heringer, or a primary school in Gando, Burkina Faso by Diébédo Francis Kéré; these realized projects are infused with passion and a strong drive to uplift society through architecture (Lepik, 2010), and they are designed to cover problems latent in their respective communities. Problems that perhaps people could not have solved on their own and that is why the intervention of these architects was necessary in the first place. All these architects share the belief that excellent architecture can be achieved by using a more collaborative model of architecture practice. Aravena was also included in this exhibition with the Quinta Monroy Housing, a low-income housing project built in Iquique, Chile by Elemental, between 2003–2005, to which I will refer to in later chapters.

While these works are not short on idealism, they mostly fall more into the label of *radical pragmatism* (McGuirk, 2014). Pragmatism, as a means to idealistic ends, requires more imagination. Although modernism had a proud tradition of revolt, of a categorical rejection of the past that is shared by these architects as well, they had an authoritarian vision of architecture that does not align with what is needed from the profession anymore. And that is what sets contemporary architects apart from their modernist predecessors.

In the dialogue between architecture and society, there has been an exciting shift, as demonstrated by the works of these architects. The architect's role, their methods, and approaches are being reevaluated. Although their priority is to address social issues, aesthetic quality is still essential and should not be overlooked. When working with underserved communities, the product cannot be just functional. If you show people a building that, besides being functional, is beautiful, they notice it and feel a sense of pride because it is happening in their communities. Ultimately, what matters is the effect, not the aesthetic, but these architects manage to produce a work that focuses on maximizing scarce resources and finding aesthetics responses in that scarcity, anyways (McGuirk, 2014).

Moreover, although it is not their ultimate goal, sustainability is present in their projects. It is just a logical consequence that goes beyond labels or being sustainable just for the sake of sustainability. By working with local materials and local labor, and experimenting with new materials and technologies, the impact on the environment is less, reaching an inherent kind of sustainability. So with the right design, sustainability is nothing but the rigorous use of common sense (Aravena, 2014).

Just as it is vital to understand the needs of a given community before designing a building or space, it is also essential to understand its surroundings, the materiality, and techniques available. It is essential to look at the more suitable materials in terms of proximity, price, and builders' knowledge and ability to work with them since these factors will vary from case to case. In a city, for example, the most accessible material to use might be steel for its convenience: it is cheaper, easier to use, and there is likely to be a skilled workforce familiar with it. Whereas in a rural area or in smaller towns and villages, where there is often a lack of heavy machinery and energy for construction at an industrial level, that might not be the case. In those areas, building with materials such as concrete, steel, and glass makes far less sense than turning to more traditional modes.

Dealing with a scarcity of resources leads to a higher level of experimentation and the need for innovation. No matter what the local materials are, there is always a way to find value and beauty in working with them. There is now more of an interest from architects to look for local craftsmen to work with since a lot of expertise is required to work with traditional materials and techniques to do more with whatever little is available. There is also a need to come up with creative and sustainable solutions, and an even bigger need for a relationship between the architect and the craftsmen in an exchange of knowledge.

Together, these undertakings not only offer practical solutions to known needs but also aim to have a broader effect on the communities in which they work, using design as an empowering tool (Lepik, 2010).

There is a beauty in people building for themselves. We analyzed slums in Nairobi and in North Africa, and strangely, if people are given bricks or something, some material, they can build themselves quite beautiful things. I think the role of the architect could be more in the area of activism.

- Jacques Herzog⁴

2.4. Activism in design

So, *could we talk about design as a form of activism?* For Jacques Herzog, the role of the architect enters this field. In general terms, activism can be defined as a series of actions that are carried out in order to produce changes that provoke social, cultural and political, transformations. Motivated by the identification of a problem that needs an urgent solution, activism is used in defense of the rights of an aggrieved, excluded, or neglected group. Basically, activism involves demanding changes for a better and more equal society.

Isn't all design activism? Interest in design for social impact, public service design, and design activism has been rising. Yet, in conversation, it is also common to hear the suggestion that since most design seeks to improve the conditions of life for people, most of it must, in some senses, be activism. (Thorpe). The arts and intellectual movements, which contain ideas about a better society such as modernism, for example, have always influenced architecture, so the idea that design and activism go hand in hand is not new. Although they spoke of building better societies, it cannot be denied that their main concern was linked to aesthetics.

'Good' design usually generates changes, but these are not always a form of activism in favor of excluded or neglected groups. Actually, what is considered a 'good' design usually constitutes improvements in the quality of life of those who already have the

⁴ In a conversation with Tatiana Bilbao (Louisiana Museum of Modern Art, 2019)

power and ability to afford it, so it really does not fit into the definition of activism; hence, not all design is activism.

Author Sheri Blake defines an activist architect as someone who “views design as not only about creating innovative aesthetic objects, but also about providing people with the tools and the knowledge necessary to shape their surrounding environment” (Pitera & Wilkins, 2015). With this, the definition of design expands far beyond just making an aesthetic object. In addition to disrupting, activism always reveals, unveils, or frames an issue. In a classic sense, activism often reveals an injustice or wrongdoing, but it may also frame a better alternative—it may be generative. (Thorpe)

Activism in architecture has been mainly led by a rising generation of students and young professionals that are more aware of the concept of social justice. As explained by Cheryl Weber in her 2013 article “Social Justice Propels Today’s Young Design Professionals,” young people have always been attracted to humanitarian causes, but the current trend is fundamentally different. Today’s young professionals grew up in a time of climate change, economic interest, and unparalleled global awareness, leading them to see socially conscious design not as an idealistic or humanitarian goal, but as the third leg of sustainability —environmental, economic, social (Weber, 2013).

Students seem interested in a different agenda from an earlier generation. Quietly, the people-centered component of architecture is spreading like goodwill, putting designers and builders in touch with real people in real places (Ivy, 2005). And today, many design and planning professionals are rejecting traditional practice. Instead, they fight against urban redevelopment, advocate for the rights of poor citizens, and develop methods of citizen participation (McGuirk, 2014).

In order to address social issues, many designers and architects have turned to the development of social entrepreneurship, which has grown rapidly in the last two decades. So, we can say that the change in mentality and the proliferation of social entrepreneurship have helped the interest and growth of a design practice of a social and community nature. Although many young professionals are interested in this type of practice and in practicing the profession within this social dimension, there is still a lack of information about how to continue it in the professional life. It is a very complex issue

to translate that passion for social justice into a work model that is financially sustainable in the long term as a business.

And this disparity between what one sets out to do and what can actually be done is not always one's fault. It is a general deficiency in the field of architecture and design, which has notoriously neglected teaching the business of design. Although there is a strong interest in social architecture, the difference between the idea of architecture we have when we are students and the reality that we encounter in the professional world is, most of the time, so demotivating that it seems that the only option left for us is to compromise our ideals in order to be able to live off of the profession.

However, in recent years there are more and more examples of young firms, organizations, collectives, and architects who have dedicated themselves to promote a community-based design practice, thus demonstrating that a career in this direction is feasible. Their projects have helped create a growing public interest in the architecture of social impact.

Although these types of firms have arisen in different parts of the world and their work can be very different from each other, there are certain common factors that can be identified: the range and type of services they offer, how they are organized, their sources of financing, and, above all, the inclusion of the community they serve.

In this way, activist architecture can be described as a way of practicing architecture from a community perspective: designing putting people's needs as a priority, and actively involving them in the work that is done. From this point of view, architecture and the architect's work is redefined and extends beyond the economic dimension, reaching and, therefore, benefiting a greater number of people.

As mentioned, activist architecture, or design in general, is intrinsically associated with the audience it serves, so we must distinguish between the two types of users. Contemporary activist design is aimed at over-consumers and under-consumers. *Why the distinction?* Both types of consumers act in a very different way and, thus, they have different needs to be addressed. For the over-consumers, architecture should be oriented to help reduce their overall consumption, so, in this case, we are talking about aiming for sustainability, adopting new eco-efficient and positive behavioral strategies.

To do this, designers need to educate over-consumers and raise awareness on the real impacts these have directly and indirectly on the global commons and the under-consumers. Designers need to invoke new ideas about how to live a better life with reduced consumption. (Pitera & Wilkins, 2015)

On the other hand, the under-consumers' needs are greater, and there is a bigger gap to be fulfilled to cover these needs. Under-consumers are often struggling to meet basic physiological requirements for life. Yet they, too, need education and design solutions to gain access to appropriate levels of consumption that improve their quality of life.

'Green,' 'ethical,' and 'sustainable' consumption have received consistent attention from the late 1980s onwards, but these approaches gather around abstract notions of causing less damage to the environment (Pitera & Wilkins, 2015). However, as important these goals are in architecture, they cannot be achieved by ignoring the way of consumption of humans. The real question rests on how we can consume to improve wellbeing and quality of life and simultaneously reduce our environmental footprint. In the case of over-consumers, we need to design to reduce consumption, which is not an easy task, but there are also more resources to do so. However, I consider that the real challenge is designing for the under-consumers. *How can we create useful, affordable, life-enhancing, and beautiful designs for the under-consumers?*

Nonetheless, all designers working to improve the lives of the under-consumers rightly deserve to be called 'design activists,' as they are genuinely intent on lifting people's lives beyond a litany of daily tasks just to survive (Pitera & Wilkins, 2015).

CHAPTER III

About informality and community empowerment

*Cities don't make people poor; they attract poor people.
The flow of less advantaged people into cities from Rio to
Rotterdam demonstrates urban strength, not weakness.*

- Edward Glaeser in *Triumph of the City*

The demographic explosion has pushed people from rural areas to the cities more than ever before, even when most of these cities do not have the infrastructure and resources to host them. In cities all over the world, populations continue to swell at an alarming rate, a phenomenon that is particularly evident in the way of informal settlements. When we think about informality, what might come to mind first are the *slums*⁵ inhabited by illegal occupants or squatters.

Institutional methods of housing delivery have failed to keep up with this growing issue, and, as a result of the inability of public housing programs to meet housing demands, an informal housing system emerged in many parts of the world. Because of this, there is a renewed urgency to search for innovative solutions to the proliferation of slum-dwelling worldwide. Although there are many ways to define informality depending on the type of occupation, the one I will refer to in this chapter is a *squatting informality*. This type of informality originates with individuals taking possession of land illegally and building on them without authorization (Bayat, 2004).

The stereotype that characterizes the social life of urban informality is the *culture of poor*, but the real practice of *informal life* is characterized by autonomy, flexibility, and pragmatism, where survival and self-development as ways of social manifestation are principle keys of informality (Bayat, 2004). So, if we look at informal settlements not only for how they started or how they were formed but for what they have to offer, we

⁵ The decades-long debate on the use of the term "slum" is well summarized by A.G. Gilbert, *The Return of the Slum: Does Language Matter?*, in "International Journal of Urban and Regional Research", vol. 31, 2007, pp. 697-713.

might learn a lesson or two on how to face the current demographic and housing crises in our cities. Informality might even be necessary as a strategy to overcome obstacles that formality imposes to poor people, forcing them towards continuing the cycle of *poor*, obstacles such as legal barriers, bureaucratic procedures, excessive regulations, and real market forces.

Against all the odds, numerous informal settlements have witnessed growth. As explained by Sheela Patel, chair of the board of Shack/Slum Dwellers International (SDI), there is a prevailing sense that the goal now is for *“poor communities to demonstrate to their municipalities, governments and international development agencies that self-organized communities of the poor are partners in addressing the urban poverty.”* Informality has its social force in the notion of empowerment, in the form of self-organization and entrepreneurial spirit of the poor. Informality does not necessarily mean there is a lack of organization or planning. Actually, most of these communities living in informal settlements thrive because they are socially well organized, culturally optimistic, and economically hardworking.

Then, if self-developed informal settlements are demonstrating to be a valid response to rapid urbanization, *what would the role of the architect be in this scenario?* One thing to take into consideration is that the global housing gap is still enormous, and it will not get better on its own. Even though informal settlements offer what neither the government nor the formal market could provide, and we can learn from them, they still present many deficits that need to be addressed today. After all, decisions made now will have a significant impact on housing for decades to come. And that is why intervention from architects is needed, but an intervention that is not arbitrary but responsive, not exclusive but inclusive.

Accepting the informal city as a functioning and productive part of the actual city, and not as something that needs to be replaced, is the only way forward. Situations are improved not by eradicating what already exists but through the implantation of a different set of possibilities, whether it be something as simple as a school or an arts center or a more rigorous urban intervention.

Referring again to the 2010 MoMA’s “Small Scale, Big Change: New Architectures of Social Engagement,” one of the highlighted projects was Metro Cable, a cable car that

connects San Agustín, a hillside barrio in Caracas, Venezuela, to the rest of the city, designed by Urban-Think Tank (U-TT). With this project, they addressed the social divide that affects informal settlements, exacerbated by physical disconnections. In Caracas, inhabitants of the hilltop barrios have traditionally been denied many of the essential services enjoyed by their fellow citizens (Urban-Think Tank, 2010). Generally, underprivileged segments of society have no political say in the planning and building of infrastructure and community spaces. Or they participate by providing the labor for the construction of their dwelling, but rarely in the planning and design stages. As a result, these groups often find themselves relegated to less desirable locations without easy access to public services, let alone parks, libraries, or other cultural amenities.

The Metro Cable project originated as an acupunctural alternative to an unnecessary and destructive urban development proposed by the government that would have required the removal of up to one-third of San Agustín's homes. The proposal would have uprooted thousands of families and splintered social and livelihood networks.



Figure 3. Metro Cable atop of the informal settlement of San Agustín. Source: (Urban-Think Tank, 2010)

Developed after a participatory process that included community workshops, Urban-Think Tank's proposal consisted of a minimally invasive cable car system that included

buildings with flexible structures that would provide housing as well as cultural, community, and recreational programs. Although in the beginning, the government rejected the proposal, U-TT and the community fought for it, and it was later approved, demonstrating that sometimes architects must function as activists and mediators, bridging the gap between top-down planning and community organizing (Urban-Think Tank, 2010).

In this context (in this case, the Latin American informal cities), architects must create opportunities to act by identifying a problem and creating the conditions necessary to intervene – not for their own glory but for the benefit of the residents. Thus, turning into creators of actions, not just forms, which become secondary. In this type of projects, the added value of the active participation of the community results from a dialogue in which the architects cede parts of their authority to others, and by reevaluating the role they play, they show their conviction that good design is not a privilege of the few and powerful (Lepik, 2010).

Architects that lead these projects take part in an activism where the empowerment of local communities is a crucial element. They do not produce manifestos, nor do they try to solve large, systemic problems by applying preconceived political theories or utopian concepts. Instead, they identify a specific need and invest their time and resources into the realization of projects that will meet those needs and will have an immediate impact in their communities. Just as they need political allies, architects must integrate themselves with local communities for the success of a project. The community-engaged architecture approach is a humble galvanizing force. It can empower the community to take ownership of every stage of the project, becoming a source for job creation on a local level, amongst other positive outcomes. In the case of Metro Cable, the project has had a clear catalytic impact in local communities. It continues to run smoothly, serving as a model for future upgrading projects around the region (Urban-Think Tank, 2010).

It should be a basic assumption that human settlement planning is for the people and, therefore, people should participate in the planning, decision-making process, and management of projects that will affect them directly. However, opinions on who should participate, in what and how, vary widely between and among project developers, politicians, and residents.

Town-planning is not mere place-making, not even work-planning. If it is to be successful, it must be folk-planning. [...] To give people, in fact, the care that we give when transplanting flowers, instead of harsh evictions and arbitrary instructions to 'move on,' delivered in the manner of officious amateur policemen.

- Patrick Geddes ⁶

3.1. The rise of informal settlements

For the first time in history, more of us are living in cities than in non-urban areas. This massive migration into crowded, unhealthy informal settlements is the leading challenge of this century, pushing beyond the capacity of many local institutions to cope (Smith C. E., 2011). One of the greatest challenges for the future of the world's population is the unchecked spread of informal settlements, usually by the poorest of residents, in major cities and megalopolises. Almost one billion people live in informal settlements or slums around the world. That number is projected to double by 2030. Most of the growth will be in emerging and developing countries of the Global South⁷, in an increasingly climate-challenged world (Design Indaba, n.d.). From evictions and skyrocketing rents to substandard infrastructure and services, many residents in cities across the global south face acute housing challenges (Rogala, 2017).

Informal settlements are defined as *spontaneous settlements*, in reference to the absence of governmental aid and control; *uncontrolled settlements*, in regard to their lack of regulation; and *shantytowns*, in recognition of the fact that low-income people inhabit them. They exist in urban contexts all over the world, in various forms and typologies, dimensions, and by a range of names (slums, squatter settlements, shantytowns, favelas, shacks, gecekondu, bidonvilles) (Srinivas, 2015).

⁶ From the 1947 volume *Patrick Geddes in India*.

⁷ The *Global South* is an emerging term and alternative to 'Third World', used by the World Bank and other organizations, identifying countries with one side of the underlying global North–South divide.

Historically, the term slum, one of the most commonly used ones, has had derogatory connotations and has been used to indicate the poor neighborhoods of cities⁸. The term forcefully entered the literature of urban studies and political-institutional language since the beginning of the 2000s, not without controversy, given the genesis of this word and the ideological significance it is capable of, according to some interpretations, to convey even today⁹ (Paone, 2016).

The term slum has a nineteenth-century matrix and was born in the context of what has been called the second urban revolution, that is the industrial age that has profoundly changed the face of cities. Starting from the second half of the nineteenth century, in fact, industrialization favored, in some European cities and first of all London, an unprecedented concentration of population from rural areas attracted by the possibilities offered by the nascent industrial work. All this meant the rapid expansion of overcrowded neighborhoods in which the sanitary conditions were nothing short of dramatic.

It is in this context of the expansion of the city and the observation of the poor living conditions for a part of it that the word slum appears. As the English historian David Reeder recalls, the term became common in England only after 1880. Before then the slums of central London or other English cities were defined with other expressions such as rookeries or *wynd*s. Slum, which derives from the jargon of the underworld and indicates a shady deal, is affirmed by progressively replacing previous terms and with a peculiarity, namely that of associating with material living conditions (for example the quality of housing, sanitation deficits, overcrowding housing) the lifestyle of the people who live there, a lifestyle characterized by immorality, vice and illegality¹⁰. Basically, the word slum used to indicate poor degenerate areas in which the residuum lived, enters the common language and vocabulary of urban stigmatization¹¹ (Paone, 2016).

⁸ M. Davis, *The planet of the slums*, Feltrinelli, Milan 2006.

⁹ A. Gilbert, *The Return of Slum: Does Language Matter?*, in «International Journal of Urban and Regional Research », vol. xxx, n. 31, pp. 697-713; R. Martin, A. Mathema, *Development Poverty and Politics: Putting Community in the Driver's Seat*, Routledge, London 2010.

¹⁰ D.A. Reeder, *Slum et suburb: le mots de la stigmatisation dans le discours urbain en Angleterre au XIX et au début du XX siècle*, in J.C. Depaule, *Le mots de la stigmatisation urbaine*, Editions Unesco, Paris 2006.

¹¹ It must be remembered that in Great Britain and not only the interest in the poor part of the cities also belongs to a literary tradition that began as early as the early nineteenth century and consolidated in the decades to come and which sees Charles Dickens as protagonists among others.

