

**CASA DEPÓSITO: EMPOWERING INFORMAL BUILDING
CULTURE IN RIO DE JANEIRO.**

by

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ABSTRACT

Informal settlements, such as the favelas of Rio de Janeiro, Brazil, are manifestations of community strength and resilience. Their built environment, building culture and material use speak to opportunities of integrated cooperative sustainability. Casa Depósito illustrates how architecture can be used as an active agent in self-sustainable upgrades with site selection principles and building technology. Established as a cooperative institution, Casa Depósito provides a space to bring communities and governments together and facilitate social capital, skill-transfer, and self-sufficiency. In addressing public space and public services, Casa Depósito provides informal residents institutional autonomy of their built environment.

LIST OF ABBREVIATIONS

AISP: Áreas Integradas de Segurança Pública (Integrated Areas of Public Safety)

BOPE: Batalhão de Operações Policiais Especiais (Special Police Operations Battalion)

CBO: Community Based Organization

CEDAE: Companhia Estadual de Águas e Esgotos (Rio state water and sanitation company)

COMLURB: Companhia Municipal de Limpeza Urbana (Municipal Urban Sanitation Company)

EMOP: Empresa de Obras Públicas do Estado do Rio de Janeiro (Public Works Company of the State of Rio de Janeiro)

FAETEC: Fundação de Apoio à Escola Técnica (Technical School Support Foundation)

IBGE: Instituto Brasileiro de Geografia e Estatística (National Institute for Geography and Statistics)

IDS: Índice de Desenvolvimento Social (Social Development Index)

IPP: Instituto Pereira Passos

ONG: Organização não governamental (Non-governmental organization)

PAC: Programa de Aceleração do Crescimento (Growth Acceleration Program)

PMERJ: Polícia Militar do Estado do Rio de Janeiro (Military Police of the State of Rio de Janeiro)

UPP: Unidade de Polícia Pacificadora (Police Pacification Unit)

GLOSSARY

Bairro: a neighbourhood in the formal city

Comunidade: general term frequently used to refer to slums and informal areas

Favela: a hillside informal settlement in Brazil

Favelado: a person who lives in a favela

Informal city: areas where groups of housing units have been constructed on land that the occupants have no legal claim to, or occupy illegally. Independent of urban design or legal rules.

Residents Association: the community association responsible for organizing community needs.

Loteamento: a broad term generally used to name illegal subdivisions, and distinguishes someone that lives in a settlement more regular than a favela.

Mutirao: a Tupi Guarani word, an indigenous language of Brazil, that refers to a group of people who work together to create something that benefits all

Pedreiros: skilled labour who has no specific specialization or training but knows how

Slum: a run-down area of a city characterized by substandard housing, squalor and lacking in tenure security. The term implies squalor, the word originating from the Irish phrase 'S lom é' meaning "it is a bleak or destitute place".

Squatter Settlement: a residential area which has developed without legal claims to the land and/or permission from the concerned authorities to build

Shanty Town: impoverished people who live in improvised dwellings made from scrap materials.

Vilas periféricas: recent typology frequent in the periphery of the city that is constituted by a row of bedrooms sharing kitchen and laundry facilities.

Vila, Parque and Jardim: terms used recently to name old illegal subdivisions that have received public infrastructure and services.

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CHAPTER 1: INTRODUCTION

The poor are prolific builders. Millions of families regularly reduce their consumption to subsistence levels in order to save the money to buy the construction materials they need to build their own homes and construct them on weekends. Brick by brick, bag of cement by bag of cement, they are literally the fruit of their own savings¹

Thesis Question

Why do upgrade projects in informal settlements fail to engage local building culture and facilitate a creative economy of future community-based upgrades?
How can architecture be an active agent in empowering informal building culture?

Key Words:

Building cooperatives

Favela upgrades

Incremental design

Integrated public space

Sustainable technologies

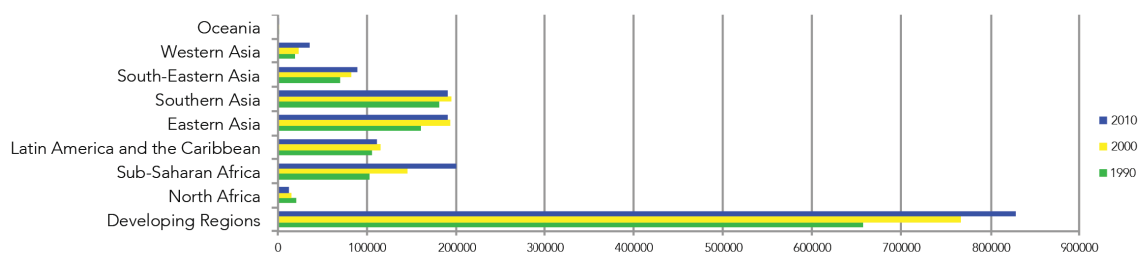
Billions of people live in poverty around the world.² Many in informal settlements and larger informal cities, colourful communities of self-built single-chair barber shops and 9-person passenger vans that exist beyond the reach of government. Internationally, the UN has defined such places as residential areas where households lack security of tenure, access to improved water or sanitation, sufficient-living area or durability of housing.³ In response to poor living conditions the World Bank has spent billions of dollars beautifying, servicing, and upgrading these areas in an attempt to integrate them into the formal city.⁴ Integration based

1 David Satterthwaite and Diana Mitlin. *Empowering Squatter Citizen : Local Government, Civil Society, and Urban Poverty Reduction*. (London: London, 2004), 167.

2 Sustainable Development Knowledge Platform, "Transforming our world: the 2030 Agenda for Sustainable Development," *United Nations division for Sustainable Development*, accessed October 2016 <https://sustainabledevelopment.un.org/post2015/transformingourworld/publication>.

3 UN-Habitat, *The Challenge of Slums* (London: Earthscan Publications, 2003), 10. Also derived from *The Challenge of Slums*; UN-Habitat (2013), *The State of the World Cities Report (2012/13)*

4 UNFPA, "Urbanization: A Majority in Cities," *United Nations Population Fund*, last modified May 2007, <http://www.unfpa.org/pds/urbanization.htm>.



State of the World Cities, 2010-2011: Bridging the Urban Divide. UN-HABITAT

Image 1: Global informal distribution. Data from UN Habitat, 2011, State of the Worlds Cities.

discourse however veils top-down hierarchies and implementation strategies.

Failing to integrate residents, upgrade projects create a cycle of dependence when implementation strategies fail to embrace, harness and raise the self-esteem of residents with respect to them controlling their built environment. Upgrade projects seek to raise the quality of life and standard of living within these informal communities by inserting facility-focused projects such as schools and social housing.⁵ They recognize the importance of residents' involvement, however are only involved as an unskilled labour force preventing local handymen and semi-professionals from learning new skills.⁶ In turn missing the opportunity to facilitate the self-generation and mobilization of future upgrades by the community. As Mike Davis warns in *Planet of Slums*, if the cities of tomorrow are going to be built from "crude brick, straw, recycled plastic, cement blocks and old scrap wood" instead of glass and steel, why have we not embraced this material palette or building culture to create new visions of tomorrow for ourselves?⁷

Systemic marginalization of the poor has evolved into a modern discourse that demonizes informal settlements, considering only the statistics and labeling them as dystopias. This thesis interrogates the position of Brazilian favelas, following Rio de Janeiro's role as the host of the 2016 Summer Olympics, and considers how architecture can be agent of change and facilitate sustainable upgrades. Favelas

5 Jorge Mario Jauregui, "Social Architecture" (lecture, Pontifical Catholic University of Rio de Janeiro, Rio de Janeiro, RJ, June 8, 2016).

6 Ibid.

7 Mike Davis, *Planet of Slums* (New York: New York, 2006), 2-6.

have the social capital and community resources to self-upgrade and establish themselves independent of the formal city. Reframing the discourse from 'facilities' based upgrades to one of empowerment and education for the decentralization and facilitation of independent upgrades.

The building culture in informal developments is an untapped resource. It is our responsibility as architects to facilitate opportunities of economic, environmental, social, and cultural sustainability. Casa Depósito illustrates how architecture can be used as an active agent in self-sustainable upgrades in informal settlements. Specifically, how public space and building cooperative models can be combined to facilitate social capital, promote education and sustainable-practices, and work opportunity. The integration of services and work aims to address the recurring problems of ownership and maintenance that upgrade projects face after completion. By investing in sustainable technologies that enhance the re-use culture in informal settlements this population will be able to embrace and build upon current practices and transform the future of sustainable communities. The legacy of Casa Depósito will be the resilience and innovation in future community designed projects.



Image 2: Map of the informality with attention to megacities (defined as >10,000,000 people); data from United Nations Population Fund

CHAPTER 2: INFORMED BY INFORMALITY

He let his mind drift as he stared at the city, half slum, half paradise. How could a place be so ugly and violent, yet beautiful at the same time?⁸

2.1 The Status Quo

Informal cities have become the norm in many parts of the world as urbanization outpaces affordable housing and the informal economy plays a larger role for the emerging middle class.⁹ Characterized by heavily populated areas of poor or informal housing, inadequate access to safe water and sanitation, and insecurity of tenure, informal communities demonstrate the strength and resilience of the human condition.¹⁰ Despite their apparent disorder, slums are places of entrepreneurship and human energy, and with the appropriate support will be the vision of future sustainable cities.¹¹ In addressing the informal, a consistent failure of our system is the ideology and standardization to which formality subscribes.¹² It removes the lived condition from these places, quantifying them solely on material value.¹³ In turn creating the informal dystopia and the formal utopia. This dichotomy is perverse and a critical review of the **neoliberal** upgrade projects, architecture and planning, and the facility focused utopia they project onto informal areas is needed to address why upgrade projects have had limited success in terms of ownership and autonomy.