Nowadays, some scholars prefer to use the term “informal living” or “informal settlements”, as a less labeling formulation than the term *slum*. As mentioned, *informal life* is now also characterized by autonomy, flexibility, and pragmatism. In fact, informal housing can vary from country to country and can include everything from well-constructed middle-income housing to cardboard shacks built in swamps, to multifamily housing, and to occupied, condemned, and dilapidated buildings. The appearance of informal settlements varies according to the availability of building materials, the finances of the squatters, and the prospects for continued possessions.

The remarkable fact is that much of the world’s housing is being produced and finished outside the institutional framework of the official, or subsidized housing sector, often resulting in solutions that are both socially and economically more viable than much of the lowest cost housing provided by public subsidy. The informal sector is capable of building and does build houses suited to their needs and within income capacity. Housing is built by their owners themselves, often with the assistance of family and friends, and with various amounts of hired help. (UN Human Settlements Programme, 2003)

This massive urban migration signals a historic shift in our civilization. There are over 400 cities with one million inhabitants, more than 20 cities with ten million inhabitants, and three cities with at least 20 million. By 2030, all “major world countries” will have more people living in cities than in rural areas. There are an estimated 200,000 informal settlements around the world, with dense living conditions; in Dhaka, Bangladesh, for example, 70 percent of the population lives on only 20 percent of the city’s land (Smith C. E., 2011). Thousands of people are pulled to cities each day, enticed by the possibility of finding work, greater social mobility and freedom, and a better life for their families.

Unfortunately, this growth has been virtually ignored by public policymakers. City-planning was traditionally defined by and for the needs of the middle and upper classes, especially in the countries below what Teddy Cruz had dubbed the “political equator” and where such settlements have proliferated most dramatically. Governments have relied on the private sector to fill the gaps, allowing their neoliberal policies to make cities more unequal places. Such planning has typically meant increasing roads for more private cars, housing built to higher technical standards, and amenities – public squares and buildings, schools, transportation, cultural facilities, and so on – designed for a population whose

basic needs have more than been met. Little if any thought has been given to the massive influx of the extremely poor into cities, whether they are migrating from the countryside or arriving from another country.



Figure 4. Political Equator Map. Source: Estudio Teddy Cruz, 2006

Statistics from the World Bank indicate that poverty levels remain shockingly high for the vast majority of the world's citizens, and the rich-poor income inequality is widening. The wealthiest 20 percent account for 75 percent of world income, whereas the most impoverished 40 percent account for only 5 percent of world income. Significant disparities match this economic inequality in a wide range of social indicators from an inadequate provision for schools, low literacy levels, poor health (often linked with insufficient access to clean water and appropriate sanitation), malnourishment, and short life expectancy (Fuad-Luke, 2009). According to estimates, currently, 330 million households in cities around the world, equivalent to 1.2 billion people, do not have access to affordable and secure housing. By 2025, this number is estimated to grow by 30 percent to 1.6 billion people (Rogala, 2017).

Specifically, in Latin America, statistics are not any less discouraging. Close to 80 percent of the population live in urban areas, and just in Brazil, for example, 90 percent (Smith C. E., 2011). Latin America is the most urbanized region in the world and so has been forced to seek solutions to an ever-worsening housing crisis. UN-Habitat has predicted that by 2050, 90 percent of Latin Americans will live in cities, and, by 2030, out of the

five billion people that will be living in cities, two billion are going to be under the line of poverty (Aravena, 2014). Despite this statistic, it is a fact that people will not stop coming to the cities. They will come anyhow, but they will more likely live in informal settlements. Therefore, an understanding of how architecture and public policy can deal with such rapid urbanization is essential.

According to John Beardsley of Harvard University, “*slums are now the dominant form of urban land use in much of the developing world.*” Cities are, of course, extraordinarily complex and always transforming, with distinct physical features, geographies, cultures, and histories, and with evolving social, economic, and political structures. Successful designs adapt to existing conditions (Smith C. E., 2011).

Informal settlements should not be seen necessarily as a problem that needs to be eliminated because they function as vibrant places of (informal) income-generating activities that can secure the inhabitant’s livelihoods and fulfill certain social functions that the formal sector does not provide. However, the physical conditions of informal settlements and their informal status, as well as potential social problems (crime, diseases, and poverty), often pose severe threats to their dwellers’ wellbeing or even to the society at large. After all, as explained by Sheela Patel, “*when two-thirds of a city are living in a situation where its garbage is not picked up, its residents are being evicted, they don’t have access to clean water, they don’t have access to safe sanitation, you are creating a situation that jeopardizes the health and wellbeing of the whole city*” (Rogala, 2017).

Not all informal dwellers suffer from the same degree of deprivation since informal settlements exist in heterogeneous ways due to the different urban contexts among countries. They can differ in their size, structure, formation, population, availability of socio-economic facilities, legal status, etc. Despite being very different in composition, some similar characteristics can be identified among informal settlements (UN Habitat, 2015):

- Inhabitants have no security of tenure, land, or dwellings they inhabit, with modalities ranging from squatting to informal rental housing lacking a municipal permit.
- Neighborhoods usually lack or are cut off from basic services and formal city infrastructures.

- The low structural quality of housing, often inconsistent with current planning and building regulations, is usually located in geographically and environmentally hazardous areas, for example, on steep slopes, on land that is prone to flooding or contaminated.

As urban areas are dynamic and continually changing through time, informal settlements should be perceived as a relative urban component that might not be constant over time and location. Above all, it is the perception of informal settlements that determines the future interventions devoted to these settlements, either they are a problem that needs to be eliminated, or a solution that should be encouraged.

For British architect John F.C. Turner, the important lesson to learn was that illegal settlements are not the threatening symptoms of social illness, but far from that. According to him, they are an example of the triumph of popular self-help, that, over time, were able to overcome from the culture of poverty on to becoming fully serviced suburbs, giving their inhabitants a proper place in the urban economy. Self-help refers to a more organized approach to housing, which consists of a gradual improvement of the houses based on realistic standards and overall costs, generating income and employment with the physical and social infrastructure along the way. In a special issue of *Architectural Design* magazine in 1963, Turner wrote that the owner of a *barriada* house “*sees it as the architect sees his building in the delicate stages of its birth – not as a present mess and, for the uninitiated, an apparent chaos, but rather as the promise of things to come.*”

In 1957, Turner traveled to Peru to work as an advisor in the processes of the formation of the *barriadas* or shantytowns of self-built houses in Lima and Arequipa. He had studied at the Architectural Association in London, where he soon became interested in a vision of architecture and urbanism that included the relationship with its users. In synthesis, his approaches are the result of two influences. On the one hand, that of sociologist and town planner Patrick Geddes – particularly the book *Cities in Evolution* –, which, in the line of Lewis Mumford and, later, Jane Jacobs, proposed a holistic analysis of cities beyond the urban form, in its true social dimension, economic and geographical, as organisms with their own life in continuous evolution.

On the other hand, his affinity to the anarchist ideology that criticizes societies based on totalitarian and controlling heteronomous systems, centrally administered and dependent on hierarchical structures consuming large amounts of resources. In the specific field of housing, Turner blamed the simplifying attitude of the state that produced massively standardized solutions – mass housing –, socially and economically unsustainable due to its inability to recognize the infinite variety of personal and family situations in each specific context.

In his book *Freedom to Build, dweller control of the housing process*, Turner questions the quantitative criteria usually established to value a house. He proposed to analyze the value of a house for what it does instead of for its appearance. In other words, for its use-value and potential rather than for its material quality and exchange value. The value of a home, or rather the habitable environment, is its ability to respond to the person's life situation within the family and within the local community. The proposed parameters had to do with location, accessibility to basic services, livelihood, tenure regime and the possibility of transferability, the possibility of transformation or evolution, adaptation to spatial requirements and specific economic possibilities, safety, comfort, or privacy, all personal issues, dependent on local circumstances and resources varying in time (Turner, 1976). The reality of the residential place resides in its attributes as they are perceived and experienced, and not in its material forms or conditions.

Hence, it follows that, in general, the *housing problem* is erroneously treated in quantitative rather than qualitative terms, and this is counterproductive. The type of projects proposed with the idea to solve the housing problem do not respond adequately to the life situations of its future inhabitants and tend to aggravate social, economic, and political problems rather than solve them. According to Turner, the housing problem, unlike economic problems such as employment and the distribution of wealth, is a problem linked to the adequate use of the resources available for construction, and it is not solved by forcing all resources indiscriminately for the production of the maximum number of homes that meet modern standards (Turner & Fichter, 1972). Simply put, much more important than what the appearance of a dwelling is, is how it serves the owners' needs: does it put them where they want to be, does it keep their costs to a minimum? It was a choice between what he called 'the supportive shack' and 'the oppressive house.'

“When dwellers control the major decisions and are free to make their own contribution to the design, construction, or management of their housing, both the process and the environment produced stimulate individual and social wellbeing.”

- John F C Turner, *Freedom to Build*, 1972

3.2. The problem of housing

Studies that discussed the importance of sociocultural factors on housing design and the failure of present housing policy to meet users sociocultural needs have concluded the following (Sanoff, 2000):

- A house is not a thing that can be designed or built. It is the result of a housing process. The important act in this process is that of the user who lives there. The act of living there is what makes a house something special (Habraken, 1986).
- Users are far more accepting of what they have designed and built than if the design had been built by someone else.
- In most societies, a house is more than a physical structure. It has a social and cultural value, whose shape is often determined by cultural tradition. So, housing options need to be socially, economically, and culturally more appropriate than those generated by theories of housing development tied to fixed notions, static formulas, and ideological commitments rooted in Western industrial society.
- Because housing providers prioritize producing *units* to meet housing demands, there is an argument for the redefinition of housing problems as functions of mismatches between people’s socio-economic and cultural situations and their housing processes and products (Turner, 1976).

Turner proposed three essential functions that any accommodation must satisfy to become an external reality: shelter, security, and location. A house is not a house if it does not provide minimum protection against the hostility of the climate and people. If the shelter offers protection but does not guarantee ownership, it will be of little or no use. And if

the house does not allow access to a suitable environment like the connection to work, markets, schools, and the necessary equipment, or if they cannot be in the community to which they belong, the house will have no practical value (Turner, 1976).

In principle, these three functions are constant. They are equally valid for any geographical or cultural situation, although, of course, the forms that houses and dwellings take vary as much as climates and cultures. It is necessary to know how the different functions operate for each social sector. But to understand these variations, it is essential to see them in terms of the relationship between the person and the total environment (social, economic, and physical) in which they live.

For example, an upper-class executive will feel connected and “at home” within a large geographic area, even internationally. On the contrary, a worker in one of his factories might feel comfortable only in two or three locations. This difference will profoundly affect how the accommodations work and the shape of the environment of each individual. In order to have a proper social life and community security, the industrial worker must live at a distance from his work that allows him cheap public transport, he must live near markets, schools, etc., and to friends and family members. For the executive, chauffeur-driven car owner, residential proximity to work or friends is unnecessary, while proximity to markets or schools is a discomfort to avoid.

According to Turner, a centralized housing production system can hardly answer and manage these criteria, and he argued that these were more adequately covered in informal autonomous settlements than in housing provided by the state. Seeing how the poor were managing to house themselves and how resilience and innovation drove people to create homes on hillsides, for example, Turner took a controversial position. He argued that governments were wasting their time and that the poor were much better off building their own homes than letting the state look after them. As an advocate of self-determination, Turner believed that when people are in control of decisions about the design, construction, and management of their housing, the process and product will affect their social wellbeing (Sanoff, 2000).

However, he accepted the essential role of the state as facilitator and regulator of some essential resources such as land, service infrastructure, or financing. At the same time, he considered crucial the access and use of local and personal resources such as the

involvement of users, labor, local technology, the capacity for autonomous organization, the reuse of materials, the possibility of establishing communities, imagination, etc. In other words, all that the poor needed was assistance in deploying their resources in the ways that suited them best, not in the manner that served the government.

Many housing officials and experts oppose the argument that self-construction can be used in large-scale popular housing programs. They argue that most trials of self-construction techniques have been materially slow and administratively expensive. Therefore, especially planners and administrators criticize these methods. On the contrary, people who view this from a social point of view generally attach more importance to the way works are carried out and to non-material achievements - such as improving attitudes and interest in development.

Turner's experience and observations in Peru led him to the conclusion that there is really no conflict between truly economical and social values in this case. According to him, the root of the so-called conflict does not lie in the differences of opinion, but rather in the erroneous interpretation of the concept of self-construction and community development, and consequently, in the incorrect application of said concept.

Almost fifty years have passed since, and this problem is still relevant today, especially if we consider the severe problem of access to housing caused by the growth of the urban population. The informal settlements, which in many cases are growing faster than the planned sections, are generally densely populated, and over the years, have tended to develop into close-knit communities and their own fully functioning ecosystems. But the growing social inequalities, their mostly illegal status, and the absence of public services have also led, in many cases, to high crime rates and a general lack of security.

For example, Mumbai, India's largest city and the country's financial and commercial capital, is home to approximately 12 million inhabitants, of which 50 percent are slum dwellers (Sugranyes & Mathivet, 2010). In fact, this city is home to Dharavi, the largest slum in Southeast Asia. This settlement is often referred to as "a city within a city." From a fishing village in the 1960s, it is now a diverse slum of migrants with a vibrant informal economy of globalized exports. In *Urban Revolution*, Jeb Brugmann describes Dharavi as an "engine of urban poverty reduction" for various reasons: high density; low transportation costs (most workers in Dharavi also live there); high property usage, as

buildings are used 24 hours a day for housing and workshops. Moreover, manufacturers, suppliers, and retailers are next door to each other, and there is a strong migrant affiliation within micro-industries.

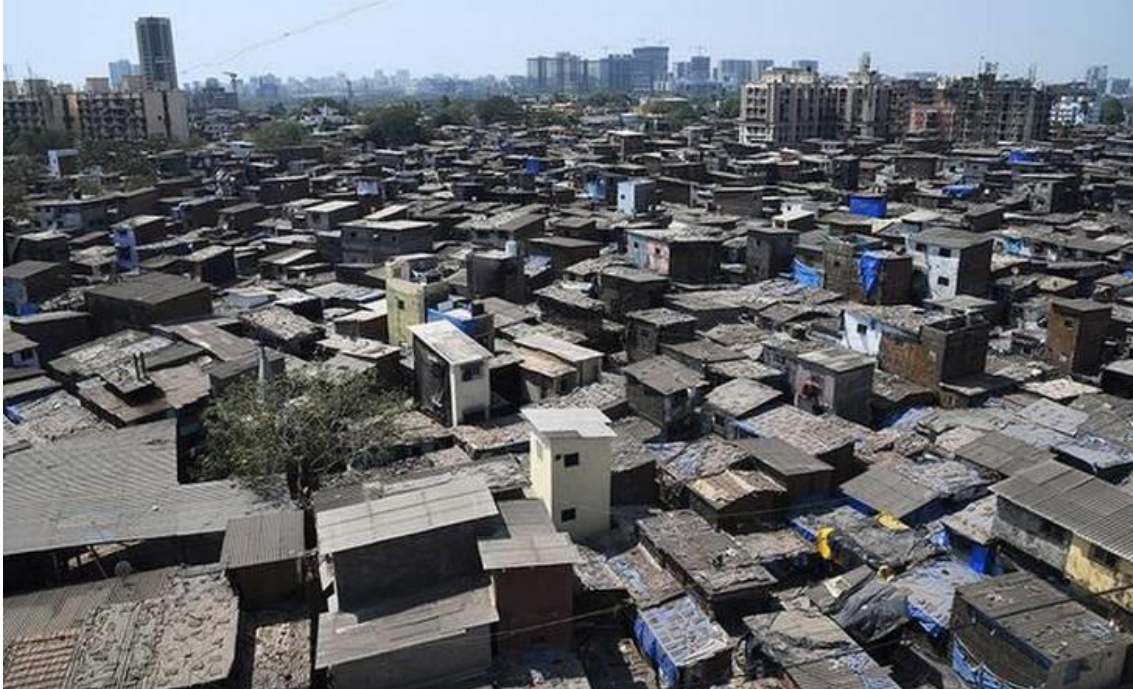


Figure 5. Densely populated: An aerial view of Dharavi. Source: Arunangsu Roy Chowdhury

It used to be outside the city limits, but as the formal city has expanded around it, Dharavi now sits on valuable land. As a result, there was a redevelopment project proposed by the government (The Dharavi Redevelopment Project, DRP), which is currently on hold. Sixty thousand families who are living in these slums would have faced evictions to either to the periphery of Mumbai or to alternative housing where they would be far from their means of livelihood (Smith C. E., 2011). Although slum dwellers make up more than half of Mumbai's population, they are often not recognized as formal inhabitants who contribute to the city but are instead thought of as transitory and of little value to the economy (Sugranyes & Mathivet, 2010).

However, this is hardly a problem only in developing countries. In London, for example, housing estates are being pulled down to make way for 'luxury' projects built by private developers. Much like in cities of Latin America or India, the poor are being pushed to the periphery, or, in some cases, out of the city altogether. Their settlements are considered as slums to be eradicated, instead of communities to be fully integrated into

the cities (Sugranyes & Mathivet, 2010). Anthropologist David Harvey has argued for “another type of human right, that of the *right to the city*” for all citizens, via new modes of urbanization that do not dispossess the poor when the land they have settled on increases in value. The right to the city is the right of everyone to create cities that meet human needs. All people should have equal rights to build the different types of cities that they want. It is not simply about the right to what already exists in the city; it is also the right to transform the city into something radically different (Sugranyes & Mathivet, 2010). In his seminal work “The Right to the City” French philosopher Henri Lefebvre, concluded that participation in decision-making regarding the space of the city and the ability to appropriate this space are critical components to achieving the right to the city. Contemporary activist designers address issues such as increased urbanization, informal economic and spatial systems, globalization, and the growing gap between rich and poor, often using them to generate strategies that achieve the right to the city. Through techniques rooted in the participatory design practices of the 1960s and 70s and appropriation, they create social infrastructures that provide access to the "right to the city" for the most disempowered and voiceless.

Governments must acknowledge the potential that citizens have to positively shape urban spaces. When supported by the municipal government, they can be drivers of community improvements and can shape urban space in a way that meets the needs of the most impoverished in the city. In the case of Mumbai or any major city, if they aim to become world-class cities, they must ensure the equal treatment of all of its citizens. The city belongs to slum dwellers just as much as it does to its rich inhabitants. Therefore, they have the right to adequate housing and participation in decision making. A world-class city must be inclusive, and thus it must enable the poor to continue claiming their right to the city (Sugranyes & Mathivet, 2010).

For these reasons, the early 1990s saw a change in political thinking. Governments came to accept the idea that illegal, improvised settlements should no longer be simply tolerated – or excluded altogether – but rather recognized as established fact and gradually incorporated into the larger urban context. Cities such as Rio de Janeiro and Sao Paolo, for example, began to experiment with ways to link favelas to their urban cores, while still preserving established social structures to the extent possible.

Favelas started to be treated not as outlaw territory but as useful pieces of the city. A new discourse started to emerge around informal settlements, which redefined them not as places of illegality but of resourcefulness. Rather than erasure, what they required was an enhancement. Rather than pushing the poor to the city outskirts, policymakers in São Paulo have devised a “compact city” strategy that builds support capacities and infrastructure, locates mixed-use housing closer to work opportunities, and increases social inclusion and diversity (Smith C. E., 2011).



Figure 6. Favela Paraisópolis next to a luxury complex. Source: Tuca Vieira

One vital starting point is extending infrastructure and basic services (electricity, sanitation, and other services that they had previously been denied or had to steal). It is also necessary to give the settlements permanent legal status so that their inhabitants enjoy the security of being able to stay in the structures they have built themselves. Certificates of tenure are essential because they make people feel secure enough. The fact that families are able to remain in their homes is also something critical to maintaining social cohesion. And more than that, it is necessary to design in some of the spatial qualities of urbanity. Given the explosive growth of such areas, however, improvement in living conditions will come only gradually at best. This long-term design vision, in direct collaboration

with citizens, reduced poverty and violence, and improved local capacity and environmental sustainability. (Smith C. E., 2011)

However, admitting that self-construction is part of the existing urban form of our cities is hard to accept yet nowadays. It is a phenomenon that continues to bother not only the authorities but civil society. While many still associate this phenomenon with ‘invasion’ and illegal occupation of land, or with poor neighborhoods mainly located on the periphery, many others perceive self-construction as an alternative to the housing problem: *the right to live*.

3.3. Top-down and bottom-up processes

Analyzing the history of housing policies for informal areas and the poor in the southern hemisphere, it is possible to identify two main ways of implementing them, depending on the level of involvement of the various civil society bodies (residents, neighborhood associations, non-governmental organizations): a modality that we could define top-down (centralized), and a modality that we could define bottom-up (participatory).

Citizens' participation in public decisions has been a rather fashionable concept for at least a couple of decades, which we are now used to conceiving as a fundamental element of public policies. This also applies to the specific field of housing policies in the southern countries of the planet. However, for a long time, the interventions of the main international organizations have not considered the participation of inhabitants and civil society as a structural and organic part of their functioning: also in the event that the recipients have been asked to make a significant contribution to the success of the intervention - for example in terms of self-construction of the house -, the design of the interventions has always provided for their little or no involvement (Paone, 2016).

This applies, for example, to all projects promoted during the assisted self-construction season, which are centrally managed by experts and consultants from international agencies and governments:

World Bank programs are usually designed not only outside the community, but often also outside the country where they are applied. Due to the rigidity that distinguishes

them, the participation of the communities is usually minimal in the formulation phase, while it is higher in the application phase [...].

However, even in this case, the implementation is still organized in a top-down manner and involves the involvement of a large number of external workers and consultants for the supervision of the community.

Despite this, some pioneering experiences of participation and involvement of local communities in urban and housing policies have been practiced in several countries since the 1950s. However, it is especially during the enabling-to-do season that participation is recognized as a key element for the success of slum policies.

Of course, saying “participation” means everything and nothing: there are different forms of possible participation, different subjects that can be mobilized, different objectives of the participatory process. The different possible facets of the local society involvement processes should be analyzed in detail, because the success or failure of the participatory process is often linked to them; despite this, in general terms it can still be stated that the participation raised considerable enthusiasm and great expectations. For example, participation is considered by UN-Habitat to be "one of the best practices in the field of home improvement in developing countries". Indeed, there have been numerous experiences acclaimed as successful in various countries. However, participatory practices in the informal city are not without criticism, which have highlighted several limitations and dangers. Participation in itself is not a guarantee of the effectiveness of the intervention; in many cases, then, it turns out to be a mere cosmetic element, which does not involve any real transfer of power, but serves only as a rhetorical apparatus or as a means for the decompression of social conflict and the legitimization of the political system (Paone, 2016). Overall, the words of Alan Gilbert are convincing:

The only valid conclusion that can be drawn is that of a moderate enthusiasm for community participation, and always to be commensurate with the specific local situation. Community participation is beneficial and can help improve conditions in low-income communities. However, because it can also be used to their disadvantage, the poor know that it is often best to limit one's involvement.

I'm not changing the conditions; I'm accepting the conditions. So, you might use words like "pragmatic." But it's also arrogant to an extent because we're so confident in what we're doing that we don't need to change the conditions, and we'll still prove to everybody that things can be better. And if we succeed in that, there will be no reason for not changing things here and right now.

- Alejandro Aravena on seeing himself as an idealist or a pragmatist

3.4. New models for building: idealism vs. pragmatism

Unlike other professions, architecture is not subject to an ethical mandate that requires its professionals to dedicate a part of their work in favor of the community, such as pro bono work in legal activity. In addition, architecture in itself is considered one of the lowest-paid professions despite having substantial legal responsibility, so it is common for architects to avoid clients who do not have the means to pay for services or projects that consume increased hours of uncompensated work. These clients are often the poor and disenfranchised who rarely, if ever, receive their full share of benefits from professional services in a capitalist society. "The architectural profession overall is much more interested in expressive forms built of expensive materials than it is in helping the underserved." This concern was voiced by American civil rights leader Whitney Young at the 1968 National Convention of the American Institute of Architects, condemning the profession for its "complete irrelevance in addressing the social ills of our cities."

However, the past almost two decades or so has seen a growing number of architects take a fresh look at the economics of building for the underserved. Some rising architects start or join firms that allocate resources to pro bono work (the 1-percent solution) or form hybrid practices in which traditional commissions support low-pay projects (Weber, 2013).

In Latin America, specifically, a new generation of architects (or a 'generation of optimists' as coined by Justin McGuirk in his book *Radical Cities*) started to emerge,

returning a sense of hope to the idea that the architect can make a meaningful difference in the cities of the developing world.

Analyzing the case of Aravena, his works show a particular revival of ideas extensively discussed in the sixties and seventies in the debate about popular participation in the production of habitat, the role of the architects in these processes, and, more concretely, the ideas of “self-construction” housing in Latin America. Some of the most notorious projects of Elemental, for example, explicitly reinterpret experiences from this period. In particular, the direct association is with the Lima Experimental Housing Project (or Proyecto Experimental de Vivienda de Lima, PREVI), which Aravena refers to as a “fundamental moment in the history of social housing.”

In 1968, the president of Peru, Fernando Belaúnde, initiated PREVI with the support of the United Nations that set out to solve the growing problem of Lima’s *barriadas*. This project was a different kind of proposal, opting not for heavy artillery of the mega block but a more intelligent scheme of individual houses that residents could expand as their families grew, which is something that an apartment in a tower block does not allow to do.

PREVI’s relevance might be, mainly, because it was experimental, and because internationally renowned architects such as the English James Stirling, the Dutch Aldo van Eyck, the Japanese Metabolists, Charles Correa from India, and Christopher Alexander from the United States, among many others, were willing to participate. For urban planning, however, the PREVI result does not appear to be as relevant. From a quantitative point of view, of course, their contribution is not significant. Of the original stipulated number of houses - which was already modest in relation to the scale of the most usual public interventions to counter the housing deficit - only less than a third could be built. PREVI also failed to accomplish its mission and become a model for future projects. It is also objected that the final recipients were not the poorest of Lima's lower classes, but the highest of the low-income spectrum. And, fundamentally, it is criticized that the constructed and transformed result does not present any considerable improvement with respect to many other partially or totally self-built housing complexes in Lima.

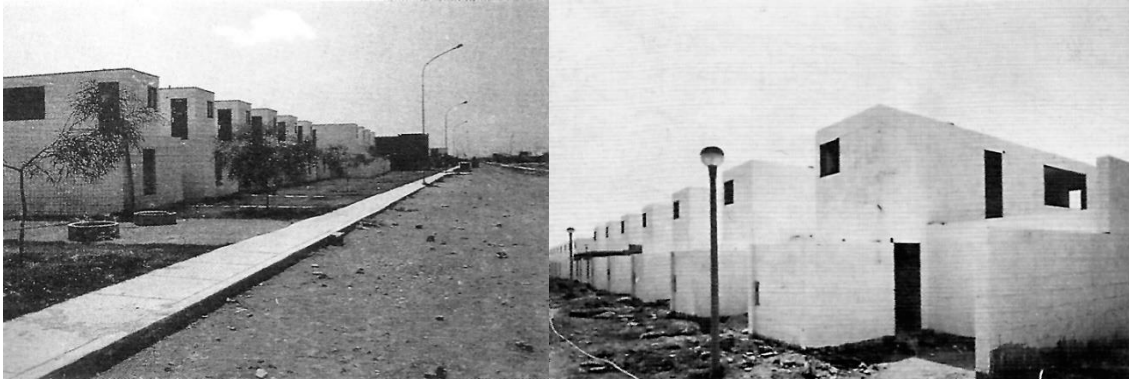


Figure 7. Casa PREVI 1 was designed by the Japanese Metabolist group. Source: Universidad de Lima

Both in PREVI and in the works of Elemental, the houses were designed to be completed by their users through "self-construction" processes. However, Elemental took it a step further. They redefined the perception of such a model of work from being necessarily pro bono or charity to being a profitable enterprise. With their design for the Quinta Monroy Housing, the architects were asked to accommodate 100 families that had been occupying illegally half a hectare in the center of the city (Aravena, 2014). The challenge was higher because the budget per house was under USD10.000 – the subsidy the Chilean government was offering for each family participating in the project, including the lot. Despite the fact that the cost of the land was three times higher than what social housing can pay for it, it was decided that these families would be relocated within the same terrain and not expelled to the outskirts of the city. They decided to include the families in the process of understanding the constraints and started a participatory design process. Detached houses, 30 families could be accommodated. Rowhouses, 60 families. The only way to accommodate all of them was by building in height, a solution completely opposed by the residents because they could not make the tiny apartments expand. So, they had to innovate.

A middle-class family lives reasonably well in around 80 square meters, but when there is no money, what the market does is to reduce the size of the house to 40 square meters (Aravena, 2014). After much experimentation, they decided this could only be achieved by building just half of each house, identifying the parts of a house that the families would not be able to do individually, leaving the other half to be finished by the new occupants. Elemental's solution is surely a valuable compromise: half a house is better than no house. It is true that this is deeply pragmatic. Instead of challenging the politics of a subsidy that

is inadequate, they accepted it and designed a creative solution. The genius of Quinta Monroy was the way it reframed the question: not what kind of bad house to build, but how much of a good one?



Figure 8. Quinta Monroy. Source: Cristobal Palma / Estudio Palma



Figure 9. Concept of incremental housing. Source: ELEMENTAL

Also, by making it necessary for residents to share structural elements, the growth of houses would aim to cultivate social cohesion as well. Its greatest value, though, lies in the way Elemental did not design a one-off solution but a replicable system. They have successfully translated this business model to many other housing projects in Chile (a notable example is the Constitución housing project in response to Chile's 2010 earthquake), Mexico, Guatemala, and Peru. And these systems designed for extreme scarcity are what the urban peripheries of the world need, not nice houses.

Having said that, Quinta Monroy has obvious drawbacks. While it is clever housing, it is questionable urbanism. It might work on a city block in Iquique but extended to the scale of the slums, it would be a dispiriting monoculture. In that sense, it is very different from PREVI. It allows for growth but does not provide a diverse streetscape, with a mixture of scales and housing types. Thus, it suffers from the same problem that plagues so many of the modernist housing estates: as if the only way to produce housing in quantity is to abandon the principles of good city-making.

Yet, the result is pragmatic. Though a descendant of PREVI, it lacks the idealism. And while it is completely unfair to compare the humble Quinta Monroy with one of the most ambitious housing projects of the 1960s, the comparison is rather eloquent on the situation in which architects engaged in social housing now operate. That idealistic moment in Belaúnde's Peru is long gone, and pragmatism is the order of the day.

In the past century, Latin American architecture was mainly viewed as an exciting embrace of modernity, where individual genius and style were celebrated. But today, it has far more useful lessons to impart about strategy rather than style. No other region of the world has demonstrated the kind of collective effort and imagination in addressing the chronic symptoms of rapid, unplanned urbanization (McGuirk, 2014). Whether we are talking about tackling housing, crime, transport, segregation, or the lack of political participation, Latin America has set precedents that could have a transformative effect in other parts of the developing and, indeed, the developed world.

'Never doubt that a small group of thoughtful, committed people can change the world. Indeed, it is the only thing that ever has.'

-Margaret Mead

3.5. Hope and ingenuity: a new movement

So, returning to the questions of is it enough? *How can architects use their training for the greater good?*

The image of the object has always been the center of discussion in architecture. Postmodernists, deconstructivists, and the architects of the last decades have been concerned mainly, if not exclusively, with the aesthetic form of the objects they produce. While it is true that architecture is a visual art, it also has to meet functional requirements that often oppose the desire to exist as "art for art's sake." However, that dominance of the image has always been present and has led to an over-determined and even detrimental architecture.

Overdetermined, because it leads to results with little or nothing to do with the way most people live their lives. In other words, an architecture that is distant and seen as a profession for the privileged. And detrimental because the insistence on the primacy of the aesthetic has led the architect to a position of the self-absorbed artist, busily pursuing a tortured vision of art, concerned only with the creation of his individual and autonomous work (Pitera & Wilkins, 2015). This type of model of making architecture is very attractive to the individual designer but is ultimately unsustainable in practice. Architects, who are only dedicated to pursuing aesthetic objectives, are ignoring all the other aspects that concern architecture, which are equal or even more important.

If, as architects, we conceive an architecture that is "beautiful" but does not benefit people, or that cannot be used or enjoyed by people, it becomes meaningless architecture. Architecture, by definition, is based on serving society. Because we exist within a social fabric and we coexist with other people, we build. The need to house, host, cover needs,

communicate, etc., are some of the reasons for making architecture, and without society, it would not have been created in the first place.

Thus, the limits of architecture have been expanded and diversified; the architect's work is no longer just to build, but to “produce”: mediate, exhibit, intervene, investigate, explain, etc. If we take modernism, for example, it was organized top-down, it dwelt in the idea of the individual, individualism, the dream of the anonymous individual in a metropolis (Lepik & Potrč, 2013).

The modern movement was a driving force in the development of the built environment in the 20th century, and to date, it continues to shape many cities in developing countries. The movement was characterized by the search for universal solutions, which could be adapted for everyone, anywhere, solutions where the fusion of function, utility, and technology was expected to be enough to obtain a high-quality architecture that would inevitably improve people's lives. Although the conditions under which these beliefs were formed are no longer a reality, in many cities, this adherence to the types of buildings, formal styles, material palettes, etc., inherited from modern architecture is still maintained. However, as the realities of cities are no longer the same, neither should be the design protocols. Now is the time to think about architecture from a local perspective.

To this day, the vast majority of architectural production processes are organized around the physical building as an end product, and not the people. Unsurprisingly, the quality of architectural works is valued, judged, and awarded by architecture professionals themselves, and not by their users or inhabitants. Little to no importance is given to the opinion of the users, thus perpetuating a status quo that continues the disconnect between architecture and the people whose lives it aims to improve. In fact, the discrepancies between the opinions of users and architects are often considerable and even diametrically opposed.

However, cities are made up of communities, and architecture is slowly addressing them. No matter what type of project or its scale, it can be a community garden, for example, but the main thing is that architecture becomes a tool to change the culture of living of the community and, gradually, the city. But the word community has many connotations, so it can be scary, depending on what we mean by it. There is the side of the community that is a force with the potential to change the city from below, but there is also the

uncomfortable and scary side that, for example, comes to mind in gated communities. Today, the two fastest-growing urban forms are gated communities and informal cities. Both phenomena with deficiencies and needs that architecture can try to solve.

For example, if we talk about community needs, meeting spaces are something that most cities lack today. The informal city thrives in community space, and the closed community is about private space; that is, neither of these two phenomena has much to do with quality open public spaces (Lepik & Potrč, 2013). The informal city thrives on community space, and the gated community is about private space. Trying to create meeting spaces is something that citizens and communities would benefit the most from. But to carry out these types of projects, it is important to include residents from the beginning. This allows them to take over the project once the architect's work is done and make it live.

This inclusion of the community generates several positive consequences. One of them is to place citizens in the process of recovering the city, giving them a voice and vote. On the other hand, carrying out this type of project in stressed and needy environments becomes an example for others, society in general, and can thus become a catalyst for actions. It's not just about solving your own problem. In addition, for the community itself, there is an educational aspect that arises from this participation, as people learn from the process, instead of just receiving a finished object.

As showcased in the projects in the book “Moderators of Change: Architecture That Helps,” by directly including users in the design and building process and working with new economic models (Lepik, et al., 2011), architects have realized projects that have had profound, positive effects with just a minimum investment of money and materials. Producing better living environments does not necessarily mean providing new buildings but that even small architectural interventions can make big and impactful differences to those concerned. In this way, architects can become more like moderators of change. They have the expertise and design but lack the knowledge of the problems on-site. So, they first have to learn about the problems, and then they can react to these problems with their designs. To interact with the community in terms of really allowing them to participate in the design (Lepik & Potrč, 2013).

To enable an architecture that is genuinely focused on improving the experiences and interactions of people, they need to be given a voice at the beginning of the design process and throughout its entirety, rather than post factum. This is not a common process. Most architects act like top-down designers and decision-makers, with the community being asked only at the last moment – which can lead to undesired results. With the inclusion of the community from very early on the process, then the citizens will have proposals. Even when these end up not being used, the community still has the feeling of being involved in the process of decision-making.

Aravena echoes this view, acknowledging that before considering design at all, architects should engage in questions “that at first glance don’t seem to be of an architectural nature” and only then translate the answers into a design proposal. This approach subscribes to the belief that “architecture is not a goal in itself but a way to improve people’s quality of life,” and this requires a thorough understanding of the social, cultural, and economic backgrounds of users and an appreciation of their needs and aspirations.

In the Latin American context, where the scarcity of financial resources is a crucial part of a project, innovative solutions are required for sourcing the materials and workforce needed, and architects have taken upon themselves to provide an architecture of quality, even under the most unfortunate conditions. They have assumed the task to help solve social issues through their work in a way that can be described as realistic but full of hope and ingenuity. But this cannot be achieved without the aid of the communities.

CHAPTER IV

About participation and architecture

“Public participation should be an indispensable element in human settlements, especially in planning strategies and in their formulation, implementation, and management; it should influence all levels of government in the decision-making process to further the political and economic growth of human settlements.”

- Delegate communiqué, United Nations¹²

The word 'participation' is much overused these days. Participatory design, participatory democracy, etc. Just as the word 'sustainability,' 'participation' has been so overused to the point that its meaning is nearly lost. But even so, sustainability is crucial for the survival of our cities, and so is participation, so we need to rediscover what it means (Lepik & Potrč, 2013).

Participation is understood as a political, ideological, and democratic position. As a right of people to decide, in an informed way, and through collective reflection processes, on the direction of their habitat. There are many ways to approach the term of participation from architecture. Participatory architecture relies on the management and relationship between the architect and the community, and it can be said that there are *three* management models associated with this relationship. The first one is the *architect-leader* relationship in which the architect unilaterally decides all aspects of the architecture and may or may not present them to the community for consideration (García, 2012). For Andres Lepik (2013), this is the kind of “fake” participation where the city planner gives two options to a community: either A or B. The second management model is opposite to the previous one and consists of an *architect-subordinate* relationship. In this process, decisions regarding architectural design are made primarily by the specific community or

¹² Habitat 1 conference, Vancouver, 1976

client. The architect becomes only a builder of ideas that often come from existing references, whether they are buildings or books or magazines (*prêt-à-porter* architecture).