Increased interest in informal areas has created a body of work in both the private and public sector including research, theory, and built movements from cross-disciplinary architects and planners. The majority operating via top-down government systems within closed competitions or bids that focus almost exclusively on socio-economic and political-institutional dimensions when selecting informal areas for upgrade

8 Chris Abani, *GraceLand*, (New York: Picador, 2004), 7.

9 Satterthwaite and Mitlin, *Empowering Squatter Citizen*, 189.

10 UN-Habitat, *The Challenge of Slums*, 10-11.

11 Alfredo Brillembourg, Jose Castillo, Felipe Hernández, Jorge Jauregui, Franklin Lee and Anne Save de Beaurecueil, "Informal City: Design as Political Engagement" (lecture, Architectural Association, London, UK, February 9, 2012). last modified 2017, <http://www.aaschool.ac.uk/VIDEO/lecture.php?ID=1747>

12 The Rockefeller Foundation, *The Informal City Reader*, (Philadelphia: Next City, 2013), 4-5.

13 Davis, *Planet of Slums*, 143.

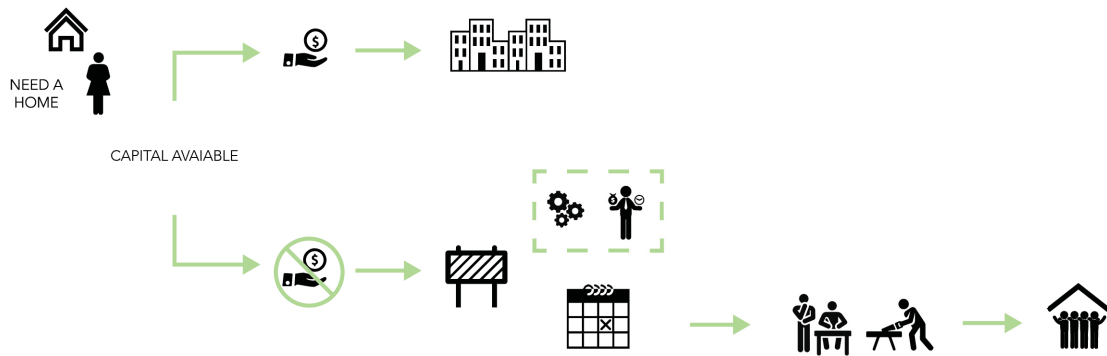


Image 3: Entering the informal.

projects.¹⁴ Represented with romantic images of chaos and violence, informal areas are marginalized and stigmatized. This disenfranchisement by the formal city has led to countless removal and upgrade programs that fail to embrace the potential of communities, instead commoditizing them in order to oppress, exclude and dominate.¹⁵ These strategies have had a despacializing effect on the debate and have clouded the role of interventions for the last fifty years.¹⁶ Questioning the ability of upgrade projects to follow through and satisfy the responsibility to support and promote sustainable development. Yet as Urbanist Edgar Pieterse writes that “while it is a highly complex and tricky affair to intervene in slums without making the situation even worse, it is also clear that interventions are required.”¹⁷

In order to empower informal citizens, the informal city must be viewed as a parallel process that responds and shapes the urban condition.¹⁸ Informal life depends on the diverse network of community resources and a tireless motivation for progress. As a result these organic bottom-up alternatives to formal development are capable

14 Informal City, “Agenda,” *Architectural Association School*, last modified 2017, <http://informalcity.aaschool.ac.uk/agenda/>.

15 Davis, *Planet of Slums*, 2-6.

16 Alfredo Brillembourg, Jose Castillo, Felipe Hernández, Jorge Jauregui, Franklin Lee and Anne Save de Beaurecueil, “Informal City: Design as Political Engagement” (lecture, Architectural Association, London, UK, February 9, 2012). last modified 2017, <http://www.aaschool.ac.uk/VIDEO/lecture.php?ID=1747>

17 Edgar Pieterse, *City Futures: Confronting the Crisis of Urban Development* (Cape Town: UCT Press, 2008), 34.

18 Benjamin de la Peña, “Embracing the Informal City,” *The Rockefeller Foundation*, last modified October 2, 2013, <https://www.rockefellerfoundation.org/blog/embracing-informal-city/>

of critiquing the status quo in pursuit of a more cohesive and inclusive society.¹⁹ In doing so informal culture can be interpreted as a critical utopia.²⁰ Utopian literature scholar Tom Moylan identifies a critical utopia as a self-reflexive process capable of undermining hegemony:

The critical utopias give voice to an emerging radical perception and experience that emphasizes process over system, autonomous and marginal activity over the imposed order of a center, human liberation over white/phallogocentric control, and the interrelationships of nature over human chauvinism—and they give voice to the seditious utopian impulse itself. The critical utopias still describe alternative societies, but they are careful to consider the flaws and insufficiencies of these systems.²¹

Informal settlements offer opportunity for diverse people to co-exist and need to be liberated from the binary classifications of formal and informal, utopia and dystopia. Informal settlements must be recognized as valid alternative urban neighbourhoods within metropolitan areas.²²

Lefebvre's argument in *The Production of Space* is that space is a social product, or a complex social construct based on values that affect spatial practices and perceptions.²³ This argument reveals a shift in research perspective from space, to the processes of its production, and therefore suggests a closer look at informal building culture and the process of autoconstruction in informal settlements. Supporting Lefebvre's position that the social production of urban space is fundamental to the reproduction of society, a social lens is used to investigate the complexities of informal life and informal building culture. Informal areas hold the key to unlocking future sustainable development and investigating their processes will contribute to a radical re-thinking of city space and its institutions.

2.2 Building Opportunity

Walking into informal areas, looking past the open sewers and self-built homes

19 Ashlie Lancaster, "Instantiating Critical Utopia," *Utopian Studies* 11 (2000): 112.

20 Lancaster, "Instantiating Critical Utopia," 112.

21 Tom Moylan, *Demand the Impossible: Science Fiction and the Utopian Imaginary*, (London: Routledge, 1987), 211.

22 CatComm.org, "Favela as a Sustainable Model", *Catalytic Communities*, last modified 2015, <http://catcomm.org/favela-modelo/>

23 Henri Lefebvre, *The Production of Space*, (Cambridge: Blackwell, 1991), 26.

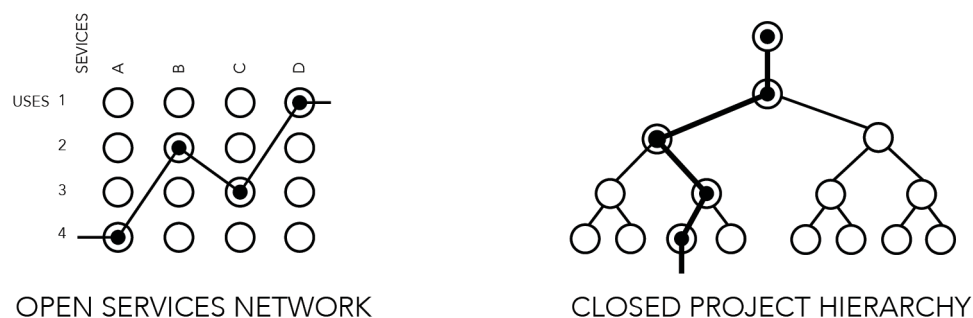


Image 4: Comparison between informal building culture and upgrade project structure. source John Turner, *Housing as a verb*.

many will be surprised to see stationary stores, restaurants, markets, repair shops, barbers, nail salons, schools and hotels. You will see that they are places of capital, where people are actively pursuing opportunity and lifting themselves out of poverty.²⁴ In cities of the global south, the informal economy accounts for up to 40 percent of GDP and informal settlements are home to as much as 25 percent of the urban population.²⁵ Furthermore the global informal working class, 1-1.8 billion people, is becoming the primary mode of livelihood in the majority of African, Asian, and South American cities.²⁶ Indicating that this emerging middle class is made up of a growing number of entrepreneurs. Analyzing the informal economy further anthropologist William House has identifies two subcategories, an intermediate sector made up of dynamic entrepreneurs, and “the community of the poor, which contains a large body of residual and under-employed labour.”²⁷ This analysis identifies the human resources available to designers, the entrepreneurs, capable of inspiring and motivating, and the labours, capable of coming together and getting the job done. Two essential cogs in the engine of upward mobility.

Charles Prahalad’s position is that informal city, which makes up the bottom of the top-down pyramid, is essential to support the formal city.²⁸ This is supported

24 Benjamin de la Peña, “Embracing the Informal City,” *The Rockefeller Foundation*, last modified October 2, 2013, <https://www.rockefellerfoundation.org/blog/embracing-informal-city/>

25 UN Habitat, *Informal Cities*, 2014

26 Davis, *Planet of Slums*, 178

27 Davis, *Planet of Slums*, 180

28 Charles Prahalad, *The Fortune at the Bottom of the Pyramid*. Upper Saddle River, NJ: Upper Saddle River, NJ : Wharton School Publishing, 2005.



Image 5: Incremental building.

by international GDP data indicating the informal economy is essential to the economy of megacities and their metropolitan areas.²⁹ Giving further merit to Gita Verma statement that, “the root cause of urban slumming seems to lie not in urban poverty but in urban wealth.”³⁰ By not paying closer attentions to these processes and relationships we limit the formal cities ability to adapt, and prevent informal areas from becoming independent. It is this intricate relationship of served and servant that the informal city holds that will play an essential role in transforming our cities into engines of opportunity. Recognizing that informal processes are fundamental to providing opportunity and adopting a Critical Realist paradigm to combat the structural and systemic social problem of urban poverty.

John F.C. Turner’s work in informal settlements in Lima and his analysis of the American housing system illustrate the systemic problems formal responses to the informal city have been. Turner explored housing as a verb and as a noun to reveal the self-perpetuating problem of minimum standards in subsidized housing and the activity that housing represents within these communities.³¹ This continuous misalignment with the building culture is suggested to be the reason upgrade projects fail to self-generate future projects. Consider Turner’s Open Service Network as the model for informal building, it is diverse and made up of networks of

29 The Rockefeller Foundation, *The Informal City Reader*, 4.

30 Davis, *Planet of Slums*, 95.

31 John F.C Turner and Robert Fichter, “Housing As a Verb,” *Freedom to Build: Dweller Control of the Housing Process*. (New York: Macmillan Company, 1972), 148-175.

family members and friends. Any one project has the potential to engage a diverse network of community members.³² This ability to resource partition and network is an asset all sustainable communities need to optimize in order to become more self-sufficient. Whereas when we consider the Closed Project Hierarchy as the model for modern upgrade projects we can identify problems such as resource squandering that can result from such authoritarian implementation.³³ Upgrade projects also fail to contribute to the Open Service Network, service or product, and therefore fails to engage residents long term.

Consider Marxism and the role of labour value, David Harvey describes this alternative value system to recognize the significance of human labour and what we do for others. Values consistent with the success of informal development. Harvey further suggests that myopic capitalist society is eroding collective values and effecting our ability to work cooperatively. Manifested in this thesis as top-down upgrade projects. According to Andre Gunder Frank, “underdevelopment was and still is generated by the very same historical process which also generated economic development: the development of capitalism itself.”³⁴ Supporting Janice Perlman’s position that informal residents are marginalized and not marginal.³⁵ With Marxist and Postcolonial theories we cannot continue to limit and exclude informal residents from modernization. Architecture is manifestation of our accountability and we need to expand our social solidarity though it.