But true participation cannot be a relationship of mutually exclusive opposites; it is actually found in the balance between these two models of participation. The third model of interaction is that of the *architect-interpreter*. In this relationship model, the architect and the community dialogue and mutually agree on all aspects of architectural design (García, 2012). This true participation means listening to the community first, before starting a plan at all. The second step is involving the community in the design process. And the third step is involving the communities in the construction process (Lepik & Potrč, 2013). The aim is for technical knowledge to complement and not to replace popular knowledge. There is a limit to what the architect can know and do, and that is why people's involvement is necessary. When people expand their participation in the process, they have elements to control the final decision. Participatory techniques have the purpose of integrating technical knowledge with popular knowledge; the intention is to generate a common area of work and learning (Enet, 2015).

The rise in importance of participation in the architecture of recent years can, perhaps, be analyzed and understood from different perspectives (García, 2012):

- From an *anthropological* point of view, there is an intrinsic relationship between social organization and the physical space, and of the house as a physical space and community as social space. In his book *Tristes Trópicos* (2006), French anthropologist Claude Lévi-Strauss studied the Bororó community in Brazil and discovered a complex network of relationships between the families determined from their relationship with the occupied territory. When the community was forced to move from its original settlement in Matogrosso and forced to relocate in rationally-arranged houses built with modern materials at a distant location, the old social, commercial, and spiritual ties between the families were altered and their culture erased forever.
- From a *sociological* point of view, the term *micro utopias* has recently emerged. This sociological trend is explained by the philosopher Francisco Jarauta as a change in the scale of man's thinking, from the great utopian visions and ideas of a future for the whole society (macro-scale), towards the conception of small ideals that can be

achieved for small communities (micro-scale). This concept currently promotes what could be considered as a revival of participatory architecture in the contemporary world. Works of participatory architecture found in the Global South can be identified with this concept of micro utopias since they are usually small-scale projects designed for specific communities, which will be showcased as case studies later in this chapter.

- From an *architectural* point of view, with the end of the Modern Movement¹³, its effectiveness in providing quality social habitat was put into question. The case of the Pruitt Igoe housing complex in Missouri, analyzed by American architect and theorist Charles Jencks, perfectly illustrated this problem. From being a complex recognized by critics as an example of modern architecture, it soon became, after only a few years of use, one of the main centers of insecurity and crime in the city. This made society and architects, in general, reconsider the relationship between architectural rationality and sociocultural sensitivity of the habitat and its users.

4.1. History of the concept: Participation in the 20th century

The emergence and official recognition of participatory architecture in the professional environment can be traced back to the crisis of the Modern Movement in the sixties and seventies of the 20th century.

The end of the CIAM (Congrès Internationaux d'Architecture Moderne) in the 1959 congress in Otterlo, Netherlands, was marked with the formation and triumph of Team 10. In this congress, the discussions reflected new values and approaches to modern town planning that had been gradually gaining momentum among the new and younger members of CIAM since the first post-war congress in Bridgwater, England, in 1947. Team 10 was committed to distancing themselves from CIAM methods and values. This brought together a new generation of architects in order to conceive a new type of architecture better suited to local social and environmental conditions and where the man "is not reduced to an abstract figure." Although the composition of the inner circle of

¹³ Charles Jencks declared the death of the modern movement on July 15th, 1972 at 3:32 p.m. with the demolition of the Pruitt-Igoe apartment complex which was one of the first of many demolitions of modern architecture buildings.

Team 10 changed to some degree as time passed, its core group consisted of Jaap Bakema, Georges Candilis, Aldo van Eyck, Alison and Peter Smithson, Shadrach Woods, and, at a later stage, Giancarlo De Carlo (Pedret, n.d.).

De Carlo, who was introduced to the CIAM by Ernesto Rogers, presented his project for a housing complex in Matera, Italy, in which all the principles of the Modern Movement were ignored at the expense of specific attention to the geographical, social, and climatic context of the region. The rustic structure with an arcade and hipped roof in raw concrete and masonry built by local craftsmen was an attempt to re-acquire historical consciousness (Editors, 2014). De Carlo saw architecture as a consensus-based activity: his designs were generated as an expression of the forces that operate in a given context, including human, physical, cultural, and historical forces. By his own experience, he noticed that the inhabitants interpreted (used) buildings in a completely unexpected way than intended in the design, and in a subversive way with respect to the dictates of rational functionalism. For example, loggias designed for a family living room would be full of clothes hanging, and people would be in front of their doors, with deck chairs and stools, to participate as actors and spectators in the theater of themselves and the street (Samassa, 2014).

He was amazed by the way the inhabitants used collective places, spaces of socialization very differently to how the architect forecasts its use. He came to the conclusion that architects authoritatively imposed false representations of housing needs on users who expressed, with their unconscious infringements, their real needs in life. Thus he began to accept the idea that the inhabitants inevitably participate (whether the architect wants it or not) in the spatial definition of architecture with the use they make of it. And this participation is entirely legitimate since it corresponds to a movement of anthropological appropriation that makes architecture come alive. After all, an architectural work has no sense if dissociated from use. In fact, its quality is defined by the way in which it is used, or can be used. As an empty vessel, the architecture cannot represent itself or establish purposeful relations with nature and history. Its purpose lies in its 'fullness' in the relationship with those for whom it was designed (De Carlo, 2005). We might as well try to involve end-users right away, right from the design stage, putting the architect's principle of technical authority in the background.

4.1.1. Criticism of the Modern Movement

In 1970 Giancarlo De Carlo published in *Parametro* magazine an article called *Il pubblico dell'architettura*, where the author wondered to what or to whom was architecture directed. He reflected on the consequences of taking users into account to a greater or lesser extent when projecting. He considered that the architecture of the time had been at the service of power, as money, materials, land, and authority are necessary to build. A field built on a network of economic and social class interests that excluded everything in economic, social, cultural, and aesthetic terms that was not shared by the class in power.

Two years later, in 1972, De Carlo gave a conference entitled *The Participative Architecture* at the University of Melbourne, in which he showed not only his position on the architecture for the future, but also his opinion towards the architecture of the moment. According to him, the architecture of the time had turned its back on the people. Despite great intellectual expansion, the Modern Movement was also a period of great simplification in the interpretation of human and social behavior. The architecture was measured solely for its aesthetic values, represented in publications that cut out the architectural objects of the concrete aspects of daily life (Farias, 2019), seeming to deliberately want to omit the user presence

*"The procedure was always the same: analyze all the behaviors that can be manifested during the development of a given activity, eliminate all those that are considered superfluous and dimension the physical space in which the activity must be carried out, dimensioning it according to the behaviors that are considered necessary and therefore not disposable."*¹⁴

This procedure leads to a reversal of the roles of *object* and *subject* within the design: the user is no longer the subject since now the project is not aimed at him, but to a specific use. In turn, the object designed is no longer an architectural element, rather it becomes an idealized type of individual, which is perfectly adapted to the space. For De Carlo, the typification of the user should not be part of the architectural process, since it eliminates real systems of complex relationships. In addition, this design procedure leads to the

¹⁴ De Carlo, Giancarlo, *L'architettura della partecipazione*, Editorial Quodlibet, Macerata, 2013, p. 49.

spaces created to exclusively house one type of activity. This specialization both the spaces and the activities, imposing itself between a task performed and its environment.

These two factors - the typification of the user and space specialization - led to Modern movement to a progressive loss of contact with the context in which it wanted act. By distancing itself from the real context of society and its environmental needs, the elite attitude of the Modern Movement just accentuated the superfluity of architecture. Its credibility disappeared when it took an elite position on the side of the client rather than on the side of the user. De Carlo proposed to rethink what is architecture's public, the architects themselves, the clients that commission the buildings, or, perhaps, all the people who use the architecture (De Carlo, 2005).

Despite having lost its credibility, the world needs architecture. As long as humans exist in a physical space, the organization of their spaces is a fundamental need and concrete way of self-representation. Besides, the main *raison d'être* of human beings is their destiny of making conscious transformations of their environment. According to De Carlo, *architecture is too important to be left to architects*, but a change in the practice of architecture and in the behavioral patterns of architects is necessary. The gap between the architects and end-users must be eliminated so that *building* and *using* become part of the same process (De Carlo, 2005).

As a critic of the modern project for architecture, De Carlo defended the inclusion of users in the architectural process. To accomplish this, architects must start by identifying the users' needs, and that can only be done by changing their approach to planning. It is important not to plan *for* the users, but *with* them. When planning *for*, architects tend to assume facts about how the spaces will be used. Even with consultation, this only influences the conception of the plan but not its subsequent use. Thus, unexpectedly resulting in rejection. However, when planning *with* people, there is always an open space for dialogue and confrontation that keeps renewing the planning and adapting it to ever-changing demands. The former act of planning remains authoritarian and repressive, while the latter becomes liberating and democratic, stimulating continuous participation (De Carlo, 2005).

4.1.2. Participation as a process

Participation has the power to transform architectural planning from an authoritarian act into a process, opposed to the linear one of traditional architecture, that would follow the order of detecting a problem, proposing a solution, and later evaluating. In the traditional three-step process, for the definition of the problem, De Carlo finds that the procedures used are inaccurate and unsystematic. The aspects that influence cost, technique, or aesthetics are taken over the wishes of future users. In the second stage, the proposal of the solution, the architectural operation tends to present a single object and no alternatives. The *use* has no influence on the object being offered; thus, the last stage, of evaluation, is considered by De Carlo as practically non-existent. Without an interest in the use of the architectural object, this becomes more of a piece of art, and, as such, it cannot be rationally evaluated, and also, it cannot be subjected to analysis between what was proposed and its real capabilities (Farias, 2019).

In an architecture of participation, the traditional architectural operation undergoes profound changes. De Carlo proposed a nonlinear scheme that would begin with the discovery of the users' needs, and the reposition of the role of the architect as a formulator of formal and organizational hypotheses, before entering the phase of use. This new role of the architect implies a clear dialogic articulation of ideas and practices forged with all involved in the architectural operation resulting in, not a finished final object, but a permanent process of exchanges that should bring the constructed space closer to the yearnings and needs of future users (Farias, 2019).

For defining the problem, there should be first a discussion with future users about the objectives and resources available, to resolve contradictions or openly explore the conflict. The solution would no longer be a definite proposal, but hypotheses to be improved by the scrutiny and creativity of the future users. In this perspective, the task of the designer would be to extract solutions from the continuous confrontation with future users. Therefore, the assessment of the design would be based on the various ways in which the product is used and the level of satisfaction it offers. Allowing continuous adaptations, the object produced in the participation architecture would succeed when it reached the self-representation of its users (Farias, 2019).

After all, once the relationship between the client and architect ends, things shift to the relationship between the architectural object and those who use it. Then is when the architectural object suffers transformations made by the users. It is adapted to their practical and creative needs. These changes are often dismissed as manifestations of ‘disorder’ instead of manifestations of creative participation. However, it is through use and through these modifications by the users that architecture becomes itself, integrating itself with nature and producing history (De Carlo, 2005).

In 1976, De Carlo published an article in *Parametro* magazine entitled *Altri appunti sulla partecipazione (con riferimento to a settore dell’architettura dove sembrerebbe più ovvia)*. This article was divided into six points. In one of them, he exposed two factors which are usually considered as obstacles for the application of participatory processes: the scale of the problems to be dealt with and the time required to do so. That is, when a problem is delayed excessively or when its duration makes its solution more difficult by applying participation mechanisms, for example when users are very numerous, or when such users are susceptible to change throughout the process. To resolve this, De Carlo suggested the decentralization of processes and their total intelligibility, so that the large scale can be reached by the integration of multiple operations at the microscale, and that the long term be a chain of multiple short-term operations (Farias, 2019).

On another point, De Carlo reevaluated the phases to the design process and concluded on twelve that require decision making: identification of the needs to organize the space, purpose of the proposal, location, allocation of resources, definition of the organizational scheme, formalization of the scheme, implementation of technological solutions, application of use, project management, technical obsolescence, recycling and change of use, and physical obsolescence. These phases, although not all appear in all projects, are interconnected with the participation of all the individuals involved in the project, giving rise to a network of interrelated phases through which the project progresses until it reaches physical obsolescence.

For De Carlo, architecture based on participation, and architecture in general, should not be considered as a production of objects, but as a generation of processes:

“These processes, in their superstructural essence, are directed towards the production of material causes that will contribute to changing the social structure.”¹⁵

De Carlo also described the process that commonly regulated the construction process of social housing, in which quantity is prioritized over quality, giving rise to suburban sites lacking infrastructure and facilities, and monotonous organizations based on parameters that apply typifications to which future users will have to fully adapt. Through participation, it is possible to break this mechanism, starting by banishing preconceived images from the minds of future users (who must be identified from the beginning of the project).

Finally, he concluded by stating that the little or lack of growth of participatory architecture was due to the fear of certain entities such as the public administration, professional associations, or the academia itself of losing their benefits in the face of openness and flexibility that participation it implies.

4.1.3. Other proponents of participation

Other architects of the time also promoted user participation in their own practice. In 1962, Dutch architect **N.John Habraken** published the book *Supports: an alternative to mass housing*. At that time, Europe was going through a major housing shortage because many buildings had been destroyed during the World War II. Habraken’s text is a critique of the repetitive, massive, homogeneous constructions built in the postwar era to alleviate this shortage. These constructions followed the functionalist Modernist principles of CIAM, and until then had been widely accepted in the Netherlands as the best means of housing a rapidly growing population.

His theoretical contributions are in the field of user participation in mass housing, the integration of users and residents into the design process. According to him, the main problem of residential architecture is that it is built for people, who do not have the opportunity to make basic decisions about their living environment. Against the idea of a

¹⁵ *Further notes on participation with reference to a sector or architecture where it would seem obvious.* Parametro 53, 1977, p. 53.

house as a consumer, repetitive and finished product, Habraken proposed the concept of house as a process. A dwelling is understood as the relationship of the dweller with his environment, a natural relation based on the acts of our daily lives and it is deeply rooted in the foundations of our existence. He identified the natural relation between dweller and dwelling, and how this primary force shapes our built environment. User participation, moreover appropriation, modification or intervention on the dwelling, is essential to ensure the welfare and care of the house.

Habraken proposed two levels of control in a collective housing building; the act of building and the act of dwelling-, separating what remains, the collective part controlled by the community; – which depends strictly of the regulations, structure, and installations -, the supports or base building, from the infills or separable units, which can be transformable and adapted to suit the user, like the interior divisions, closets or kitchens and bathrooms, etc. Habraken's support and infill separation, is part of a broader reflection on our cities and territory. Our built environment is a live organism, a never-ending changing process driven by rules and principles difficult to control and predict, which serves to our needs thanks only to its continuous adaptation and transformation.

Another important Dutch architect of the time was **Herman Hertzberger** who believed, much in the line of Habraken, that the architect's role was not to provide a complete solution, but to provide a spatial framework to be filled in by the users. He edited the journal *Forum* from 1959-63, together with Aldo van Eyck and Jaap Bakker (both members of Team 10) where they put forward their ideas for a new architecture focusing upon the social interaction that architecture could offer.

Hertzberger was one of the first architects that produced architectural solutions with user participation. In his early works, his buildings were composed of individual elements reflecting the scale of the user, which were then combined to create zones and spaces for interaction, the whole being articulated as a collection of parts. Hertzberger tried to charge form and space with the potential to host more uses than is strictly expected of them. This meant creating multipurpose forms, which were able to adopt different roles as people's needs changed. It was about listening and carefully observing the spontaneous and unforeseen uses that arise when people interpret the irregularities of the city or the elements that make it up in an unexpected way. This implies understanding the program

requested by the client as a starting point to be completed with a whole series of possible uses, which enrich the user's interaction with the architecture. The versatility allows the user to interpret the space based on their specific wishes and demands. The user then becomes a spectator-actor.

Hertzberger was aware of the need for users to establish links with space, prepares its architecture to accommodate them and even motivates them to adapt it to their personality. Architecture then functions as something permanent, as a structure (“competence”) with the capacity to contain objects and by extension the inhabitants, and the people and their belongings suppose the provisional occupation (“performance”) of that structure, which will change with time. The details present in many of his works continually showed the desire that it be transformed upon the arrival of the inhabitant. Every corner, every surface, is presented as an opportunity to serve as an intermediary between what is built and the user.

4.2. Community participation

In more recent years, participation has acquired a socially-engaged connotation and has been almost exclusively used when talking about communities. The term community participation is usually used in reference to the fields of a) development and b) housing. Community participation in development is associated with the idea of people involving themselves, to a greater or lesser degree, in organizations indirectly or directly concerned with the decision-making about, and implementation of, development (Marschall, 1998). It does not necessarily apply only to architecture as community organizing helps people to take direct political action and demand changes and improvements of any kind in their communities. Whereas with respect to housing, community participation can be interpreted in a narrow literal sense as simply a self-help home building, which can be an oppressive concept.

Community participation generates fair decision-making by giving people a voice and influence in collective decisions. In the past, community engagement programs consisted of outside professionals who made key decisions, controlled budgets and took risks.

Today, community building, by contrast, sees resident groups playing a more central role in both planning and implementation. The idea is that residents take control of their destiny and that of their communities.

Thus, community participation has been defined in many contradictory ways. For example, community participation, as seen through colonial (especially British) policy, which consisted of getting communities to take responsibility for their own development (Turner, 1976). Or the definition based on the concept of a transformation of people's consciousness, which leads to a process of self-actualization and empowerment. However, all definitions can ultimately be classified into two categories: definitions that contain an element of empowerment and definitions that do not, or, in other words, definitions referring to the development of communities or to development in communities (Marschall, 1998).

The notions of popular participation and community participation are interrelated. The first deals with general issues of social development and the creation of opportunities for the participation of people in the political, economic, and social life of a nation, while the second connotes the direct participation of ordinary people in local affairs (Smith M. K., 1999,2006).



Figure 10. Community participation in the design process. Source: ELEMENTAL

Residents who play a central role in decision-making are building their own social capital by owning the process as they move away from dependency. Many case experiences suggest that resident-driven initiatives are more likely to be successful because residents are more aware of the realities of their own environments than outside professionals, as only they have a clear idea of what will and will not work. The term empowerment also plays a crucial factor here, this is what makes development sustainable, it implies a shift of control towards the people who actually do the core work (Marschall, 1998).

4.3. Objectives of participatory design

Participatory design is not the end in itself, nor its physical-spatial result, but rather how this design process can generate conditions for organizational strengthening and social transformation. It does not conclude at the design level, but the design is the first step towards a subsequent process of appropriation and community roots towards a project. Through a participatory approach to architectural design, the most obvious advantage is the achievement of a sense of ownership and pride (Marschall, 1998).

Making architecture from participation is more democratic than autocratic. The architect develops and expands his sensitivity to non-conventional fields of professional training, such as the study of the culture, the rites, and customs of the communities. The socio-cultural values of the community are, then, assumed as effective contributions to the architectural project. This broadening of the spectrum of analysis makes it possible for the architect to establish solid ties with future users during the conceptualization and design process, which partly guarantees a high degree of acceptance and appropriation of the architectural work by the community (García, 2012). The extent to which the community identifies with the structure determines the likelihood that the building will be used, maintained, or protected from vandalism in the future (Marschall, 1998).