Building on the precedence of John Turner and George Gattoni, Chilean architect Alejandro Aravena, founder of Elemental, has responded to informal building culture with the *Half A Home* typology³⁶. The *Half A Home* typology embraces informal building culture and instead of designing a small house, designs a middle-

32 Turner and Fichter, *Freedom to Build*, 154-155.

33 Ibid., 156-159.

34 Richard Peet and Elaine Hardwick, *Theories of Development* (New York: Guilford Press, 1999), 160.

35 Janice Perlman, “Change and Continuity in Rio’s Favelas,” (Rio+ Talks, Rio de Janeiro, RJ, March 7, 2016).

36 Alejandro Aravena, “Quinta Monroy,” Elemental, last modified 2011. <http://www.elementalchile.cl/en/proyecto/quintamonroy-2/>.

income house in which only half is delivered.³⁷ By reframing the question in terms of what where the high cost infrastructural elements are, and what the family would not be able to afford on their own, the deliverable of the project changed to focus on the maximum capacity of each unit and the minimum delivered.³⁸ This division of labour allows for communities to support a secondary round of local development. In the words of Sam Greenspan “building half a house might just be the best way to make a community whole” and that this innovative approach to harnessing the informal building culture is essential to uncovering the potential in these places.³⁹ By leveraging informal building culture architects can validate self-built homes and autoconstruction as a means of opportunity production and an asset for investment. Supporting the informal economy as people climb the socioeconomic ladder.

37 Museum of Modern Art, “Quinta Monroy,” *Small Scale Big Change*, last modified October 2010, http://www.moma.org/interactives/exhibitions/2010/smallscalebigchange/projects/quinta_monroy_housing.

38 Alejandro Aravena, “My architectural philosophy? Bring the community into the process,” *TED Talk*, last modified October 2014, https://www.ted.com/talks/alejandro_aravena_my_architectural_philosophy_bring_the_community_into_the_process.

39 Sam Greenspan, “Half a House,” *99% Invisible*, last modified November 2016, <http://99percentinvisible.org/episode/half-a-house/>

CHAPTER 3: FAVELADOS

Favela is life, favela is love.
 Favela is freedom, friendship and feijoada.
 Favela is people persevering.⁴⁰



Image 6: Cantagalo, a favela in Zona Sul, stacked above the formal neighbourhoods of Impanema and Copacabana.

Brazil and Rio de Janeiro are known internationally for its diversity of informal settlements, including but not limited to favelas, irregular loteamentos, invasoes, and corticos.⁴¹ Census data from the Brazilian Institute of Geography and Statistics (IBGE) indicates that in 2010, approximately 6 percent of the Brazilian population lived in 'slums'.⁴² This means that 11.4 million of the 190 million people that live in the country resided in areas of irregular occupation definable by lack of public services or urbanization, referred to by the IBGE as *subnormal agglomerations*.⁴³ Mega-cities such as Rio de Janeiro and Sao Paulo have over 20% of their populations living in informality.⁴⁴ The 2010 IBGE Census estimates ~1,393,314 people, in 763

40 Janice E. Perlman, *Favela Four Decades of Living on the Edge in Rio De Janeiro*, (New York: Oxford University Press, 2009), XXIII.

41 UN-Habitat, *The Challenge of Slums*, 225.

42 IBGE, "Censo Nacional 2010," *Brazilian Institute of Geografia and Estatística*, last modified November 2011, http://www.ibge.gov.br/home/estatistica/populacao/censo2010/tabelas_pdf/total_populacao_rio_de_janeiro.pdf.

43 IBGE, "Censo 2010,"

44 Ibid.

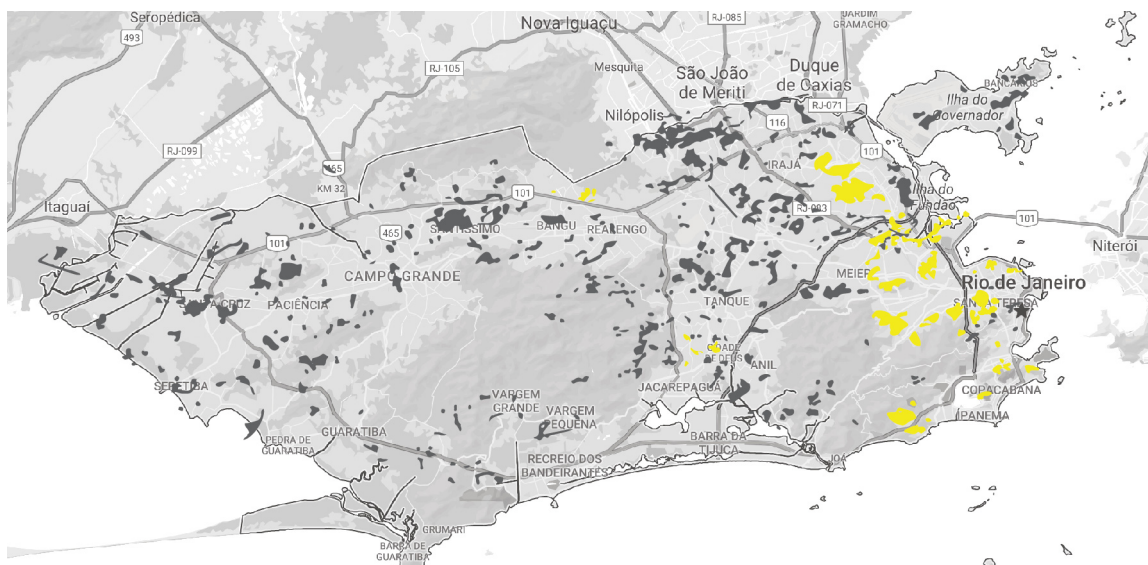


Image 7: Favelas of Metropolitan Rio de Janeiro, distribution of investment projects represented in yellow, data from Google Maps.

favelas, or 25% of Rio de Janeiro’s residents, “live in favelas, or ‘substandard’ and irregular housing communities.”⁴⁵ Favelas, like all informal settlements, are the product of autoconstruction. A process that results when a person needs a home but does not have the free capital to purchase a home in the formal city but has the resources to save money and build a home over time with the help of family and friends. Favelas are the dense urban hillside communities. These informal settlements range from 6000-300000 people, each rich in their own unique culture and heritage, built of brick, mortar, reinforced concrete, plywood, corrugated metals, plastic sheets and other improvised building materials. Favelas, like all other informal settlements are the product of incremental building. A process that fluctuates depending on material cost and cash flow, material transportation and storage, and access to skilled and unskilled labour.

There is no consensus about the appearance of the first *favela*, it is generally agreed that the first one was formed in 1897, when 20,000 Northeastern federal troops were abandoned in Rio de Janeiro without a place to live.⁴⁶ After losing their

45 Pereira Passos Institute, “Economic, Social and Urban Integration Rio de Janeiro Case Study,” *Rio Prefeitura*, last modified April 2016 <https://www.wilsoncenter.org/sites/default/files/La%20Rocque%20Presentation.pdf>

46 Sônia Zylberberg, *Morro da Providência: Memórias da Favela* (Rio de Janeiro: Rio de Janeiro Prefeitura, Secretária Municipal de Cultura, Turismo e Esportes, 1992), 1-20.

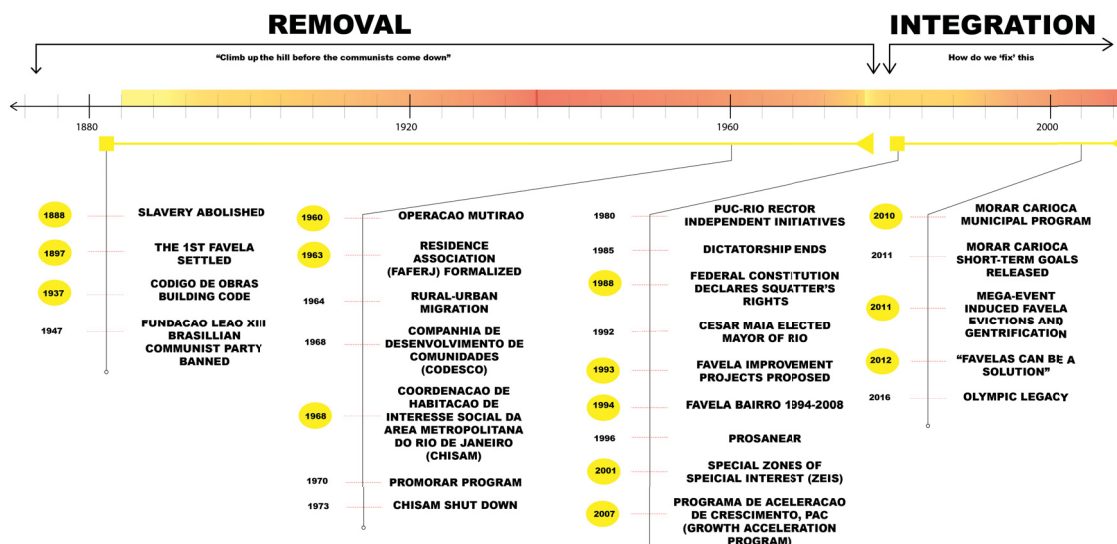


Image 8: Major events in Favela development. See Appendix B for detailed timeline of events.

homes to city bureaucracy they took over the closest hill in the neighbourhood of Gamboa and built improvised shacks.⁴⁷ The military men called the place *Morro da Favela* inspired by the name of the hill they had camped on during the war, which had an abundance of a nettle-like shrub called 'favela' that burned the skin when touched.⁴⁸ Coupled with the abolishment of slavery in 1888, more improvised homes appeared on the hillsides. This was further exasperated in the 1960's with the rural-urban migration, when people from the interior of Brazil moved to city-centres in hope of a beter life. Since then the term '*favela*' has become used to describe low-income settlements throughout Rio de Janeiro and Brasil.⁴⁹

The gross inequity ever-present in Brazil has led to continuous experimentation with informal settlements for last one hundred years. From the Haussmannization of Rio de Janeiro at the turn of the 20th century, to the removal programs of the 60's and 70's, to the integration based discourse of Morar Carioca, Rio de Janeiro's latest urban development program.⁵⁰ Prior to 1970's urban development strategies

47 Sônia Zylberberg, *Morro da Providência: Memórias da Favella*, 1-20.

48 Ibid.

49 Helia Xavier and Fernanda Magalhães, "Urban Slums Reports: The case of Rio de Janeiro, Brazil," *University College London and Development Planning Unit*, last modified 2003, http://www.ucl.ac.uk/dpu-projects/Global_Report/cities/rio.htm.

50 World Bank Group, "Retaking the Path to Inclusion, Growth and Sustainability," *Brazil Systematic Country Diagnostic*, last modified May 2016, <https://openknowledge.worldbank.org/>.

consider favelas as ‘aberrations’ that devalued the marvellous city and needed to be cleared, epitomized in 1970 when the city set fire to Catacumba, a favela on north side of Lagoa in the South Zone. Following Janice Perlman’s seminal work on the favelas of Rio de Janeiro in 1967, and publication *The Myth of Marginality* in 1974, the discourse regarding the potential of favelas has changed.⁵¹ Developing further since Brazil’s return to democracy, and the election of Rio de Janeiro Mayor César in 1992.⁵² César stimulated a social agenda in politics with Lefebvre’s “Right to the city” and facilitated the development projects and movements still being used.⁵³ When the state intervenes in the name of ‘progress’, ‘beautification,’ and ‘social justice for the poor,’ it redraws spatial boundaries to the advantage of landowners, foreign investors, elite homeowners, and middle class commuters.⁵⁴ Consistently seeking to maximize private profit and social control through urban redevelopment.⁵⁵

Of the 763 informal settlements in the MRJ, over 300 have received attention for upgrade projects, yet only about 60% have moved to completion.⁵⁶ Favela upgrade projects seek to raise the quality of life and standard of living within these informal communities. Rio de Janeiro continues to use a project approach to integration that ties up excessive resources and institutional effort in a few locations and has not been able to achieve the desired level of housing stock.⁵⁷ Rio’s policies regarding favelas have propagated a cycle of dependence, which denies alternatives to the present and discredits the possibility of alternatives based on the promise that change is unrealistic.⁵⁸ Setting the bar so low for what is considered good design

[org/handle/10986/23954](http://www.100resilientcities.org/handle/10986/23954).

51 Perlman, *Favela*, 120.

52 Xavier and Magalhães, “Urban Slums Reports,” 12-14.

53 Ibid., 12-14.

54 Davis, *Planet of Slums*, 98

55 Ananya Roy and Nezar Alsayyad, ed., *Urban Informality: Transnational Perspectives* (Oxford: Lexington Books, 2004), 90.

56 Rio Prefeitura and 100 Resilient Cities, “RioResiliente: Resilience Strategy of the City of Rio de Janeiro,” *Rio Prefeitura*, last modified March 2016, http://www.100resilientcities.org/strategies/city/rio-de-janeiro#/-_/.

57 Lara, Fernando Luiz. “Favela Upgrade in Brazil: A Reverse of Participatory Processes.”

58 Santos, Boaventura de Sousa. “The World Social Forum: A User’s Manual.” http://www.ces.uc.pt/bss/documentos/fsm_eng.pdf, 11.

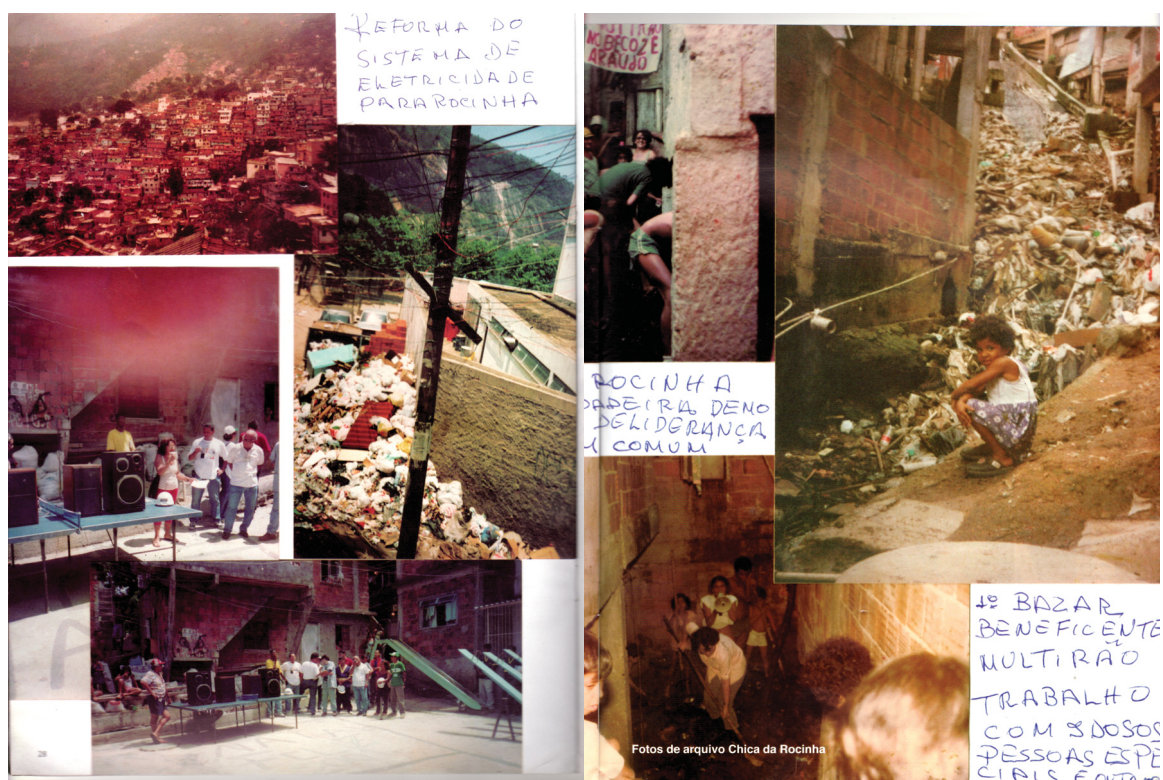


Image 9: Residents of Rocinha working together to build a better urban environment for themselves. Source; Setor X.

and appropriate action in informal areas. This has had the additional problem of consolidating the real estate submarket, causing land and houses in the favela to become consumption goods and prices soar, pricing out locals.⁵⁹

Although upgrade programs and projects identify the need to support the local building culture it is used solely as unskilled labour. They recognize the importance of including residences and the value of their skills as a labour force however, upgrade programs miss the opportunity to facilitate skill transfer in the building sciences by providing training in participatory design and project delivery when projects are object or 'facilities' focused. Therefore, failing to provide people the opportunity to learn new occupations, learning about how to improve their own homes as well as their ability to mobilize resources and bring about change and improvements in their own neighbourhood. Which has consistently shown a positive impact on citizenship and self-esteem.⁶⁰

⁵⁹ Ibid.

⁶⁰ Satterthwaite and Mitlin, Empowering squatter citizen, 189



Image 10: Reuse culture is promoted in favelas with the informal separation of garbage and salvageable materials so people can repair found items for new uses. Source; Setor X

Favelados are arguably not poor, in physical or intellectual capital, but are rendered poor by the modern structure of the cities they are in.⁶¹ Walking into a favela you will see young people with cell phones, and flat screen televisions inside people's homes. You will not, however, find equal access to public infrastructure, public services or public space. Although over 50% of informal residents are part of the emerging middle class, it is important to understand the difference between middle class consumerism and middle class access.⁶² The difference between consumerism and access is critical and presenting evidence to why the informal building culture is an opportunity for investment. Perlman provides critical information on the norms, practices, and rituals that take place within favelas. Living there before the rise of the drug and weapons traffic Perlman provides insight into the function and structure of these communities, specifically the breadth and depth of community associations and cooperation. Perlman's longitudinal study also provides evidence

61 Hernando De Soto, *The Mystery of Capital* (New York: Basic Books, 2000), 28-30.

62 Janice Perlman, "Change and Continuity in Rio's Favelas," (Rio+ Talks, Rio de Janeiro, RJ, March 7, 2016).

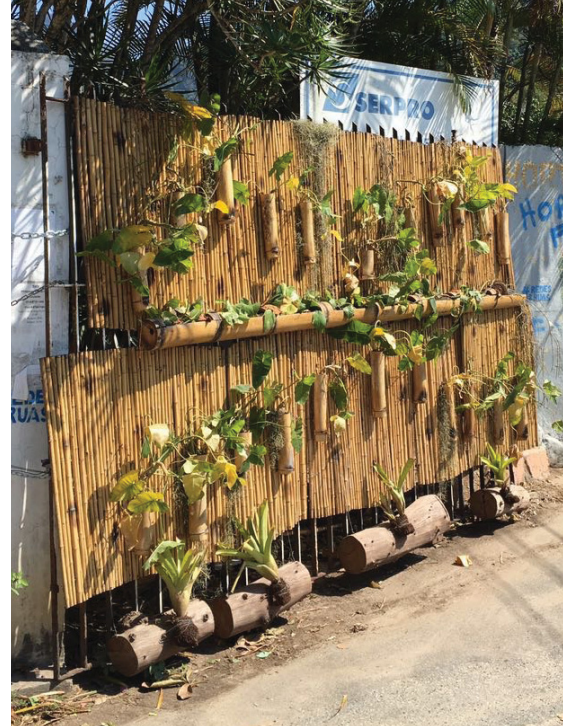


Image 11: Wall constructed with plastic bottles.
Image 12: Wall constructed with bamboo.



Image 13: Reuse art constructed out of found objects and recyclables.
Image 14: Table constructed out of bicycle wheels.

of the destruction of community associations as a result of favela evictions, the rise of the drug and weapons traffic, and the arrival of the UPPs.⁶³ Perlman's commentary is critical for understanding the importance of community in each favela's unique history in order to create an authentic interpretation and design a new 'aura' for the people who live there.⁶⁴ A failure to do so results in projects that suffer from ownership and maintenance. Therefore how can we change the way we invest in favela 'development' so that the community is able to self-mobilize upgrades that validate the self-constructed community. As Janice Perlman insists, "if we fail to incorporate slumdweller in our solutions, we fail to harness their intellectual capital."⁶⁵

The resilience of favelas, and all informal settlements, is the result of a community based co-dependence where people understand that we work better together, as a group or community, then we do as individuals. This fundamental understanding of cooperation manifested through the formation of the residents associations and the informal building culture known as *mutirao*. *Mutirao* comes from the Tupi word for 'free-help' or 'working-together' and its interpretations and forms today vary, from building houses to cleaning the neighbourhood through collective initiatives.⁶⁶ Favelas breed a re-use culture that speaks to the poverty and scarcity but has aligned my thesis with Lévi-Strauss's bricoleur:

The 'bricoleur' is adept at performing a large number of diverse tasks, he does not subordinate each of them to the availability of raw materials and tool conceived and procured for the purpose of the project. His universe of instruments is closed and the rules of his game are always to make do with 'whatever is at hand', that is to say with a set of tools and materials which is always finite..., but is the contingent result of all the occasions there have been to renew or enrich the stock or to maintain it with the remain of previous constructions or destructions.⁶⁷

Recognizing the force of collective action projects in Brazilian favelas I move to

63 Perlman, *Favela*, 120.

64 Janice Perlman, "Change and Continuity in Rio's Favelas," (Rio+ Talks, Rio de Janeiro, RJ, March 7, 2016).

65 Janice Perlman, "Urbanization Seminar Series - Janice Perlman," Harvard GSD, last modified April 2012, <http://www.gsd.harvard.edu/#/media/urbanization-seminar-seriesjanice-pearlman-mega-cities-the.html>.