Therefore, the success of participatory design lies in its ability to be appropriated and personalized to the uses and needs of its users and that it adapts in the best way to their culture and way of life. Participatory design helps promote conditions so that the excluded popular sectors can define a home, neighborhood, and city that expresses their culture,

their way of life, and, in turn, allows them to strengthen social and political change (Enet, 2015). Involving the community in all stages of design and construction is the way towards an architecture of self-expression, where the building becomes a material expression of a joint community effort (Marschall, 1998). From this perspective, a good or a bad design could be defined by the degree of appropriation, the degree of satisfaction of those who inhabit it, and by its degree of sustainable articulation to the urban, territorial and environmental system. The strictly architectural field was expanded to social, socio-cultural, productive, environmental, etc. (Enet, 2015). The building, then, is no longer seen as the end result or product, but as a process of empowerment, which becomes the basis for sustainable development (Marschall, 1998).

This approach to architecture has attracted international attention in recent years, shedding light on the role of the discipline and questioning the established role of the architect. It is a unique "architectural movement" that seeks to be part of society and produce change by addressing real issues. Another characteristic that these projects have in common is that they are possible to realize in areas that have either no building codes at all or nobody who enforces them. Therefore, there is more freedom for architects to start building by themselves. If they had had to ask for permission, some of these projects would probably never have happened (Lepik & Potrč, 2013). Maybe that is why this specific movement of architecture emerges from locations in the Global South since most cities of the developed countries sometimes suffer from over-regulation. However, this is a subject that should be reevaluated in order to make architecture more accessible for the most vulnerable communities.

4.3.1. Types of participation

There are different types of gradients of participation. The effective participation that seeks the self-management and autonomy of communities (rural or urban) has the following phases: 1. participatory diagnosis; 2. participatory design; 3. strategic planning; 4. self-production; 5. use and maintenance; and, 6. participatory evaluation.

Including people in a phase or stage of the project (usually participatory design) does not promote real and horizontal participation as there is segregation from other fundamental moments in the integral decision-making process. Generally, people who will be affected by design and planning decisions should be involved in the process of making those decisions. Hence, the architectural project is not designed to merely provide a facility for a specified purpose, but to draw as many members of the community as possible and invite them to participate according to their own interest and ability (Marschall, 1998). The professional's job is no longer to produce finished and unchangeable solutions but to develop solutions from a continuous dialogue with those who will use their work.

How should people be involved?

Participation can happen at different levels, and the methods for that vary accordingly. For example, methods such as community workshops and charrettes¹⁶ allow for diverse interests and promote human resource development. They may afford the opportunity for participants to have control over decisions. Public hearings, on the other hand, may provide information but may not promote community support.

We can identify the following levels of participation according to how much space for involvement the community has, from very little or no participation at all to very active participation:

1. *Informing.* The inhabitants are informed about the processes, projects, and decisions already taken. There is no opportunity to participate in needs identification or diagnosis, project design, strategic planning, self-production, and evaluation. Only people are contemplated for the use of the space.
2. *Consulting.* The residents are consulted about projects or social processes to be carried out that have been previously designed. The consultation can be called "false participation" because there is no possibility of being part of the strategies, designs, ideas, and planning.

¹⁶ It is a type of participatory planning process that assembles an interdisciplinary team with members of the community to create a design and implementation plan for a specific area.

3. *Counseling.* In order to conciliate, some proposals from the residents are accepted so that they serve as a sign of the good intentions of those who have the power to make decisions, but without allowing them to be real participants in them.
4. *Participation through delegation.* It is characterized by delegating decision-making to a group of people or a work team. In this sense, there is a limitation since participation is not open to all residents; however, some communities consider that it is the ideal scheme for uses and customs.
5. *Participation through co-management.* This type of participation is effective because collective mechanisms for decision-making are established. For this, each community decides the way in which these dialogues, decision-making spaces, and participatory workshops are generated. It starts with respecting existing community structures. There is a collaboration with different groups and actors.
6. *Participation through self-management.* The inhabitants participate actively, assuming their rights and responsibilities collectively in the design, planning, implementation, and evaluation of projects. There is comprehensive support and collaboration with different actors and organized groups to achieve common objectives.

The participation process: workshops

The participatory design process can be better organized through workshops that are based on the idea that creative making comes from the synthesis of creative listening and creative thinking. The workshops are not to produce specific responses but to generate dialogue that potentially reveals hidden intentions, agendas, desires, and needs. This dialogue is generated from activities that encourage each participant to express themselves freely. The task of the workshops is to listen and find connections and relationships and analyze them in order to reach new possibilities.

Participation must be active and meaningful, so the process must effectively involve its participants. For this, the workshops should include a limited number of people (between 15 to 20) so that it is an easier number to handle and listen to. If more people are involved, each workshop should be divided into smaller groups. Also, the activities should be varied

to suit different types of people. This allows people with different levels of “public speaking” comfort to have a chance to have their voices heard.

The workshops should be spaces open to the exchange of knowledge between all those involved, including the leaders and architects. Lastly, there must be honesty in the workshop process. Sincerity brings trust, and trust can help discover information that may have never be revealed in more traditional processes.



Figure 11. Community participatory workshop, during the architectural design phase. Source: (Al Borde, 2018)

4.3.2. Beneficial and negative aspects of participation

The main purpose of participation is to involve people in design decision-making processes and, as a result, increase their trust and confidence in organizations, making it more likely that they will accept decisions and plans and work within the systems when seeking solutions to problems.

Four essential purposes of participation can be identified (Abdirahman, 2018):

1. Participation is inherently good.

2. It is a source of wisdom and information about local conditions, needs, and attitudes, and thus improves the effectiveness of decision-making.
3. It is an inclusive and pluralistic approach by which fundamental human needs are fulfilled, and user values reflected.
4. It is a means of defending the interests of groups of people and of individuals, and a tool for satisfying their needs that are often ignored and dominated by large organizations, institutions, and their inflated bureaucracies.

Experiences in the participation process show that the main source of user satisfaction is not the degree to which their needs have been met but the feeling of having influenced the decisions. That is why these designers value both process and product. They seek to demystify the expert practice and, at the same time, learn to value local knowledge. Participatory design is not just about the product itself but about providing citizens of local communities with the knowledge, skills, and attitudes necessary to shape their own futures. The greatest potential for an architectural project to generate community empowerment lies in its ability to build capacity through skills transfer on a variety of levels. The training and teaching of basic architectural knowledge, organizational, managerial, and technical skills take place in different ways (Marschall, 1998).

A very clear example in which this can become a vehicle for empowerment is through the generation of employment. Hiring local contractors and labor provides an opportunity for the training of unskilled local labor on-site, and supports the local economy by utilizing locally available materials and technology, or by developing and teaching new techniques. This might create opportunities for future employment after completion of the project. There are examples of small-scale businesses, such as brick or concrete block-making, which were initiated for the construction of a community facility and sustained for some time thereafter (Marschall, 1998).

Unquestionably, this is an optimistic vision of how participation can work, and, although participation is widely understood as necessary in the various design processes, its implementation has been postponed. Since professionals and experts in housing are trained to know better, it is assumed that it is not necessary or even inefficient to include the community. Therefore, many developers and politicians avoid true participatory planning because it is time-consuming. Politicians in democratic countries think about

election terms. If they start a building project, they want to cut the ribbon before the next elections (Lepik & Potrč, 2013).

Since community participation is about human relationships, the problems that arise are mostly human in nature, such as mistrust, disrespect, emotional drainage, lack of education, lack of maintenance and vandalism, incompetent labor, mishandling of finances, amongst others. However, community participation can become more effective, successful, and rewarding by learning from the examples, and by communicating and explaining all democratic procedures clearly to all parties involved from the beginning. After all, community participation does not intend to be the solution to deep-seated socio-economic and political conditions, which are often at the root of these problems, but it can make a significant contribution.

4.3.3. Community participation and architectural education

As explained throughout this document, participatory design thrives in the constant exchange of knowledge between architects and the community. Both learn from each other through these experiences, so logically, this creates the perfect environment for education. Noted educational philosopher John Dewey believed that the transfer of knowledge between two people is self-corrective, allowing them to gain valid knowledge through experience, to learn from success and failure in a non-authoritarian, non-hierarchical manner. This opposes the assumption of some that participation might pose a threat to the professionals' role as experts since it shifts the decision control to the users. It is imperative to remember that professionals have expertise that is different from that of the user. Users have expertise in identifying problems, not necessarily solving problems. Collaboration is effective when all participants in the process share their areas of expertise with each other. (Lepik & Potrč, 2013)

Common to most architects engaged in participatory architecture is that they tend to include their students in the projects. In this way, they acquire knowledge that goes beyond what they can learn in the classroom. Normally, the curriculum in universities is focused on the needs of the population living in formal parts of urban areas and not of the

majority who do not. However, participatory architecture allows them to have a more critical vision of the real conditions of the social, cultural, and historical environment in which we live. Hence, the introduction of courses dealing directly with participatory architecture and planning, and focus on the transformation and evolution of traditional architecture should be deemed necessary (Marschall, 1998).



Figure 12. Students learning from the architects of RAMA Estudio (Ecuador) how to use tools prior to construction. Source: Nicolás Valencia

There is a growing gap between architectural practice and education. Architecture, perhaps, no longer has the relevance it used to have as “the highest artistic creation of man.” Little by little, it has diminished in relevance until it has come to be seen commercially, in the form of simple solutions to organize the function, provide shelter, or facilitate a capitalist return. When university protests exploded in Italy in the early 1960s, the architecture faculties found themselves immediately in the vanguard. Students of architecture were the first to demand a radical renewal of organizational structures and teaching methods. However, these were not the only issues, but a more fundamental question about the purpose of their training and social role was in play. The question of rediscovering the role of the architect. They sought a different way of doing architecture for the construction of a different world: a not classist, not racist, not violent, not repressive, not alienating, not specializing, not totalizing world. The premises that fed the revolt never materialized and shaded off into a state of confusion that removed the faculty

of architecture from its avant-garde position to a frustrating and inconclusive place (De Carlo, 2005). And this is still reflected in today's architecture schools.

The separation between architectural practice and education has two roots:

1. The concern of architecture schools oriented only to theory and not to the application in the professional world of what has been learned, and,
2. The focus on commercial issues but irrelevant to the needs of the public, perhaps as a result of professional architects seeking profit through mediocre jobs.

Although many agree that participation should be part of architectural education, academia has been in part responsible for its postponement in daily practice, mainly because participation annuls its traditional teaching and research schemes (Farias, 2019). Many architects who work in the field of participatory architecture agree that the approach in architectural education should be less theoretical and design-oriented in favor of a more practical, building-oriented one (Marschall, 1998), it is agreed upon that architecture should be taught as a social and cultural product, not an individualistic one, which is what currently happens in architecture schools, especially when it comes to design as a subject. There is a misperception that community-based projects do not require much design experience or are not very demanding in this area, so schools usually dismiss them to focus on other types of projects.

However, while art with a capital "A" or design for the sake of design attracts many young people, idealism provides another important reason for their calling. As a group, students are often interested in helping people obtain a better quality of life, whether in housing or in public spaces. Many architects suggest that a basic knowledge of anthropology, sociology, history, and art would facilitate better interaction with client communities and a better comprehension of culturally specific needs and aspirations (Marschall, 1998).

As I explained in the previous chapter, it is young architects who have promoted new ways of doing architecture motivated by their idealism. Graduation, however, can be a wake-up call because training might leave them ill-prepared for the practice. The professional world offers very few opportunities to translate that idealism into an actual business. *Where, we wonder, can we exercise our skills on behalf of others?* (Ivy, 2005)

Cases of participatory architecture in the Global South

4.4. Sub-Saharan Africa: Burkina Faso

Burkina Faso is a landlocked country in West Africa; its history and architecture are tied to its landscape, which consists of grassy savannas and sparse forests and a climate that is subject to radical variations, from extreme drought to severe flooding (Baldwin, 2019). The country ranks among the world's poorest countries. Nearly half of the population live below the poverty level, more than two-thirds living in rural villages, and only fifteen percent of the country is electrified. Its economy primarily depends on agriculture, and subsidies, and foreign credits, which represent nearly seventy percent of the country's income.

Burkina Faso also has one of the lowest levels of literacy in the world, with a literacy rate of 25.3 percent (United Nations Development Programme, 2007). Less than a third of its adult population is able to read and write. The government has made efforts to improve the education system, and, by law, education is free. However, the government does not have adequate resources to provide universal free primary education. To a great extent, the building of schools and teachers' housing is frequently left to the communities, and it depends on foreign aid, so it occurs sporadically. Also, due to the low number of schools, especially in rural areas, many children get turned down once the class limit has been reached. Another obstacle for access to education is the fact that children are put to work in the agricultural fields, which does not allow them to go to school regularly, if at all, in order to ensure the survival of the poorest village communities.

4.4.1. Case Study: Francis Kéré

Architecture is a collective endeavor.

- Francis Kéré

Diébédo Francis Kéré was born in 1965 in Gando, a village of some 2,500 inhabitants in Burkina Faso and 200 kilometers from the capital, Ouagadougou. Gando does not have

electricity, indoor plumbing, or even a paved street, and it is made of farmsteads occupied by extended families, and scattered across the savanna and surrounded by agricultural land. The farmsteads are circular and built in a traditional manner with mud bricks and straw roofs.

In his childhood, Kéré had the rare opportunity to go to school and traveled nearly 40 kilometers to the next village in order to do so at a school with poor lighting and ventilation because there were no schools in Gando. And despite the difficulties, he was the only child of his generation that had access to education. In 1978, he began an apprenticeship as a carpenter, then in 1985 received a scholarship to be trained as a teacher of woodworking in Germany. Subsequently, he finished his secondary education in Berlin and, later, he studied architecture at Berlin's Technische Universität (TU) from 1995 to 2004. During his architecture studies, Kéré set up an organization called School Building Blocks for Gando, with the goal of building a new school for his hometown, since the only one in existence was in disrepair, for which he had the full support and input of the villagers.

The school, which was Kéré's graduation project, was built in 2001 with the help of the community. For this project, he was awarded the prestigious Aga Khan Award for Architecture (2004). In the jury citation, besides the architectural values of the project, its social impact was highlighted for the fact that the whole local community was involved in the building process and because of the transfer of European experiences and knowledge into the African context. His aim with this project was to use what he had learned in Germany about ecological building techniques to provide a model for future schools that were both sustainable and more suited to local needs.

Kéré has since become a distinguished contemporary architect thanks to his pioneering of a communal approach to design and his commitment to sustainable materials as well as modes of construction (Kéré Architecture, 2020). His projects demonstrate a pragmatic use of vernacular materials and modern engineering methods, a sensitivity to the physical and cultural environments, and care for sustainability and social impact of construction with the innovative use of locally available resources (clay, wood, and community participation).

- Gando Primary School

My experience of growing up in a remote desert village has instilled a strong awareness of the social, sustainable, and cultural implications of design. I believe that architecture has the power to surprise, unite, and inspire all while mediating important aspects such as community, ecology, and economy.

- Francis Kéré

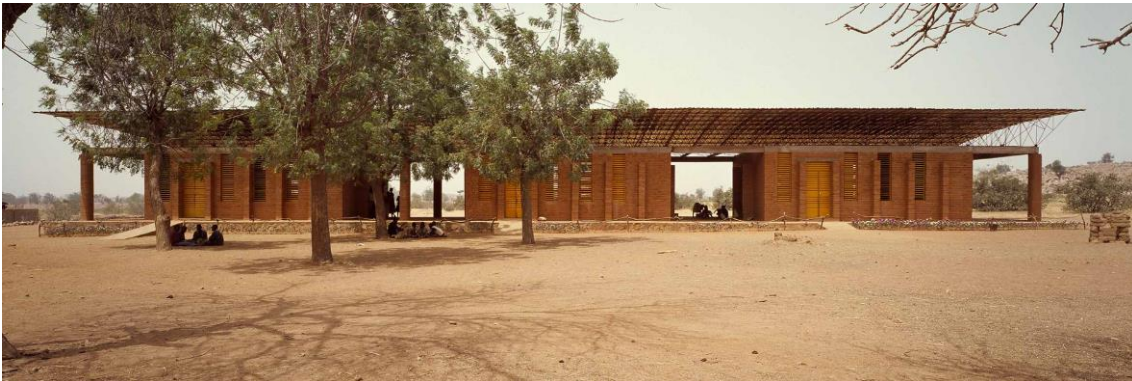


Figure 13. Gando Primary School. Source: (Kéré Architecture, 2020)

The design for the Primary School evolved from a lengthy list of parameters including cost, climate, resource availability, and construction feasibility. The success of the project relied on both embracing and negating these constraints (Kéré Architecture, 2020). The school consists of three detached rectangular classrooms placed in a row, with outdoor roofed spaces that can be used for classes. The buildings have relatively high ceilings, which give a generous feel to the interiors.

The walls were built with clay and cement hybrid. Clay is the traditional material that is used to build the organically formed village compounds in Burkina Faso. However, it is considered a temporary material and is associated with poorness by the local population. Traditionally, the bricks are formed by hand in wood frames and dried. Due to the scarcity of wood in the country, baked clay bricks are not common, and when used raw, they are washed away under the heavy rains (Lepik & Beygo, 2016). These traditional clay-building techniques were modified and modernized in order to create a more structurally

robust construction in the form of bricks and to increase the life span of the finished product. The clay bricks have the added advantage of being easy to produce, and also provide thermal protection against the hot climate. Despite their durability, however, the walls must still be protected from damaging rains with a large overhanging tin roof. To help to maintain a pleasant temperature inside, the tin roof was pulled away from the interior, and a perforated clay ceiling with ample ventilation was introduced (Kéré Architecture, 2020). The ceiling serves as both insulation and an acoustic barrier below the metal roof. The roof also projects beyond the walls below, keeping both rain and the midday sun away from the masonry.

One of the innovations he made to the traditional building techniques was the introduction of a simple machine, powered by nothing but two people, that makes more stable, uniform bricks by forming them in a mold and then pressing them. Another one was the addition of a small amount of cement to the adobe (roughly six percent) to make the bricks stronger and more uniform. The result is straighter walls and a stronger surface that better weather the elements (Lepik, 2010). Particularly in climates with extreme temperatures, a pleasant side effect of building with clay is temperature regulation within the building, as the clay presents a passive thermal mass and itself has low thermal conductivity.

It was important that the school's structural elements could all be assembled by hand by workers on-site, both because it was not possible to bring heavy machinery to the village and because the training of workers was a critical component of the project. This exemplifies how the architect focuses not only on materials and building strategies but also on the development of local craftsmanship and tradition.

Despite years of intensive use, the school shows little sign of aging. Compared to others in the region, some of more recent date, the Gando model stands out as a striking example of how building techniques that are sustainable, as well as appropriate to local conditions, can produce architecture of far superior quality (Lepik, 2010). Project Gando, which evolved step by step from the Gando primary school, is a growing collection of buildings that serve the community. From houses for the teachers, a library, and a women's center, and on to the secondary school, there exists all within about a kilometer radius a complex of buildings, completed or under construction, which has exerted a profound influence beyond Gando itself.