66 Sara Pilote, "Solidarity vs. Individualism: The Power of Mutirão," *Rio On Watch*, last modified September 26, 2011, <http://www.rioonwatch.org/?p=1762>.

67 Claude Lévi-Strauss, *The Savage Mind*, (Chicago: University of Chicago Press, 1966), 24.

establish the informal building culture as an institution. Executed with a formal space and modeled after cooperative movements and engage modern technology, with support from public authorities, in order to facilitate self-sustainable upgrades in under serviced areas. Advocating for Asef Bayat's Interpretivist "Quiet Encroachment of the Ordinary" model to place residents not in conflict with modern city structures but instead make incremental upgrades in order to better their living conditions and establish citizenship within the formal city. sense of security subtle and protracted trespasses on the "formal" city.⁶⁸ In terms of participation, this thesis is situated methodologically and historically around recent forms of participatory practices that deal specifically with creating communities and look to the residents associations, for groups of residents who are organizing around the common interests of the community and are searching for solutions to social problems within the community and community-city interactions.⁶⁹

68 Asef Bayat, "Politics of the Informal," in *Urban Informality: Transnational Perspectives*, edited by Ananya Roy and Nezar AlSayyad (Oxford: Lexington Books, 2004), 90-91.

69 David Satterthwaite and Diana Mitlin. *Empowering Squatter Citizen*, 168.

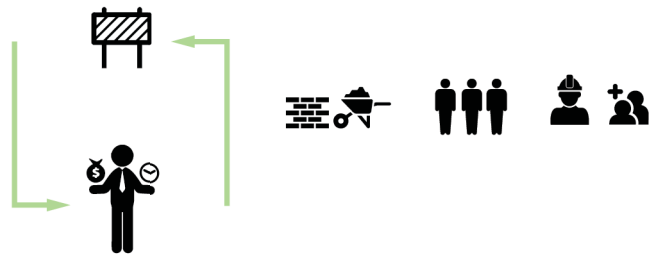
Auto-construction requires the property owner, the Dona, to manage the extension on the home



The Dona contacts local semi-professionals for the project assessment. The local handyman, the Pedriero, to establish a timeline, required materials and number of people necessary.



The Pedriero contacts 1-2 other local builders to assist him in facilitation the extension.



The Dona organises the tasks to complete before construction begins.



Storing materials in preparation for construction is critical



Image 15: Informal building in Brazillian favelas is known as mutirao and operates via the system above.

CHAPTER 4: THE ROLE OF THE ARCHITECT

*One must be convinced to convince, to have enthusiasm to stimulate the others.*⁷⁰

Over built history the role of the architect has changed; integrated with religion and medicine in Ancient Egypt, to being defined by craft in the Middle Ages with development of the term 'master builder'. This role becoming specialized as a profession in the 17th century and now a commodity as capitalist society compromises the ethics of architecture, making it difficult for architects to act as activist within the system. In Brazil, much like Canada, architecture only services the top end of the population through private clients and social projects such as affordable housing are the responsibility of the government although publicly funded programs.

In Brazil, upgrade projects operate through a top-down government system where the role of the architect is to satisfy their obligations to the government, the client, while providing the most opportunity to favela residents, the project recipients. The architect is required to represent the community during a project, acting as their voice to city officials to influence the type of facilities focused approach being taken. Unfortunately architects can only offer support for the duration of the project, and afterward the government disconnects from the community as soon as the project has been delivered. As a result repairs, upgrades and even future planning ends until a new architect comes to the community and needs to re-establish connection in the community and the start the process all over again. As architects we need to design buildings that provide larger lessons for informal citizens.

Consider the historic role of the architect as master builders and craftsmen, men and women with building skills and an ability to foster a community vision. Casa Deposito draws parallels between histories master builders and the local handymen and semi-professionals taking up action, making change, and helping people maintain their precarious homes in the favelas of Rio de Janeiro, and in all informal areas around the world. In Brazilian favelas they are known as *pedreiros*, local handymen who help residents with building maintenance and additions to

⁷⁰ Stefan Zweig, *Stefan and Friderike Zweig: Their Correspondence, 1912-1942*, (New York: Hastings House, 1954), 344.

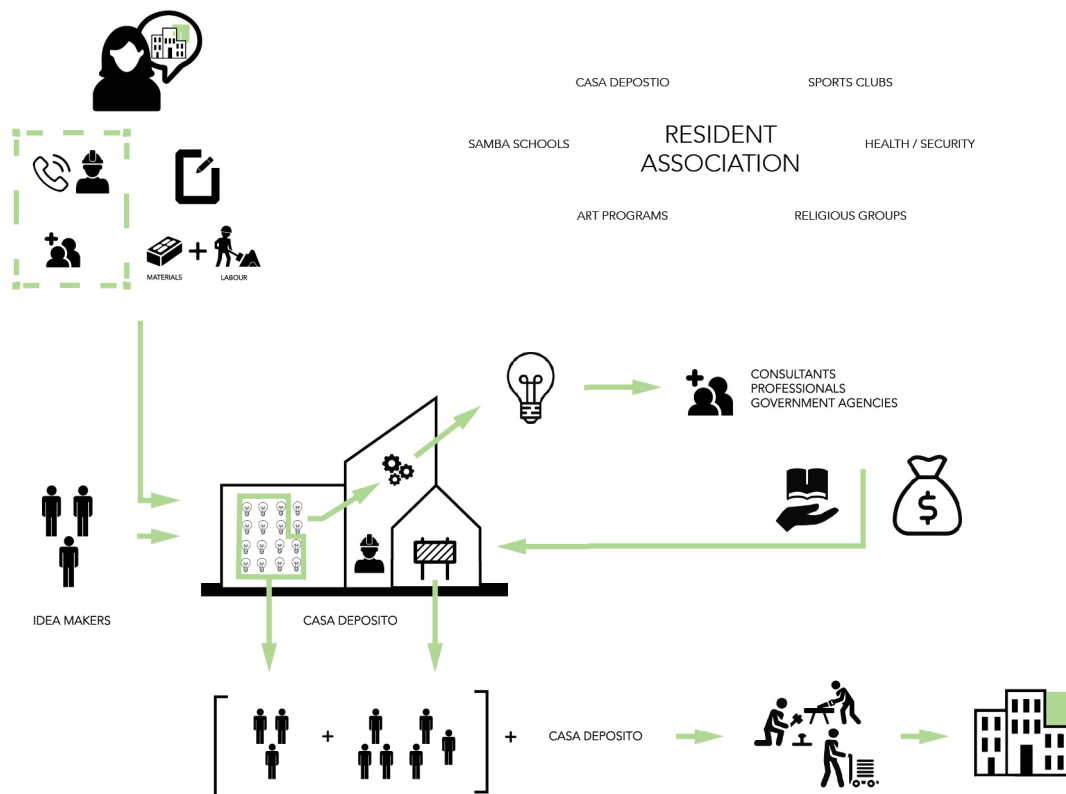


Image 16: Casa Depósito as an institution in informal areas that facilitates community upgrade projects.

their homes. They do not have any specific or formal training but know a little bit of everything within the construction trades. It is within this parallel that the distinction between formal role of an architect and the acting role of the architect are defined. The formal role of an architect in Brazilian favelas is to be an activist and a future planner, to act as a socio-spatial and cultural agitator, as understood by the Russian avant-garde and Le Corbusier. The acting architects however are the people of the community who utilize their skills and creativity to elevate the built environment, creating a vernacular architecture. Favelas and other informal settlements require a new balance between architect and builder, advocate and visionary. A balance that supports local design and architecture and takes advantage of global systems, providing a new platform for bottom-up movements to engage with top-down upgrades and empower residents.

CHAPTER 5: CASA DEPÓSITO

Richness in life may be measured not by possessing ‘more’ materials as individuals, but rather by requiring ‘less’ materials through a more fully shared and higher quality environment.⁷¹



Image 17: Site collage of community building.

Casa Depósito seeks to become an institution in informal settlements in Rio de Janeiro, Brazil and be a stimulator of similar projects around the world. Inspired by the grassroots community institutions, a focus on public projects that incorporate participation, community building, and place making are considered to legitimize auto-construction and defend against displacement. Since favelas, especially in Rio’s South Zone, are struggling with gentrification, speculation and uncertainty. It is necessary for new possibilities to be cultivated in order to survive.

Embracing informal building culture, Casa Depósito is a building cooperative and technology laboratory that can empower local handymen, semi professionals, and residents of informal settlements. Casa Depósito provides a place where community members can go to learn how to maintain and upgrade their homes as

⁷¹ Paulo Soleri, “Design Principles,” *Arcosanti*, last modified 2012, <https://arcosanti.org/node/8628>.

well facilitate larger community upgrades. The larger urban systems Casa Depósito therefore includes public space, infrastructure remediation, housing, as well as urban agriculture and waste management, see Image 22 and 23. By addressing work in the public realm the intention is to transition public space from belonging to no one, and being serviced poorly by the city, to belonging to the workers and users followed by the whole community when the site becomes integrated into the cultural fabric.

5.1 Design Principles

In viewing favelas as a critical utopias, they become the sustainable counterpart to the formal city. Casa Depósito capitalizes on creative resourcefulness, educational opportunities, energy and food sustainability to close the gap between the legacy of favela upgrade projects and the long-term self-sufficiency and sustainability of favelas in the built environment. As such Casa Depósito intends to provide communities with the opportunity to liberate themselves from the top-down service delivery cycle of dependence through an integrated workers-cooperative and public space project to build-up community self-esteem and independence for the next generation. Demonstrating community uptake and replicability as fundamental success measures in projects in informal cities.

Residents of Rio's favelas will transform into an international resource, becoming the leading edge of self-sufficient sustainable development, creative and skilled in construction. Casa Deposito at the smallest scale can be understood as community tool share that promotes innovation and demonstrates examples of best practice. Where the entrepreneurial spirit of local handymen and semi-professionals can be fostered, where residents can borrow tools and renovate their homes, where communities can gather to design a plan to achieve larger urban goals. Fundamental to this is the role of the support paradigm and how resources can be decentralized and disseminate support local enterprises. Building technology and education becomes a way to integrate development activities and link autoconstruction to larger urban systems of employment and production⁷²

⁷² Nabeel Hamdi, *Housing without Houses: Participation, Flexibility, Enablement*, (New York: Van Nostrand Reinhold, 1991), 27-28.



Image 18: Casa Depósito filling in gaps in the fabric and addressing affordable housing.

Casa Deposito recognizes mutirao, informal building culture, as an institution in favelas that deserves formal representation. It does so to validate autoconstruction as a manifestation of citizenship. Casa Deposito's are established to:

- Select a site that combines public space and public services with educational, work and leisure opportunities
- Create a community owned space where everyone is welcome.
- Create a source of knowledge and a place of skill transfer for future generations that reinforces the communities independence.
- Reinforce the cultural sustainability of the informal building sector (building typology, building construction, materiality, etc.).

5.2 Design Method

Top-down integration systems, building cooperatives, and cooperative movements were considered for implementation in Casa Depósito. Looking within Brazil for success in top-down projects other large cities such as Sao Paulo and Belo Horizonte are examined. Sao Paulo is the largest city in Brazil and the cultural and economic centre of the country. Similar to Rio de Janeiro, this megacity is dealing with the proliferation of informal settlements, and favelas. In recent years

the political position has embraced a 1970's Cuban discourse of bringing the most notable architects to work for the poorest people.⁷³ This juxtaposition intends to 'reserve' this underserved population, however is met with a lack of ownership and maintenance. Communities often interpreting these point source investments as facades that fail to address water security or health and sanitation problems. Belo Horizonte has seen the most success with its top-down projects due to the political commitment to favela development projects in Minas Gerias.⁷⁴ Even when the dominant political party within Belo Horizonte changed the position of the favela and development process have not.⁷⁵ This reinforces the need to change the development and upgrade process in Rio de Janeiro to be more independent of city bureaucracy.

Rio de Janeiro's political atmosphere is divided into the haves and have-nots. As millions of tourists come to the city every year, international appearance is seen as more important than the lives of the poor. For example, in preparation for the Rio 2016 Summer Olympics the city installed highway barriers along Complexo do Almeao's facing side to minimize the appearance of the favela as international tourists drove into the city. Despite the miss attention the favelas of Rio de Janeiro receive, the city has supported the formalization of the residents association since 1965, which empowered residents with influence in local politics and action items. In structuring Casa Deposito it becomes essential to leverage the residents association and the role it plays within the cities political atmosphere. By aligning itself with the residents association it reinforces the communities voice and formalizes a space for the city and community to work together. In turn establishing all Casa Deposito's as local development centres within favelas.

Favelas have been marginalized with respects to public infrastructure, public services, and public space and have fostered resilience through community associations and grassroots organizations. This is expressed formally in each

73 Fernando Lara, "Favela Upgrade in Brazil: A Reverse of Participatory Processes," *Journal of Urban Design* 18, no. 4 (2013): 553-564.

74 Fernando, "Favela Upgrade in Brazil," 553-554.

75 Ibid, 556.

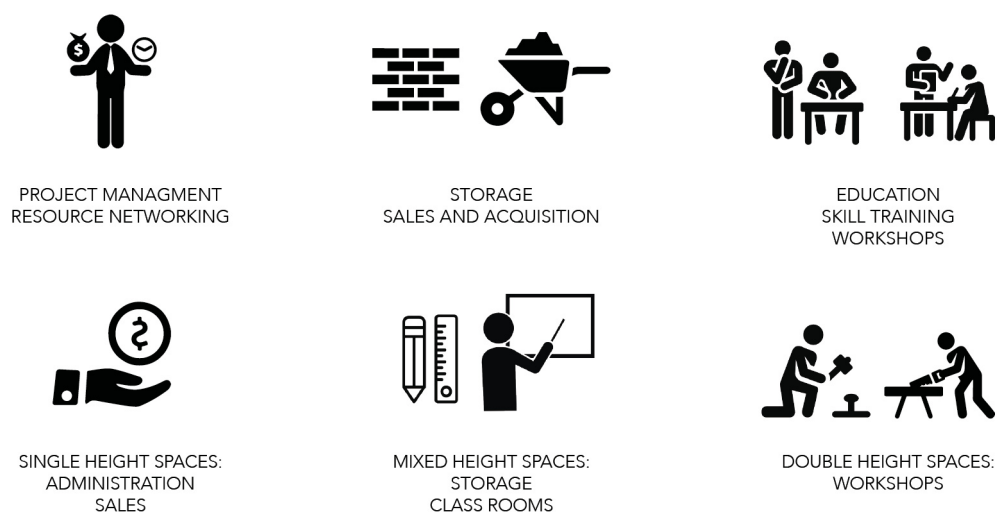


Image 19: Programatic schema developed from mutirao.

favela as a residents association, samba schools, sports clubs and churches. These institutions facilitate resource sharing, network development, and a creative reuse culture. Similarly, cooperatives are based on the values of self-help, self-responsibility, democracy, equality, equity and solidarity values inherent in mutirao and the grassroots organizations found in favelas.⁷⁶ Casa Depósito is rooted in these values, understanding them as essential tenants of informal life. The collective values that drive cooperative models allow the community to be placed in control of its own development, relative to the resources and skills available. Casa Depósito exists to facilitate the independent and voluntary association of people to meet common economic, social, cultural needs and aspirations.⁷⁷ As a community owned and democratically controlled space Casa Depósito would represent community cooperation and advertise the breadth of construction enterprises in its construction method and as an object.⁷⁸ This in turn engages Turner's Open Servies Network and informal life by providing space and representation informal

76 COOP, "Co-operative Identity, Values & Principles," *International Co-operative Alliance*, last modified 2017, <http://ica.coop/en/whats-co-op/co-operative-identity-values-principles>.

77 Camila Piñeiro, *Cooperatives and Socialism: A View from Cuba*, (Basingstoke: Palgrave Macmillan, 2013), 27.

78 Piñeiro, *Cooperatives and Socialism*, 27.

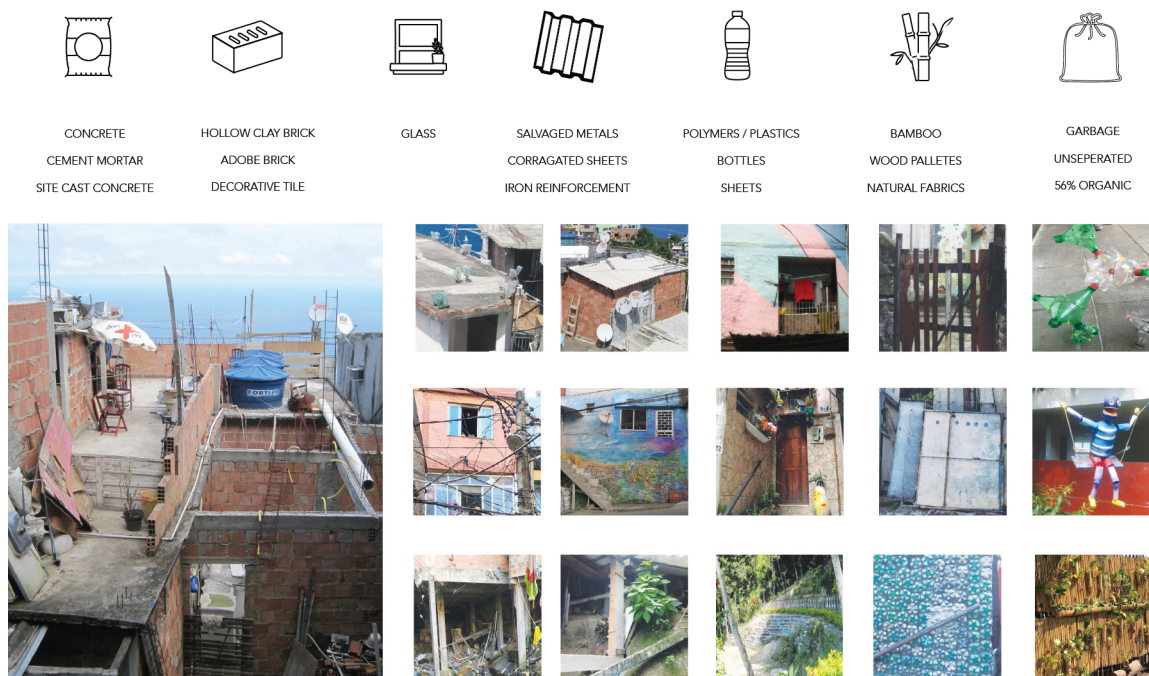


Image 20: Material palette.

and formal businesses owned by the residents.⁷⁹ For example, informal jobs within mutirao include *catadors*, people who collect salvageable materials from garbage points, and *carregadors*, people who transport materials, would find formal representation within Casa Deposito as locals seek out their services.

Analyzing mutirao and informal building culture for program opportunities identifies the primary function of Casa Depósito is to provide space for local handymen to advertise their skills, store and sell building materials, as well as educate and train people in building practices as seen in Image 19. Casa Depósito also uses the diversity of people in favelas as a program opportunity for skill transfer, and understood demographic engagement by targeting education to children and young people, work to adults and leisure to seniors. This reinforces the importance of process and timed cross programming opportunities inherent to the incremental nature of informal building culture. Breaking down what the primary building investment provides and what secondary outcomes can be facilitated. Specifically what types of programs can be built up and sustain themselves. A recycled art workshop could engage local artists providing them with space while working with residents to build

⁷⁹ Ibid. (1995 statement of the co-operative identity; describes the definition of a co-operative, the values of co-operatives, and the seven cooperative principles)



Image 21: Dissemination of knowledge across South Zone favelas, Rio de Janeiro, RJ, Brazil, data from Google Maps.

tables or room dividers for the classrooms. The intention here is to ensure that the community has an opportunity to take over ownership of the space.