The involvement of the local population was crucial for the success of the project. The sense of community is strong in rural Burkina Faso, where, traditionally, members of a whole village community work together to build and repair their homes. In keeping with this cultural practice, low-tech and sustainable techniques were developed and improved so that everyone in Gando could participate in the process (Kéré Architecture, 2020).



Figure 14. Gando School Library. Construction process. Source: (Kéré Architecture, 2020)

From the beginning, the community was involved in the design decisions and the construction process. Professional workers employed on site instructed the community in the construction techniques, and they offered labor to the best of their capabilities. Some of the workers who trained in the production of clay bricks and the construction of the school have since found work as skilled laborers at other building sites (Lepik & Beygo, 2016), generating long-lasting educational and economic benefits for the community.

Thus, the Primary School became a landmark of community pride and collectivity, and, most importantly, a catalyst for further development in Gando. As the collective knowledge of construction began to spread and inspire around, new cultural and educational projects have since been introduced (Kéré Architecture, 2020). This way, the school represents a multiple of social, cultural, economic, and ecological aspects, not only as an architectural product, but also as an autonomous learning, training, and production process. This serves to help with the empowerment and development of the community. Besides, this participative aspect strengthened the solidarity among the community, enabled them to have a sense of ownership of the school, ensuring its social and economic sustainability (Lepik & Beygo, 2016).



Figure 15. Gando Primary School. Classroom interiors. Source: (Kéré Architecture, 2020)

This thread has run through his work ever since, resulting in architecture that is continually innovative, responsive, adaptable, and tied to the surrounding context. Kéré's structures emanate an efficient simplicity yet never feel sparse or austere. Instead, they are full of light and welcoming. His architecture maintains a connection with his background and draws from it continually. Rather than simply importing or imposing Western technology and architecture, it is adaptation, transformation, and collective interpretation that are successively reflected in his buildings.

His philosophy of providing more with less fosters innovation and resourcefulness in our practice, using local materials, local knowledge, and local technologies to create holistic and sustainable design solutions. As emphasized throughout this document, architecture can be a vehicle for collective expression and empowerment and can open the way for social change, and this is demonstrated by Kéré's works.

His buildings unite social relevance and involvement with innovative design approaches and the highest aesthetic standards. They are "radically simple." Radical because they give pride of place to human values like responsibility and respect that have long been pushed aside in architectural practice. And simple, because they are a direct reaction to the conditions of their local environments (Lepik & Beygo, 2016).

4.5. Latin America: Ecuador

In recent years, Ecuadorian architecture has been producing interesting projects based on concepts of participatory community design and the conscious use of local resources. A generation of young architects has been leading this transformation from an economically oriented architecture to one that seeks social change. This type of practice works from the idea of designing from the local, from scarcity, from doing “more with less,” thus continuing the architectural philosophy of others previously described in this document, such as Aravena or Kéré.

But this change did not happen suddenly. In 1999, Ecuador had to face one of its worst economic crises. Thousands of Ecuadorians abruptly had all of their lives’ savings “frozen,” and later reduced to a fifth of their value when converted into US dollars. Sudden bankruptcies, suicides, and mass exodus were the main consequences of this crisis (Durán, 2015). Nearly two and a half million people emigrated from the country in the following two years, leaving broken families. This massive emigration of Ecuadorians to countries such as Spain, the United States, and Italy had an impact on hundreds of foreign currency transfers from abroad. For years, migrants injected billions of dollars into Ecuador, becoming the second-largest source of income after oil.

Therefore, this financial crisis is seen as a turning point for the country and for Ecuadorian architecture as well. It is often referred to as a starting point for our contemporary architecture since it is led by a generation of young architects that grew up in the midst and immediate aftermath of this crisis. A generation that, in addition to awareness, had the necessary tools and technology at their disposal to change paradigms (Durán, 2015).

The most creative teams in Ecuador could be considered as laboratories of young people with new methodologies, new social roles, and new ways of designing in the search for unconventional solutions. Their works showcase enormous sensitivity and coherence to real needs, memory, and context. Their interventions are often minimal with optimization of resources, as a result of the dialogue between art, the sustainable, and the local. From a design organization perspective, these young architects often associate in collectives

that work with volunteer systems derived from the traditional “*minga*¹⁷,” a form of production based on collaboration and reciprocity, of indigenous Andean origin, that is called primarily to build.

A thread of ingenuity, and even hope, runs throughout their projects. They display a new understanding of the way the profession interacts with society and with resources. Many of their works are of rehabilitation/extension in order to work with what is already available. Working with what is at hand inevitably brings us back to the vernacular architecture and its materials: adobe, cane, toquilla straw, wood, brick, bamboo, etc. Their interest in the materials and construction techniques of vernacular architectures, both Andean, tropical and coastal, translates into a neo-traditionalism that seeks to revive, almost literally, the ancestral forms and ways of building (Durán, 2015). They follow processes that seek to reveal, rather than deny, the potential of what exists, often neglected, or even despised on a large scale.

As in many other parts of the world, modern building materials are still preferred since there is an existing stigma developed towards vernacular materials as materials for the “poor.” In fact, in Ecuador, walls of adobe, plastic, cane, or corrugated iron are official indicators of poverty (Klaufus, 2012). Labeling constructions with these materials as “poor” can keep their inhabitants trapped in marginalization, so they are usually avoided by the formal sector. However, the advantages of using these materials are many. They are versatile and relatively easier to work with because they do not require heavy machinery, and especially because they are locally available, which makes them a more beneficial option in terms of costs, sustainability, and climate adaptability (Durán, 2015).

However, the need for recovering lost materials and techniques has arisen strongly. These architecture collectives are aiming for the re-discovery of textures and materials.

¹⁷ *Minka* in Quechua, the indigenous language in the Andes. It is an ancient tradition of community or collective work for the purpose of social utility. Its meaning derives from the knowledge that the aborigines had that by doing shared work for the common good, they do it faster and better.

4.5.1. Case Study: Al Borde Arquitectos

One of the emerging architectural firms in Ecuador is Al Borde Arquitectos, a group founded in 2007 in Quito. Al Borde aims to turn scarcity into an aesthetic and socially empowering asset. Their design and decision-making process relies on the involvement of the community in all phases of planning and construction. They believe that the success of an architectural project depends on the later autonomy of its users. They do not function as an ONG or do charity work; their work with communities usually starts by joining initiatives that are already in progress but need architectural assistance. Thus, the initiative must originate from the community; in fact, one of Al Borde's conditions for their intervention is the initial mutual agreement that the community is involved and interested enough to have an active participation all throughout the project.

In order to optimize material resources, their projects are shaped by vernacular practices and by the continuous investigation and experimentation with construction techniques and materials. Usually, they work with small construction budgets where materiality and functionality gain meaning, so they take advantage of natural or upcycled materials available on-site. In the highlands, their preferred materials are clay blocks, with different shapes, tapial (rammed earth), and wood, as per the traditional construction in that region. In the coastal region, they primarily use bamboo for main structures and walls because it is lightweight, resistant to earthquakes, and climate-appropriate.

The strength of their constructions lies in their design ingenuity to unite objective architectural responses to subjective perceptions of the user, resulting in hybrid construction systems that combine the traditional with the contemporary. They are also dedicated to education and often include students in the construction of real projects integrating the academy with the practice. They are part of ENOBRA, a platform that proposes to unite professional practice and architectural education by creating productive and collaborative learning spaces in a real context (ENOBRA, 2020). Al Borde has given conferences, workshops, and exhibited their work in various countries around the world. Al Borde has received numerous awards and recognitions, and in 2016 they were part of the official selection of the Venice Biennale "Reporting From The Front" curated by Aravena (Al Borde, 2019).

- **Post-Earthquake Prototype – Rural Dwelling**

On April 16, 2016, Ecuador was struck by a 7.8 magnitude earthquake, which caused widespread damage. Its epicenter was located near the northern province of Manabí, in the coastal region. The human toll of this disaster was registered as 668 deaths, 6 274 people with severe injuries, and more than 230,000 wounded. Overall, more than one million people were directly or indirectly affected by the earthquake. Approximately 35,000 homes were categorized as destroyed or damaged, and 140,000 people were left with inadequate housing (IFRC, 2016).

Later that year, in October, the United Nations Conference on Housing and Sustainable Urban Development (Habitat III) would be held in Quito, and Al Borde had been commissioned the German Pavilion. This pavilion was intended to be reused for a social purpose once the conference was over. The idea was to reuse all the material for prototypes of housing Al Borde had been working on for the victims of the earthquake. The prototype would help cover a housing deficit, especially in rural areas. Its structure is earthquake-resistant and can be prefabricated and assembled without the need for specialized machinery or workforce (Santibañez, 2018).



Figure 16. Post-Earthquake Prototype – Rural Dwelling / AL BORDE + El Sindicato Arquitectura. Source: JAG Studio

The house was implanted in Los Horconcos, Manabí, one of the most affected provinces. However, it is a modulated prototype, so it can be replicated and adapted to the conditions of different site locations (materials and technologies used in the envelopes and facades can vary). It can also grow (in one or two floors) as needed by its users with the possibility of self-build extensions. The prototype allows adjusting the construction to different phases of an emergency. The entire primary structure of a single module can be built in seven days, with 8 to 10 people. Walls, doors, partitions, and windows can be made with local materials and technologies by local labor.

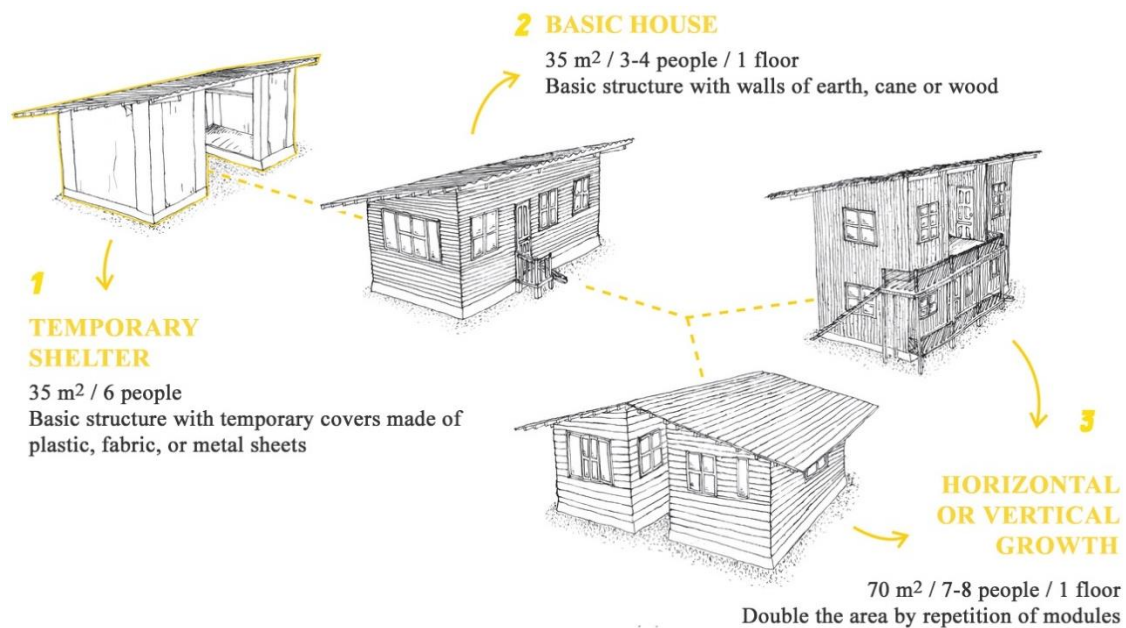


Figure 17. Post-Earthquake Prototype. Personalization phase. Source: (Al Borde, 2018). Modified by the Author.

The design was developed alongside El Sindicato Arquitectura, another architecture collective from Quito, following a model for architecture based on collaboration and experimentation. The house was built for an elderly couple in two months, with a team of two construction masters from the area and two assistants with no experience in construction, in *mingas* with the users' family and friends, and a workshop organized by ENOBRA (Santibañez, 2018). The initial module has three bedrooms; the extensions house the bathroom, kitchen, outside balcony, and living and dining room. For the walls, they experimented with bamboo plastered with cement, and bahareque¹⁸ plastered with earth, also earth paint that gives aesthetic uniformity to the whole house.

¹⁸ Ancient construction system that uses interwoven wooden or bamboo sticks, covered by clay.

- **Guadurnal's Lunchroom**

The concept of total reuse of the German pavilion also interested the Mexican institute Infonavit¹⁹, which proposed Al Borde to reuse their pavilion as well for a social purpose. This pavilion was made of two intertwined naves that had the archetypal shape of a house. These naves were separated to generate two areas, which allowed enough space for the interior to function as classrooms, dining room, workshop, greenhouse, etc. In order to decide who the beneficiary of the structure would be, they searched for a community with an ongoing project, for which this equipment will serve to strengthen its action. This to ensure community participation in the process, ownership of the project, and guarantees its permanence over time.



Figure 18. Infonavit pavilion (left) and transformation concept (right). Source: (Taller General, 2018)

After the April 2016 earthquake, *Actuemos Ecuador* was created, a civil organization of architects and professionals from different branches that sought to support the affected population in an organized and coordinated manner with government entities. A farmers' union called UOCE (Unión de Organizaciones de Campesinos de Esmeraldas) approach Actuemos Ecuador to ask for help for certain communities. A team led by the collective *Taller General* was in charge of giving technical assistance to a community called Guadurnal. They worked on structural reinforcement of the houses built out of an intensive self-construction process that originated after the earthquake; they all presented problems in their foundations (Taller General, 2018).

Taller General was helping to solve pathologies detected in their constructions with solutions that could be easily applicable and replicable. The community was trained in a

¹⁹ Instituto del Fondo Nacional de la Vivienda para los Trabajadores (Infonavit)

foundation system using recycling tires, and the technology was assimilated very well and quickly. This activity strengthened the ties between them and opened the field to develop new projects (Taller General, 2018). An alliance was formed between Al Borde and Taller General. The first idea for the project was to convert the pavilion into two classrooms, but while this option was being worked on, government aid arrived, and a prefabricated PVC warehouse with two classrooms was installed (Santibañez, 2018). Since this need was solved, the next problem was to replace a makeshift lunchroom for 60 school children.



Figure 19. Guadurnal's Lunchroom. Source: JAG Studio

Several participatory workshops were organized. The first workshop allowed the architects to recognize common objectives, understand the history of the community, their sense of belonging, their organization, and their interest in contributing to the school. It was concluded that the community would provide the labor for the construction of the project, and in the following workshops, the architectural project was socialized through diagrams, models, and images. Design decisions were strengthened, according to its users, the climate, the type of soil where the project is located, local materials, and the importance of the water factor (Taller General, 2018).

Through the participatory workshops, the community shared that one of the recurrent problems they experienced was the flooding of the terrains during periods of heavy rain every winter. The rivers overflow an average of 3 times a year; the historical record of water rise is 2 meters. Therefore, it was decided to elevate the project and use the space underneath as a shaded meeting place (Santibañez, 2018). In addition, a rainwater collection system was implemented since the wells, from which the community gets water, become contaminated when the area is flooded.

By their own initiative and means, the community decided to give a cement coating to the cane walls. The urban artist and graphic designer David Sur, who was part of the team that provided post-earthquake technical assistance to the community, was commissioned to create a mural for the facades (Taller General, 2018). The mural tells the story of this whole process, thus becoming a symbol of pride for the community.



Figure 20. Guadurnal's Lunchroom. Mural painting. Source: Florencia Sobrero

The architects of Al Borde, El Sindicato, Taller General, and Actuemos Ecuador are part of the generation that is leading contemporary Ecuadorian architecture towards social change and sustainability.

4.6. South Asia: India

Unlike the previous cases explained throughout this document, this case study is set in an urban context. The proposal of low-income housing or social projects through participatory methods are more common in rural areas where there are fewer obstacles in terms of construction policies, or there is, simply, more room for development. Another likely scenario, especially as of recent years, is that of architectural and urban post-disaster reconstruction, where cities often need to be rebuilt, from housing construction, infrastructure, and other facilities. This has called for major collaborative actions involving architects, urban planners, and other professionals with the community.

However, when the case is in a highly dense and consolidated urban area like in the context of the informal city, *how can participatory architecture be implemented in such conditions?* As explained in the last chapter, Aravena's incremental housing projects, such as the Quintal Monroy or Villa Verde, were thought of with a specific community-client in mind, but the houses were not designed from the ones they already lived in but from zero. In fact, one of their drawbacks is that they are clever housing but questionable urbanism that might work on a city block but not necessarily extended to the scale of informal settlements.

These settlements have a consolidated organic geometry with a diverse streetscape, a mixture of scales and housing types, that does not fit into the stereotyped image of what the urban fabric ought to resemble — neat, smooth, rectangular, modular, and sterile. However, the organic geometry and growth of the slums are associated with the illegal act of squatting and lawlessness (Salingaros, Brain, Duany, Mehaffy, & Philibert-Petit, 2019). This prejudice does not allow administrations and policymakers to see that slums might be an opportunity to confront poverty in our cities.

India is on the brink of exponential urban growth, with a population on its way to reaching 590 million by 2030. Indian cities are vibrant centers that provide employment, thus attracting millions of new migrants looking for better livelihoods. However, urban India is underprepared for this rapid rate of growth, which places immense pressure on space and infrastructure. As a result, informal settlements represent an affordable housing option for the poor. While the urban poor may be better off concerning economic security,

they live in increasingly sub-standard conditions, without access to basic amenities and in poorer health than their rural counterparts (van Noppen, et al., 2011). Apart from the lack of basic services, these settlements suffer from poor quality construction that might put them in danger.

The Ministry of Housing and Urban Poverty Alleviation estimates urban India has a shortage of almost 25 million housing units, with over 90 percent of the demand coming from the economically weaker sectors and low-income groups. Although there are a lot of projects primarily focused on developing infrastructure in order to make Indian Cities attractive to business and investment, solving the housing challenge to make cities socially inclusive is equally important.

As said, with a deficit in housing programs from the formal sector, informal settlements in the city's interstitial spaces have become the default dwelling areas for the urban poor. An estimated 4.4 million people more people are settling in slums each year. Although definitions of informal settlements vary from case to case, they are not just a phenomenon of metropolitan cities, but a widespread feature in cities regardless of their size (van Noppen, et al., 2011).

In the specific case of Delhi, accommodating the urban poor has been more of a struggle than in other cities because of its status as the nation's capital. Its external image is of particular interest to the political class and residents. In Delhi's National Capital Territory (NCT), almost 16 percent of the city's population was living in areas identified as slums. However, the vast majority of Delhi's residents live in a wide variety of spaces, from squatter settlements to areas like agricultural lands where residential land use is currently illegal. Despite their illegal condition and poor (or lack of) planning, these places provide a home to the city's poor because they offer cheap rental accommodation that neither the government nor the private sector has been able to offer.

These low-income settlements are at varying stages in terms of their legal status, as well as the extent of the amenities and basic services that exist, but what they all have in common is that self-construction is rampant. All houses are built following a principle reminiscent of the incremental house concept because families continuously add second and third floors to their single-story dwellings (van Noppen, et al., 2011).

4.6.1. Case Study: mHS CITY LAB

mHS CITY LAB is a think-tank interested in implementing a human-centered design approach. The mHS's goal is to design and pilot innovative and scalable solutions to foster the development of resilient and inclusive cities, through the designing, testing, and demonstrating viable solutions for safer housing for residents of informal settlements. Their work in India helps residents to self-construct and, thereby, to participate in the development of local neighborhoods that will improve their safety, health, and overall inclusion into cities (mHS CITY LAB, 2019).

As an interdisciplinary team with expertise in project design, community engagement, architecture, and urban design, mHS conceptualized DHS (Design Home Solutions). This is a product – or rather a program – that combines affordable home construction financing (a loan) with customized technical and design assistance, thus enabling safe self-construction. The purpose of the project was to work within the existing processes of self-construction in order to respond more efficiently and at a larger scale, instead of using a contractor-led approach. The first project was tested in 2009 in the slum resettlement colony of Mangolpuri in Delhi. Mangolpuri and its adjoining resettlement colony Sultanpuri have been in existence for over 45 years. These colonies are government planned resettlements where evicted slum dwellers were resettled on small plots of land on a license or lease basis. Currently, about 2 million people live in such resettlements in Delhi alone (van Noppen, et al., 2011). But the idea behind DHS is that it could be applied in a variety of contexts such as slums, unauthorized colonies, urban villages, and semi-urban settlements.

Mangolpuri houses, of about 3-4 or 6-8 meters in width, are rapidly growing vertically, turning into two or two-and-a-half story structures. So, with a self-construction market already thriving in Dehli, with or without formal financial or technical assistance, the question was if the DHS program would be an opportunity to empower, enable, and influence self-construction. *Would it offer low-income families a better quality of life within their existing socio-economic context?*



Figure 21. Pre-construction phase. Source: (van Noppen, et al., 2011)

The pilot project was divided into three phases: pre-construction, construction, and post-construction. In the pre-construction phase, the first step was the selection of the clients. These were families in Mangolpuri with a desire to upgrade their homes that passed a financial review in order to access a loan. Then, the mHS architectural team conducted initial client visits to assess the technical feasibility of each case and to provide cost estimates to the financial team. mHS worked closely with the families to develop a semi-customized architectural plan, and design layout that was both structurally sound and also met the needs of the family.



Figure 22. Construction phase and day-to-day monitoring. Source: (van Noppen, et al., 2011)

As expected, the construction phase was the most intensive part of the DHS process, and it began with the demolition of the client's existing structure. The loan required an initial investment of 20 percent by the client. As a sign of commitment, the first round of materials for the construction was paid with this. Throughout the construction phase, the mHS technical team was on-site, initially, every other day to monitor construction and to ensure that the work was being carried out in accordance with the drawings. However, when the mHS technical team did not visit the construction site for a few days, some clients or masons would make changes that affected the structure. Therefore, monitoring went from 2-3 days a week to almost every day.

It became evident how important it was the communication with the local masons so ensure that structurally sound practices were followed. The monitoring was strict when it came to critical steps like ensuring that steel reinforcing was spaced and configured as shown on the engineering drawings and that the ratio of the concrete mix and curing time were respected. This entire process lasted about three months for a two-story structure. For most of the clients, the daily site monitoring was highly valued, and it helped build trust. The client felt more benefits of having a professional technical team look out for them and engage in problem-solving on the spot (van Noppen, et al., 2011).

The post-construction phase consisted of the collection of feedback from the client by mHS. On the financial side, for the next five to seven years, the client will repay the loan. An essential part of the program is to establish and invest in the relationship client-technical team so that it can be brought to a bigger scale, from neighborhood-by-neighborhood, community-by-community.

The pilot in Mangolpuri confirmed the value of providing technical assistance and demonstrated first hand the importance of influencing self-construction practices. There is a massive opportunity for social impact, but also many challenges for getting it right. It also proved that improvements to the self-construction process could only be made through a collaborative and participative approach. Community engagement is crucial in the targeted income group. The residents of Mangolpuri have been denied the right to decent living conditions and left out of the development process. Thus, becoming resistant to change. These communities often do not prioritize safety or understand the extent of structural failure present in non-engineered housing (Mehra, Ferrario, & Arora, 2019).



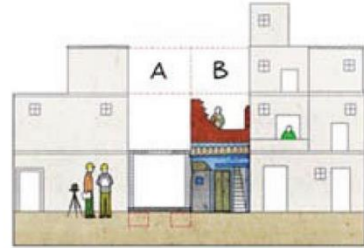
Family A and B, residents of Mongolpuri are contemplating expanding their home



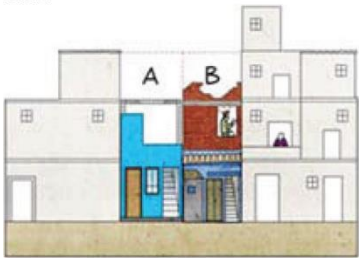
Family A opts for DHS, Family B goes to the local moneylender



While the Technical Assistance team works with Family A to plan a new home, Family B goes ahead and starts building a floor above their existing home



Family A opts for DHS, Family B goes to the local moneylender



Family A gets a new, structurally safe, well-lit and ventilated home



Family B adds yet another floor on top



When both homes brave the elements or an earthquake shakes Delhi, Family A's home continues to shelter them



Family B's home is reduced to rubble



Besides providing a safer structure from the foundation, the DHS designs introduce a number of measures to improve light, ventilation and efficient use of space within dwelling units.

Figure 23. DHS process. Source: (van Noppen, et al., 2011). Modified by the Author

The DHS pilot began with the idea to positively influence self-construction practices and improve the quality of life of low-income households. It became a learning experience, and those lessons should be applied in search of a more impactful and financially sustainable scale-up strategy.



Figure 24. Before and after of two houses during the pilot. Source: (van Noppen, et al., 2011)

Based on the experience across India, we have learned that errors undertaken during self-construction are not necessarily caused by a lack of resources or the need to save money. Rather it is a lack of knowledge and the presence of gross mistakes during the construction process that reduce the quality and safety of the units. By creating awareness on the risks and problems of self-construction and imparting basic knowledge through this type of initiative, wrong practices can be corrected (Mehra, Ferrario, & Arora, 2019).

Current efforts in affordable housing, no matter how appropriate or innovative, will never be able to create adequate supply to meet the demand for housing units for low-income groups. Therefore, a new model for improving self-construction might be the necessary strategy. After all, self-construction helps to upgrade and densify while maintaining the desirable aspects of the fabric of the community. Instead of having to evict people from their homes and forcing them to resettle somewhere else, this alternative allows people to improve their livelihoods while preserving the social, commercial, and spiritual ties they have as a community and towards the place where they are already rooted.

CHAPTER V

The chapters of this document have attempted to explain the explored topics in a logical manner. The first theoretical chapter (Chapter II) focused on the theme of architecture and the role of the architect today, concluding that for decades architecture has been distancing itself from its purpose within society. Chapter III revised the role of people in the shaping of cities, from the very transformations of their own houses, neighborhoods, communities, etc. Lastly, in Chapter IV, these roles converge under the concept of *participatory architecture*, and culminate in the analysis of case studies.

Strategies used in the examples and case studies analyzed in this document can be extrapolated to different territories. Although they are located in different parts of the world, the similarities between these projects are remarkable because they are rooted in the same philosophy of a social dimension. These are summarized in the following table:

Table. Comparative summary of case studies.

CASE STUDIES				
REGION	SUB-SAHARAN AFRICA	LATIN AMERICA		SOUTH ASIA
LOCATION	Gando, Burkina Faso	Los Horconcitos, Manabí, Ecuador	Guadurnal, Esmeraldas, Ecuador	Mangolpuri slum resettlement colony, Delhi, India
ARCHITECT	Francis Kéré	Al Borde Arquitectos		mHS CITY LAB
TYPE OF PROJECT	School	House prototype	Lunchroom	House reconstruction
TYPE OF AREA	Rural	Rural	Rural	Urban
USER-CLIENT	Local community	Low-income family	Local community	Low-income families
PEOPLE INVOLVED	Entire local community (including men, women, and children)	- Family - Architect - Collective El Sindicato - Local masons	- Local community - Architect - Collective Taller General - Volunteers	- Family-client - Architect - Technical team - Financial entity - Local masons
FINANCING	Architect's foundation	- Government - Client's resources	Donation of materials and workforce	Loan with an initial 20% investment

PROBLEMS IDENTIFIED	<ul style="list-style-type: none"> - Lack of schools - Local construction techniques in need of improvement 	Lack of post-disaster and long-term dwelling solutions	Local constructions with structural problems (foundations)	<ul style="list-style-type: none"> - Poor quality and unsafe housing - Vulnerability to natural disasters
AIMS	<ul style="list-style-type: none"> - To empower the community - To train workers in new construction techniques - To promote development 	<ul style="list-style-type: none"> - To provide shelter - To provide long-term safe housing - To improve living conditions 	<ul style="list-style-type: none"> - To support an affected population - To give technical assistance - To improve constructions 	<ul style="list-style-type: none"> - To empower self-construction processes - To provide safe housing - To improve living conditions
LEVEL OF PARTICIPATION OF THE USER	<ul style="list-style-type: none"> - Active in all phases - Decision-making - Construction 	<ul style="list-style-type: none"> - Active in all phases - Decision-making - Construction 		<ul style="list-style-type: none"> - Active in all phases - Decision-making
ROLE OF THE ARCHITECT	<ul style="list-style-type: none"> - Responsible for finding the funds - Design proposal - Technical assistance - Construction supervision 	<ul style="list-style-type: none"> - Design proposal - Technical assistance - Active construction participation 		<ul style="list-style-type: none"> - Design proposal - Technical assistance - Monitoring of construction
MATERIALITY	Traditional local materials with improved techniques	Recycled materials for the structure Traditional local materials for other elements	Recycled materials from other projects	Construction materials acquired from a local supplier
WORKFORCE	<ul style="list-style-type: none"> - Local masons - Community - Architect 	<ul style="list-style-type: none"> - Local masons - Community - Architect - Collectives - Volunteers 		<ul style="list-style-type: none"> - Local mason - Technical team
IMPACT	Catalyst of development in the village	Opportunity for providing immediate shelter, replicability, incremental growth	Catalyst of development of other projects needed by the community	Opportunity for replicability and scaling up

Source: Author, 2020

Final remarks and conclusions

Further conclusions and possible recommendations for the future of the practice, obtained after the completion of this theoretical work and the different experiences and lessons learned from the above-mentioned case studies, have been divided into the following key points that make reference to the different topics explored before:

- **A change in approach**

Government-initiated programs are generally top-down processes that result in the imposition of projects that can be more detrimental than beneficial because they are usually driven by economic or political interests rather than by their users' own interests and needs. Imposing schemes and typologies ultimately generates hostility or rejection by its users. The success of an architectural project should be measured in human terms, for example, if it is well received by its users and promotes their physical and emotional wellbeing, and helps connect them to the urban fabric in a healthy way. This will ensure the maintenance and sustainability of the project in the long term. However, a project becomes unsuccessful when it is hated by its users, wastes resources in initial construction and upkeep, contributes to social degradation, isolates its users from society, or decays physically in a short period of time (Salingaros, Brain, Duany, Mehaffy, & Philibert-Petit, 2019).

Therefore, local governments should implement programs based on bottom-up initiatives and more inclusive urban design practices in order to ensure the success of the projects executed. People should be allowed to have an active voice and participation when initiatives that will affect them directly are being planned. After all, it is the users (residents, communities, citizens, etc.) whose daily lives will be impacted, and we must ensure that this happens in a positive way.

- **Architecture as empowerment**

Having active participation in the shaping of their own environments empowers people, and the architect plays a crucial role as facilitators of an environment in which that

development can occur. Participatory approaches demand a redefinition of the role of the architect as a professional who accepts a social responsibility and works towards creating social change. Thus, architects must become more than just designers, but mediators who help bridge the gap between top-down planning and the people.

Participatory approaches encourage users to take ownership of the projects, and while there are different ways and levels to which people can participate, the ultimate idea is to establish a connection and engagement throughout the process. The greatest potential for an architectural project to become a vehicle of empowerment lies in its ability to build capacity through skills transfer on a variety of levels. The value of a project goes beyond the architecture itself, its impact stays long after the architect leaves, and projects, if successful, can become a catalyst for more development in the area.

Therefore, in a context of growing social inequality, environmental degradation, and exclusion, architects must decide if we continue proposing simple, partial, and incomplete solutions, based on traditional practice; or, we can accept that, to make proposals that will really make improvements in the quality of life of its users, it is necessary to face our intervention in habitat production from a completely different perspective. By using alternative tools, methodologies, and techniques, we can achieve results that traditional methods cannot produce.

- **Bridging the gap**

It is a reality that many people all over the world are building their homes alone, without any support. Architecture is generally a profession for elites, which continues and deepens is a socioeconomic gap between construction professionals and low-income segments of society. However, it should not be like that; architecture is an issue of *social justice*, and, as such, everybody, no matter their background, should have access to good-quality architecture. The services of the architectural profession must reach all of society so that everybody can have the opportunity and the right to live in healthier and safer environments. Experience proves that when low-income dwellers experience the support of an architect, they tend to value it, and they're even willing to pay for it. People do not build weak structures because they want to save money; it is because of a lack of knowledge (Ferrario, 2018).

Influencing self-construction is a good way to bridge the gap between architects and low-income sectors. Self-construction in settlements, urban or rural, informal or formal, retains the desirable aspects of the fabric of the community while upgrading and densifying. It supports a thriving local construction industry that provides significant employment for the community, either as masons, laborers, or material suppliers. And perhaps more importantly, it is fundamentally self-led, which maintains dignity and personal choice. This practice has the potential to encourage inclusive cities much more than the alternative method used by authorities of resettling communities in newly constructed areas. As explained in this document, this has proven to be more counterproductive than beneficial because it can strip communities of their livelihoods and roots, and the potential for upward mobility.

- **Participation at a larger scale**

How can more participatory initiatives be encouraged? From a policy perspective, over regulations become obstacles for self-improvement and participative processes. There is an essential choice for governments to whether act as a barrier or an enabler. If the latter is chosen, governments have the potential to impact participatory practices at a larger scale through the revision of over regulations in place and the implementation of new pro participation policies.

Participatory methodologies for urban upgrading requires cooperation from local government and active civil society organizations to enable the implementation of its methodology (Khalifa, 2015). In most cases, participatory projects, such as the ones showcased in this document, have occurred as isolated projects with no institutionalizing mechanisms to ensure their replicability and scaling up.

Many architects that work in the field of participatory architecture agree that more standardization is necessary in the interest of cost-effectiveness, quality standards, and timely delivery. A certain amount of standardization, however, is not necessarily conflicting with community participation if the old modular system is replaced by a partial standardization that affects only certain functional units within the building, while all other parts, particularly the public areas, remain variables and allow for community involvement (Marschall, 1998). In fact, partial standardization might make the process

more efficient and help change the perception that participatory has as a time-consuming and cost-inefficient practice. It might even promote its implementation at a larger scale.

Through examples of participatory architecture around the world, this document has attempted to review the state of the practice today and show the changing attitudes on the part of an increasing number of professionals towards the social role of architects. Though more research and sharing of experiences are necessary in order to improve participatory processes in the future and make it more efficient and accessible, it is undeniable that the prospects seem promising.

- **Architecture and education**

There is a growing need for academic teaching and learning to include a focus on social engagement, including practice outside just theory. The academic curriculum remains focused on the needs of less than 40 percent of the population living in formal parts of urban areas and not for the majority who do not. Therefore, involvement in participatory activities from the educational formation can play a crucial part in students changing attitudes towards architecture later in the professional world.

Curriculum changes should aim at the introduction of courses dealing directly with participatory architecture and planning, and focus on the transformation and evolution of traditional architecture. While many architects who work with participatory approaches do not see a need for radical changes in the architectural curriculum, there is the undeniable fact that architectural training at school left them ill-prepared for the work they are doing in practice (Marschall, 1998). A less theoretical and design-oriented approach in favor of a more practical, building-oriented one would be more appropriate for today's working contexts. Fields as engineering, town-planning, and landscape design, which are closely integrated with architecture, require a more holistic approach in education. However, participatory architecture practices would also benefit from a basic knowledge of fields such as anthropology, sociology, history, and art to facilitate better interaction with people and communities of different backgrounds and ways of life, providing a better comprehension of culturally specific needs and aspirations.

- Looking at the future

The concepts of autonomy, collaboration, and participation have gained relevance in architecture and urban planning through collaborative actions that involve the community, architects, urban planners, and designers (Lepik, 2010). Due to the rapid pace of urbanization and massive migrations, exacerbated by the increase in climatic disasters, conflicts, and humanitarian crises in recent years, the demand for construction and reconstruction of houses and infrastructure has grown simultaneously. This has required a great collaborative effort in architectural and urban production, to the point of needing to rebuild entire cities in some cases.

In these collaborative efforts, in addition to the technical knowledge of architects, urban planners, and other professionals, with the economic support of governments, the participatory role of the population has been fundamental. Their participation is essential in order to find adequate solutions. Participation can increase mutual trust and give greater decision-making power to individuals and communities (Moreira, 2020). In addition, it can promote constructions based on local skills, resources, and materials, carried out in accordance with the needs and priorities of the population, which can lead to more effective results.

It is necessary to highlight that institutions also play a role in supporting and advancing participatory social efforts around the world, especially in the most vulnerable areas, with fewer resources and more needs. An influential organization, for example, is the Aga Khan Development Network, which focuses on long-term development and improving the living conditions of the poor, mainly in Sub-Saharan Africa, Central and South Asia, and the Middle East (Lepik, 2010). It focuses on promoting construction projects for impoverished segments of the population but also places special emphasis on projects that respect regional traditions.

As this document has tried to demonstrate, there is so much positive impact that architecture can have when it is not driven by preconceived political or architectural theories, or economic interests, but rather when it tries to respond to existing realities. To increase the social relevance of architecture in the early 21st century, we must no longer think of it simply in terms of the final product, the building, but in terms of the transformation and impact the whole process can bring to society.