Using Alejandro Aravena's half-home typology as precedence Casa Depósito is designed with a supportive framework that anticipates autoconstruction and expanding programs. Elemental assumes that 50% of each unit will eventually be self-built, therefore the structure needs to be porous enough to allow independent expansion and robust enough in order to avoid any negative effects of self-construction.⁸⁰ The vision is that residents end up with a better house than what they could have built on their own or received from ordinary state funding.⁸¹ Interrogating Casa Depósito in terms of what infrastructure and associated skills are needed now and what exists and can be built upon begins to phase the project as a whole considering the function of each construction step and what establishes ownership. Considering the material palette in Image 20 Casa Depósito engages residents by educating and employing young adults and local handymen through its primary structural frame and integrated water systems. As program spaces are needed floors and walls support continued employment. This secondary development is

80 Alejandro Aravena, "Quinta Monroy," Elemental, last modified 2011. <http://www.elementalchile.cl/en/proyecto/quintamonroy-2/>.

81 Alejandro Aravena, "My architectural philosophy? Bring the community into the process," *TED Talk*, last modified October 2014, https://www.ted.com/talks/alejandro_aravena_my_architectural_philosophy_bring_the_community_into_the_process.

organic and can become a way to experiment with materials to create formal interior spaces. Casa Depósito is designed to exhaust the site's potential, building allowances and water security, and secure the functional items of a tool share and work shop that will allow the community to build a better community development centre than what top-down projects could provide. Therefore by using architectural tools for non-architectural questions Casa Depósito is embracing the potential in informal building to assert ownership and claim citizenship.

Building height allowances can vary from three to six stories and recognizes the first step for any Casa Depósito is to establish the first ceiling and to secure water to the site. In the favela a de facto property owner is a person who builds the first ceiling. As a result Casa Depósito uses the supportive frame work to claim air rights and therefore ownership over the whole site. Water in the favela is turned on and off and as a result each home must store at least 1000L of water on their roofs for use. Water security is critical for any building in a favela and Casa Depósito incorporates rain water harvesting and grey water recycling to add to promote rights and decentralized water practices. This is developed at any Casa Depósito into a circulation and services core that provides the building and the community with essential infrastructure.

Implementing Casa Depósito uses success such as the Microregional Centre of Technology Innovation in Pensamiento Liberal Mexicano, Mexico. In this project Archintorno and Action Through Architecture used cooperative models to build an experimental centre where low-tech and low-cost innovative technologies could be improved to benefit an increase in the local economy. Specifically the investment in local tradesman, carpenters and bricklayers, and tequio, the informal building practice where by each family offers free work to its community each year. Using local building materials and methods the project was able to participate directly in community development. Attention to education and sustainability further support the development of this community through its materials and construction practices. Facilitating skill transfer was central to the project and is used to establish infrastructural programs such as an experimental centre, worm compost area, internet access, and kitchen. Casa Depósito



Image 22: Casa Depósito in infrastructure remediation, waste management, sustainable water practices.



Image 23: Casa Depósito in hillside retention, urban agriculture, organic energy production.

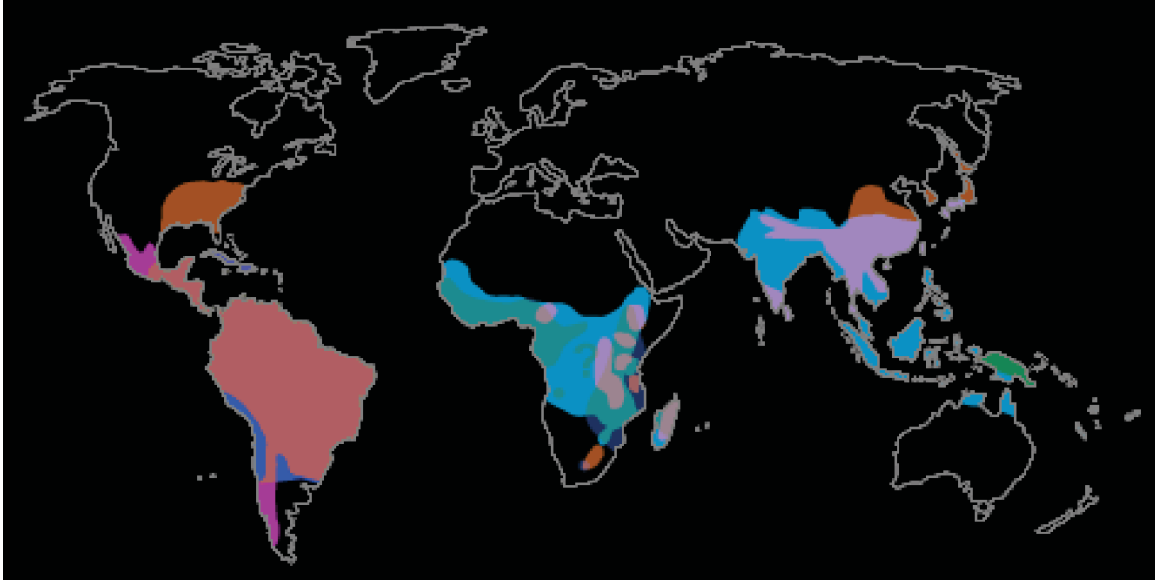


Image 24: Global bamboo distribution of primary building species; data from Dr. Clark, Iowa State University, "Bamboo Diversity".

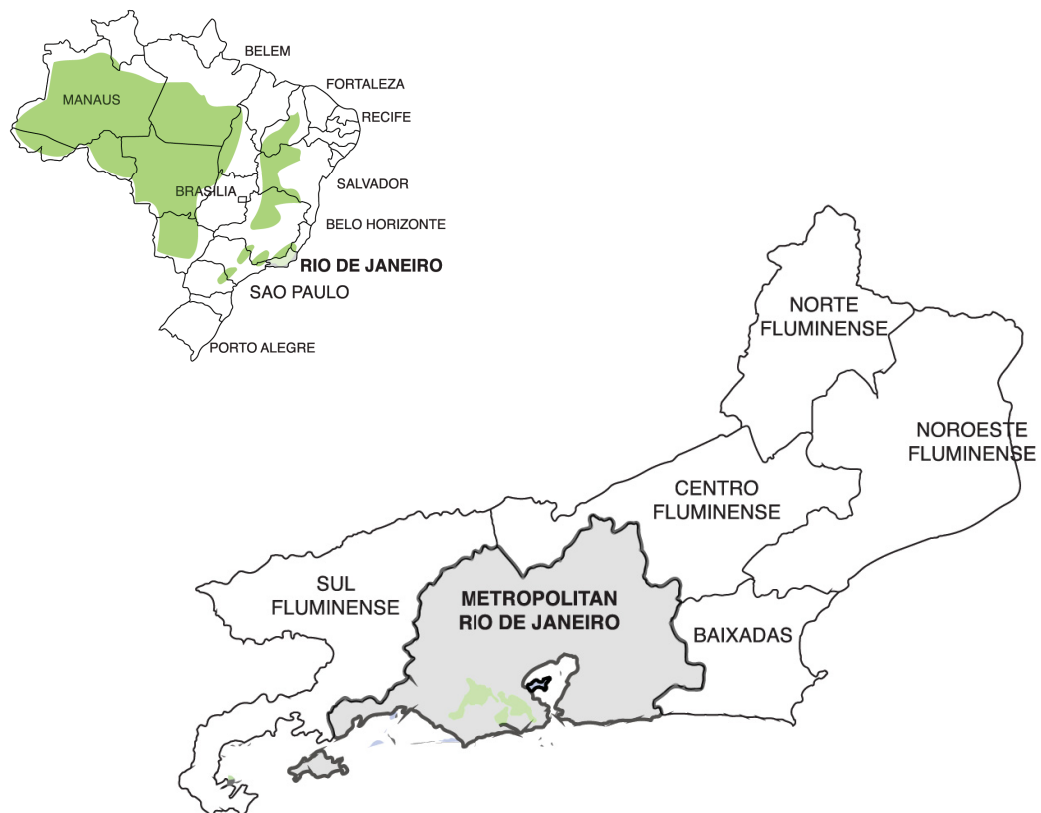


Image 25: Bamboo growth in Brazil and Rio de Janeiro.



Image 26: Bamboo opportunity in Tijuca forest surrounding South Zone favelas.

develops this for Brazilian favelas by establishing itself as a community tool share first, then into a design-build lab outfitted with 3D printers and community classrooms, establishing a framework for future development within the site.

Casa Depósito is established to provide a formal space for existing members of the incremental building network but also to enrich the network in new ways. Walking around the favela you understand a material palette of brick, mortar, reinforced concrete, corrugated metals, plastic sheets, other improvised building materials, wood and more recently bamboo. The success of bamboo has recently stimulated the Brazilian government to capitalize on its 232 species of bamboo as a raw material for agricultural export.⁸² 62% of the bamboo species growing in Brazil are found in Atlantic forests, such as Tijuca forest.⁸³ Tijuca forest is the world's largest urban forest, it covers the granite mountain range that gives Rio de Janeiro its distinct landscape, and is backdrop to the majority of favelas in Rio.⁸⁴ Bamboo is explored in Casa Depósito in order to provide informal residents an opportunity to grow their own building materials. And as Simon Velez suggests, grow their own

⁸² Guilherme Korte, "New Sustainable Agribusiness in Brazil: Bamboo," *Brazilian Bamboo Producers Association*, last modified April 2015, <https://www.slideshare.net/GuilhermeKorte/new-brazilian-sustainable-agribusiness-bamboo-46964572>.

⁸³ Ibid.

⁸⁴ Ibid.



Image 27: Vidigal, Rio de Janeiro, can be found west of the high end neighbourhood of Leblon and Gavea, on the east side of Dois Irmao mountain, data from Google Maps.

homes.⁸⁵

Casa Depósito has the ability to provide classrooms for technology and design build workshops as well as support construction and material experimentation. Utilizing Atlantic forest bamboo species introduces additional services and products into informal building culture, creating new local experts and supporting the local economy

5.3 Project

Diga-me e eu vou ouvir. Mostra-me e eu vou entender. Envolve-me e eu vou aprender.⁸⁶
Tell me and I'll listen. Show me and I'll understand. Involve me and I'll learn

The favelas of Zona Sul, Rio de Janeiro's South Zone are exquisite. Stacked on the mountainside and overlooking some of the world's most beautiful beaches these communities were zoned as 'Areas of Special Interest' in 2001 due to their ability to provide affordable housing.⁸⁷ Unfortunately development and six years of

⁸⁵ Simón Vélez, Alexander von Vegesack, Mateo Kries, Design Museum Vitra, ZERI Foundation, and C.I.R.E.C.A. *Grow Your Own House*, (Weil am Rhein, Germany: C.I.R.E.C.A, 2000), 5.