Bibliography

- Abbott, J. (2002, September). An analysis of informal settlement upgrading and critique of existing methodological approaches. *Habitat International*, 26(3), 303-315. Retrieved from Science Direct: [https://doi.org/10.1016/S0197-3975\(01\)00049-2](https://doi.org/10.1016/S0197-3975(01)00049-2)
- Abdirahman, S. (2018). *Course Syllabus: Urban an Regional Planning and Management*. Retrieved from <https://www.coursehero.com/file/p1nmvtd/Experiences-from-the-past-A-lack-of-willingness-on-the-part-of-the-public-may/>
- Adrià, M., & Griborio, A. (2017). *Radical. 50 Arquitecturas Latinoamericanas*. Mexico City: Arquine.
- Al Borde. (2018). *COMEDOR DE GUADURNAL*. Retrieved from Al Borde Web site: https://www.albordearq.com/comedor-de-guadurnal_guadurnals-lunchroom
- Al Borde. (2018). *PROTOTIPO POST-TERREMOTO, VIVIENDA RURAL*. Retrieved from Al Borde Web site: https://www.albordearq.com/prototipo-post-terremoto-vivienda-rural_post-earthquake-prototype-rural-dwelling
- Al Borde. (2019). *Who we are*. Retrieved from Al Borde Web site: https://www.albordearq.com/quienes-somos_who-we-are
- Almeida, T. (2013, March 3). *Globalization, Urbanization, and Slums*. Retrieved from Orange Ticker: <https://orangeticker.wordpress.com/2013/03/03/globalization-urbanization-slums/>
- Aravena, A. (2014, October). TEDGlobal 2014: ¿Mi filosofía arquitectónica? Incluir a la comunidad en el proceso. Retrieved from https://www.ted.com/talks/alejandro_aravena_my_architectural_philosophy_bring_the_community_into_the_process?source=tumblr&language=es
- Aravena, A., & Iacobelli, A. (2016). *Elemental. Incremental Housing and Participatory Design Manual*. Hatje Cantz.
- Avritzer, L. (2002). *Democracy and the Public Space*. New Jersey: Princeton University Press.
- Baldwin, E. (2019, September 10). *Rethinking History: New Architecture in Burkina Faso*. Retrieved from ArchDaily Web site: <https://www.archdaily.com/924516/rethinking-history-new-architecture-in-burkina-faso>
- Barragán, D., & Gangotena, P. (2011, March 20). Arqs. David Barragán y Pascual Gangotena - Una mirada joven y comprometida. *Tele Proyecto*. Retrieved from <https://www.youtube.com/watch?v=fW0CLf4ETGI>
- Bayat, A. (2004). Globalization and the Politics of the Informals in the Global South. In A. Roy, & N. AlSayyad (Eds.), *Urban Informality: Transnational Perspectives from the Middle*

- East, Latin America, and South Asia* (pp. 79-102). Lanham, Boulder, New York, Toronto, Oxford: Lexington Books.
- Bengoa, J., Cuadra, M., Ottone, E., Mellardo, J. P., Román, J., & Uribe, J. L. (2016). *Against the Tide. Pavilion of Chile at the 15th International Architecture Exhibition - La Biennale di Venezia*. Hatje Cantz.
- Blake, S. (2015). *Defining/Redefining Community Design: A History of Community Design Centers*. Retrieved from Canvas at Michigan:
https://umich.instructure.com/files/2297530/download?download_frd=1
- Cameron, M. A., Hershberg, E., & Sharpe, K. E. (2012). *New Institutions for Participatory Democracy in Latin America*. New York: Palgrave Macmillan.
- Craig, G., Mayo, M., Popple, K., Shaw, M., & Taylor, M. (2011). *The community development reader: History, themes and issues*. Retrieved from Jstor:
<https://www.jstor.org/stable/j.ctt1t89b0j>
- Cruz, T. (2014, February 5). Teddy Cruz: Cómo las innovaciones arquitectónicas migran a través de fronteras. Retrieved from https://www.youtube.com/watch?v=aG-ZeDqG8Zk&feature=emb_logo
- Dawes, A. (2012). The humanity of Hertzberger. *Architects' Journal*. Retrieved from <https://www.architectsjournal.co.uk/practice/culture/the-humanity-of-hertzberger>
- De Carlo, G. (2005). Architecture's public. In P. Blundell Jones, D. Petrescu, & J. Till (Eds.), *Architecture and Participation* (pp. 3-22). London and New York: Spon Press.
 Retrieved from https://architecturesofspatialjustice.files.wordpress.com/2013/09/w08_dicarlo_architectures_public.pdf
- Design Indaba. (n.d.). *Minus 90%*. Retrieved from Design Indaba Web site:
<https://www.designindaba.com/articles/point-view/minus-90>
- Durán, A. (2015). Arquitectura contemporánea de Ecuador (1999-2015): El florecimiento de una crisis. *Rita Revista Indexada de Textos Académicos*, 40-51. Retrieved from https://www.researchgate.net/profile/Ana_Duran_Calisto2/publication/319180577_Arquitectura_contemporanea_de_Ecuador_1999-2015_El_florecimiento_de_una_crisis/links/5adc2ead458515c60f5e0b09/Arquitectura-contemporanea-de-Ecuador-1999-2015-El-florecimiento-de
- Editors, A. (2014, January 30). *Giancarlo de Carlo (1919-2005)*. Retrieved from The Architectural Review: <https://www.architectural-review.com/essays/reputations/giancarlo-de-carlo-1919-2005>
- Enet, M. (2015, May). *Antecedentes y evolución sobre la concepción del diseño arquitectónico participativo de “viviendas sociales”*. Retrieved from Academia:
https://www.academia.edu/17899834/Antecedentes_y_evoluci%C3%B3n_sobre_la_concepci%C3%B3n_del_dise%C3%B1o_arquitect%C3%B3nico_participativo_de_viviendas_sociales_

- ENOBRA. (2020). *Filosofía*. Retrieved from ENOBRA Web site:
<https://www.enobra.ec/filosofia>
- Farias, A. C. (2019). The architecture of the participation of Giancarlo de Carlo revisited. *Virus*, 18. Retrieved from <http://www.nomads.usp.br/virus/virus18/?sec=4&item=3&lang=en>
- Ferrario, M. (2018, July 17). TEDxChennai: Inclusive Design: Right to safe and affordable housing in India. Chennai, Tamil Nadu, India. Retrieved from
https://www.youtube.com/watch?v=e-yAj8_LsI0&t=18s
- Fuad-Luke, A. (2009). *design activism*. London: Earthscan. Retrieved from
https://designopendata.files.wordpress.com/2014/05/designactivism-beautifulstrangenessforasustainableworld_alastairfuadluke.pdf
- García, W. (2012). Arquitectura participativa: las formas de lo esencial. *Revista de Arquitectura*, 14, 4-11. Retrieved from
<https://www.redalyc.org/pdf/1251/125125877002.pdf>
- Gilbert, A. (n.d.). *La Vivienda en América Latina. Documento de Trabajo del INDES*. Retrieved from <https://publications.iadb.org/publications/spanish/document/La-vivienda-en-Am%C3%A9rica-Latina.pdf>
- Habraken, N. (1986, July). Towards a new professional role. *Design Studies*, 7(3), 139-143.
- Harris, R. (2003, June). A double irony: the originality and influence of John F.C. Turner. *Habitat International*, 27(2), pp. 245-269. Retrieved from
[https://doi.org/10.1016/S0197-3975\(02\)00048-6](https://doi.org/10.1016/S0197-3975(02)00048-6)
- Hertzberger, H. (2005). *Lessons for Students in Architecture*. Rotterdam: 010 Publishers. Retrieved from
https://www.academia.edu/29637531/Herman_Hertzberger_Lessons_For_Students_Of_Architecture
- Hughes, J., & Sadler, S. (Eds.). (2000). *Non-Plan: Essays on Freedom, Participation and Change in Modern Architecture and Urbanism*. London and New York: Architectural Press.
- Humanity, A. f. (2012). *Design Like You Give a Damn [2]: Building Change from the Ground Up*. (C. Sinclair, & K. Stohr, Eds.) New York: Abrams.
- IFRC. (2016). *Six months report. Ecuador: Earthquake*. International Federation of Red Cross and Red Crescent Societies. Retrieved from International Federation of Red Cross and Red Crescent Societies:
<https://reliefweb.int/sites/reliefweb.int/files/resources/MDREC0126m.docx.pdf>
- Ivy, R. (2005, May 2). It's in the Air. *Architectural Record*. Retrieved from
<https://www.architecturalrecord.com/articles/12593-its-in-the-air>
- Jenkins, P., & Forsyth, L. (Eds.). (2010). *Architecture, Participation and Society*. London and New York: Routledge.

- Kéré Architecture. (2020, September 1). *About*. Retrieved from Kéré Architecture Web site: <http://www.kere-architecture.com/about/>
- Khalifa, M. A. (2015, December). Evolution of informal settlements upgrading strategies in Egypt: From negligence to participatory development. *Ain Shams Engineering Journal*, 6(4), 1151-1159. Retrieved from <https://doi.org/10.1016/j.asej.2015.04.008>
- Klaufus, C. (2012, July). The Symbolic Dimension of Mobility: Architecture and Social Status in Ecuadorian Informal Settlements. *International Journal of Urban and Regional Research*, 689-705. doi:10.1111/j.1468-2427.2012.01122.x
- KLIWADENKO NOVAS, AL BORDE (Producers), Kliwadenko, K., & Novas, M. (Directors). (2017). *Do More With Less* [Motion Picture].
- Kudva, N., & Benería, L. (Eds.). (2005). *Rethinking Informalization. Poverty, Precarious Jobs and Social Protection*. Cornell University Open Access Repository. Retrieved from <https://ecommons.cornell.edu/bitstream/handle/1813/3716/Rethinking%20Informalization.pdf?sequence=1&isAllowed=y>
- La Biennale di Venezia. (2016, May 28). *Biennale Architettura 2016 - Reporting From The Front*. Retrieved from La Biennale di Venezia Web site: <https://www.labiennale.org/en/architecture/2016/biennale-architettura-2016-reporting-front>
- Lepik, A. (2010). *Small Scale, Big Change: New Architectures of Social Engagement*. (L. Hruska, Ed.) New York: The Museum of Modern Art.
- Lepik, A., & Beygo, A. (Eds.). (2016). *Francis Kéré. Radically Simple*. Hatje Cantz. Retrieved from https://issuu.com/arquitetura.marcelo/docs/radically_simple_low_res
- Lepik, A., & Potřč, M. (2013). Cities in Transition. In G. Knapstein, & M. Felix (Eds.), *Architektonika* (pp. 155-63). Nuremberg: Verlag für moderne Kunst.
- Lepik, A., Schmedding, A., Welzbacher, C., Chan, C., Bittner, R., Reel, R., & Hehl, R. (2011). *Moderators of Change. Architecture that helps*. Hatje Cantz.
- Löschke, S. K. (Ed.). (2020). *Non-Standard Architectural Productions: Between Aesthetic Experience and Social Action*. London and New York: Routledge.
- Louisiana Museum of Modern Art. (2019). *Tatiana Bilbao Studio*. (M. M. Kallehauge, & L. R. Jørgensen, Eds.) Humlebæk, Denmark: Lars Müller Publishers.
- Marschall, S. (1998). Architecture as Empowerment: The Participatory Approach in Contemporary Architecture in South Africa. *Transformation Journal*, 103-123. Retrieved from <http://transformationjournal.org.za/wp-content/uploads/2017/03/trans035005.pdf>
- McGuirk, J. (2014). *Radical Cities. Across Latin America in Search of a New Architecture*. London and New York: Verso.
- Mehra, R., Ferrario, M., & Arora, A. (2019, May 7). *The Resilience of Informal Settlements Addressing Quality in the Built Environment*. Retrieved from mHS CITY LAB Web

site: <http://www.mhscitylab.org/wp-content/uploads/2019/05/ISOCARP-Article-mHS.pdf>

mHS CITY LAB. (2019). *About*. Retrieved from mHS CITY LAB Web site: <http://www.mhscitylab.org/>

Moreira, S. (2020, May 25). *How Community Participation can Assist in Architectural and Urban Post-Disaster Reconstruction*. Retrieved from ArchDaily Web site: <https://www.archdaily.com/939759/how-community-participation-can-assist-in-architectural-and-urban-post-disaster-reconstruction>

Nagore, I. (n.d.). *Towards an Open and User Driven Housing Architecture*. London. Retrieved from <https://core.ac.uk/download/pdf/301204025.pdf>

Paone, S. (Ed.). (2016). *Governare l'ingovernabile. Politiche degli slum nel XXI secolo*. Pisa: Edizioni ETS.

Pavlovits, D. (n.d.). *Politics, Architecture and Activism*. Retrieved from Academia: https://www.academia.edu/2183585/Politics_Architecture_and_Activism

Pedret, A. (n.d.). *Otterlo (the Netherlands) 7-15 September 1959*. Retrieved from Team 10 Online Web site: <http://www.team10online.org/team10/meetings/1959-otterlo.htm>

Pitera, D., & Wilkins, C. L. (Eds.). (2015). *Activist Architecture. Philosophy & Practice of the Community Design Center*. Detroit: Detroit Collaborative Design Center. Retrieved from <https://activist-architecture.org/2015/04/20/download/>

Reid, S. (2003). *Community Participation in Rural Events: The Potential to Develop and Utilize Social Capital*. Retrieved from Griffith University: https://research-repository.griffith.edu.au/bitstream/handle/10072/47930/68395_1.pdf;sequence=1

Restrepo, S. (2017). *Participatory Integral Upgrading in Latin America*. Darmstadt: Technische Universität Darmstadt. Retrieved from <https://tuprints.ulb.tu-darmstadt.de/6900/>

Rodríguez, C. (2013). *Lo Inacabado en la Arquitectura*. Retrieved from http://oa.upm.es/35227/1/tesis_master_Clara_Rodriguez_Lorenzo.pdf

Rogala, A. (2017, August 7). *Sheela Patel on the Urban Housing Crisis: Think Big, Act Local*. Retrieved from The City Fix: <https://thecityfix.com/blog/sheela-patel-on-the-urban-housing-crisis-think-big-act-local-alex-rogala/>

Romero, G. (n.d.). *La producción social del hábitat: reflexiones sobre su historia, concepciones y propuestas*. Retrieved from Habitat International Coalition: http://hic-gs.org/content/Online/Romero_PSH_intro.pdf

Romero, G., & Mesías, R. (1999). *Participación, planeamiento y diseño del hábitat popular*. La Habana - Ciudad México: Red XIV. B. Retrieved from <https://seminariogladysarmijo.files.wordpress.com/2009/11/participacion-1999.pdf>

Romero, G., Mesías, R., Enet, M., Oliveras, R., García, L., Coipel, M., & Osorio, D. (2004). *La participación en el diseño urbano y arquitectónico en la producción social del hábitat*. Retrieved from Centro de Documentación y Asesoría Municipal del Instituto de

- Estudios Municipales:
http://cdam.unsis.edu.mx/files/Desarrollo%20Urbano%20y%20Ordenamiento%20Territorial/Otras%20disposiciones/Participaci%C3%B3n_dise%C3%B1o_urbano.pdf
- Salingaros, N. A., Brain, D., Duany, A. M., Mehaffy, M. W., & Philibert-Petit, E. (2019, March 23). *Socially-Organized Housing: Design That Establishes Emotional Ownership*. Retrieved from ArchDaily Web site: <https://www.archdaily.com/913586/socially-organized-housing-design-that-establishes-emotional-ownership>
- Samassa, F. (2014). *DE CARLO, Giancarlo*. Retrieved from Treccani Web site: [https://www.treccani.it/enciclopedia/giancarlo-de-carlo_\(Dizionario-Biografico\)/](https://www.treccani.it/enciclopedia/giancarlo-de-carlo_(Dizionario-Biografico)/)
- Sanoff, H. (2000). *Community Participation Methods in Design and Planning*. Retrieved from https://www.researchgate.net/profile/Henry_Sanoff/publication/235700897_Community_Participation_Methods_in_Design_and_Planning/links/59db5ffca6fdcc0ffd1a99b2/Community-Participation-Methods-in-Design-and-Planning.pdf
- Santibañez, D. (2018, Agosto 13). *Comedor de Guadurnal / Al Borde + Taller General*. Retrieved from ArchDaily: <https://www.plataformaarquitectura.cl/cl/899973/comedor-de-guadurnal-al-borde-plus-taller-general>
- Santibañez, D. (2018, July 26). *Post-Earthquake Prototype – Rural Dwelling / AL BORDE + El Sindicato Arquitectura*. Retrieved from ArchDaily Web site: <https://www.archdaily.com/898988/post-earthquake-prototype-nil-rural-dwelling-al-borde-plus-el-sindicato-arquitectura>
- Smith, C. E. (2011, October). Design with the Other 90%: Cities. *Places Journal*. Retrieved August 16, 2020, from <https://doi.org/10.22269/111017>
- Smith, M. K. (1999,2006). *Community participation*. Retrieved from The encyclopedia of pedagogy and informal education: <https://infed.org/mobi/community-participation/>
- Srinivas, H. (2015, April). *Defining Squatter Settlements*. Retrieved from The Global Development Research Center: <https://www.gdrc.org/uem/squatters/define-squatter.html>
- Sugranyes, A., & Mathivet, C. (Eds.). (2010). *Cities for All: Proposals and Experiences towards the Right to the City*. Santiago: Habitat International Coalition, HIC.
- Taller General. (2018). *Comedor de Guadurnal*. Retrieved from Taller General Web site: <https://tallergeneral.com/2020/03/30/comedor-de-guadurnal/>
- The Pritzker Architecture Prize. (2016, January 13). *Alejandro Aravena of Chile receives the 2016 Pritzker Architecture Prize*. Retrieved from The Pritzker Architecture Prize Web site: <https://www.pritzkerprize.com/announcement-ale-jan-dro-ara-ve-na>
- Thorpe, A. (n.d.). Defining Design as Activism. *Journal of Architectural Education*. Retrieved from <https://designactivism.net/wp-content/uploads/2011/05/Thorpe-definingdesignactivism.pdf>
- Turner, J. F. (1976). *Housing by People. Towards Autonomy in Building Environments*. London: Marion Boyars Publishers Ltd.

- Turner, J. F., & Fichter, R. (Eds.). (1972). *Freedom to Build: Dweller Control of the Housing Process*. New York: MacMillan Publishing Company.
- UN Habitat. (2015, May 31). *Habitat III Issue Papers 22 – Informal Settlements*. Retrieved from Habitat III Web site: http://habitat3.org/wp-content/uploads/Habitat-III-Issue-Paper-22_Informal-Settlements-2.0.pdf
- UN Habitat. (2016). *Habitat III Issue Papers*. New York: United Nations. Retrieved from <http://habitat3.org/wp-content/uploads/Habitat-III-Issue-Papers-report.pdf>
- UN Human Settlements Programme. (2003). *The Challenge of Slums. Global Report on Human Settlements 2003*. London and Sterling: Earthscan Publications Ltd. Retrieved from <https://www.un.org/ruleoflaw/files/Challenge%20of%20Slums.pdf>
- United Nations Development Programme. (2007). *Human Development Report 2007/2008*. New York: Palgrave Macmillan. Retrieved from https://web.archive.org/web/20110429033726/http://hdr.undp.org/en/media/HDR_2007_2008_EN_Complete.pdf
- Urban-Think Tank. (2010). *Projects: Metro Cable*. Retrieved from Urban-Think Tank: <http://u-tt.com/project/metro-cable/>
- van Noppen, A., Backman, J., Ferrario, M., Naik, M., Mehra, R., & Yenghkom, V. (2011). *Self Construction. Enabling safe and affordable housing in India*. New Delhi: micro Home Solutions.
- Waring, M. (2017, September 13). Architecture for the People. *mondo*arc india*(16), pp. 46-51. Retrieved from https://issuu.com/stirmondoarcindia/docs/mondo_arc_india_issue_16_sep_oct201
- Weber, C. (2013, April 8). Social Justice Propels Today's Young Design Professionals. *Architect Magazine*. Retrieved from https://www.architectmagazine.com/practice/social-justice-propels-todays-young-design-professionals_o