⁸⁶ TIBA, "TIBA," *Institute of Technology Intuitiva and Bio-Arquitectura*, last modified 2015, <http://www.tibario.com/>.

⁸⁷ Catherine Osborn, "A History of Favela Upgrades Part II: Introducing Favela-Bairro (1988-

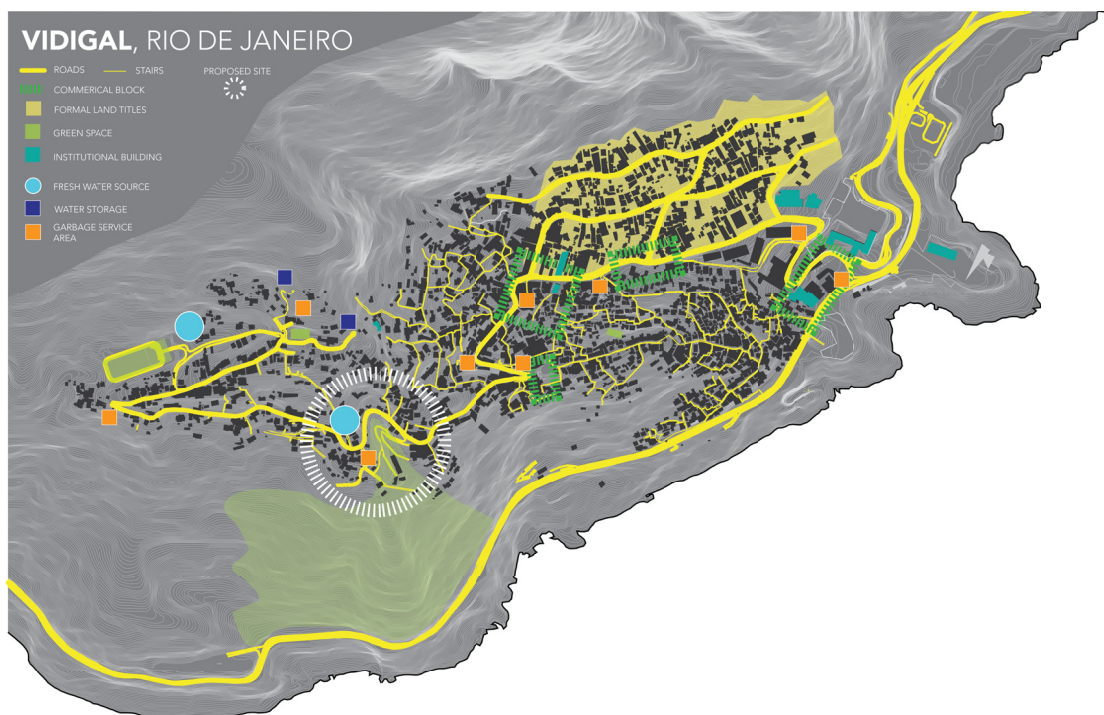


Image 28: Reading the community, Vidigal, Rio de Janeiro.

mega events have now created problems of gentrification and speculation, known as *favelas as expulsao branco*. Positioned to help facilitate independence and sustainability in favelas. Each Casa Depósito is developed out of context to act as an educator of best practices and innovation. Vidigal has been chosen as the test site for Casa Depósito #1.

Located beneath the famous Dois Irmao mountain, west of the high class neighbourhoods of Leblon and Gavea is Vidigal. Known as the friendliest and most cultural favela, it is home to 30,000 people in 7 neighbourhoods. The community was named after a former commander of the Military Police of Rio de Janeiro state in the 19th century, Major Miguel Nunes Vidigal.⁸⁸ The first slums were built here in 1940s.⁸⁹ having purchased the land legally from the city and surviving the favela eradication programs of the 1970's, and receiving some formal land

2008),” *Rio On Watch*. Last modified November 2012, <http://www.rioonwatch.org/?p=5931>.

88 Rio Then, “Vidigal: Early 19th and 20th century,” *Rio Then: Digging through Rio’s past*, Last modified January 2016. <https://riothen.wordpress.com/2016/01/28/vidigal-early-19th-and-20th-century/>.

89 Ibid.

titles.⁹⁰ Following the announcement that Rio de Janeiro would host the 2016 Summer Olympic Games in 2010, pacification of the South Zone favelas continued with Vidigal in 2011.⁹¹ With stunning views of the city, Vidigal has been subjected to watched as community institutions break down and leaders disappear. Most recently losing an artist named Wilson who has had been running community art programs from his studio for the last 10 years.⁹²

Vidigal has one entrance, at the southeast corner of Avenida Oscar Niemeyer just passed the Sheraton Hotel. The Onibus is the primary method of public transportation for this community. Serviced by one tight winding single lane road, motorcycle taxis and passenger vans wait at opening to take people up Avenida Presidente Jaoao Goulart to 3-storey self-built homes connected by an increasing network of stairs and foot paths. Entering the favela you are surround by self-built commercial and institutional buildings. Nail salons, kilogram restaurants, stationery stores, markets, samba schools, churches and the residents association. About half way up the favela there is a transition from mixed commercial and institutional programs to more residential and recreational (sports fields, ecological park). This transition point is identified relative to Parque Site, an ecological park established in 2008 after a local man transformed the previous dump site with reused materials into a community movement. Continuing up the main road through the residential neighbourhoods of Sobradinho, Campinho, Quadra do Alto, and Alto, larger community gathering spaces are found. The largest public space in Vidigal is Vila Olimpica, located at the centre of Campinho. It is a large sports campus that not only provides residents space to exercise and play sports but also for the community to gather for large festivals such as Carnival and celebrations such as New Years.

In reading a favela, one must understand the up and down of everyday life. The primary road in Vidigal is tight, it was the favelas first road, originally a large footpath, that the community built. This road connects a system of secondary footpaths and stairs that take you deeper in to the neighbourhoods of the community. Road

90 Ibid.

91 Ibid.

92 Ibid.

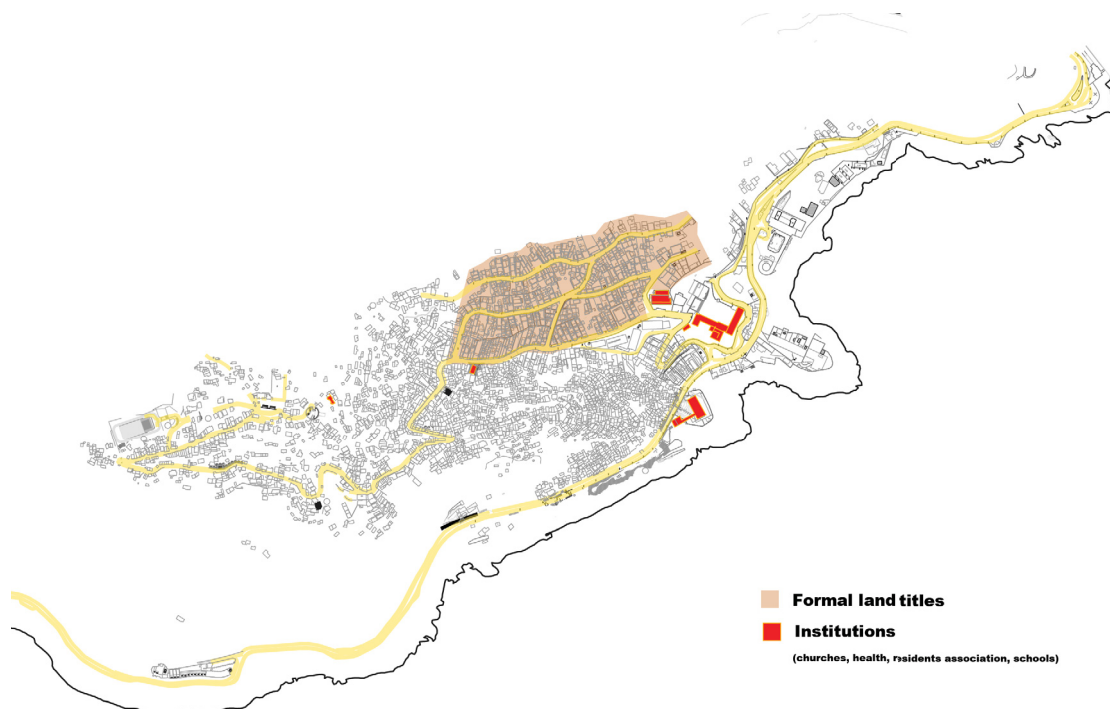


Image 29: Distribution of public investment.

development and basic water infrastructure was delivered to south zone favelas after outcries of substandard living conditions and risks to public health.⁹³ CEDEA, the state water company, and COLUMN, the state garbage company, formalized Vidigal's primary road and added two additional roads on the north western side.⁹⁴ Inequitable development in Vidigal begins here, as the new road developments provided people with formal addresses and land titles, meanwhile two-thirds of the community remains disenfranchised as formal dwellers, as seen in Image 21. As facility-focused development continues public institutional buildings are built near the entrance of favelas because they are considered areas of risk and try to minimize city employees exposure during investment.

Power and control is what drives development inequity within the favela, and the illegal drug and weapons trade has left its mark on the built environment in Vidigal as well. At Campo Alto Vidigal in the neighbourhood of Quadra do Alto, is a concrete soccer pitch developed by the local drug and weapons traffickers for the

⁹³ Ibid.

⁹⁴ Ibid.



Image 30: Sitio Ecological Park

Image 31: Stair/Square proposed for project site; source: Sitio, "Site Document".

community. This project served as a way to generate support from the community and protection from the police. Unfortunately due to the lack of skilled labours involved in the design-build the roof structure was poorly constructed and installed, being blown off in a heavy storm damaging the surrounding houses. Despite a coloured history, Campo Alto remains as an essential public space within the favela, hosting informal soccer games during the day and weekly Baile Funk parties. It is this appropriation of space through community culture that demonstrates the strength of

Parque Sitio is located half way up the favela, in the neighbourhood of Birosicao. The ecological park was established after Mauro and Paulinho began cleaning the site to stabilize the mountain.⁹⁵ The park is seen in the community as the first step in transforming Vidigal into the first integrated, sustainable and resilient favela. Developing into an impressive built area of 8500 meters squared and taking ownership of 96,000 meters squared of reserve area.⁹⁶ Sitio has continued developing educational programs, a chapter based model and a formal '50-year

⁹⁵ Remy Dorado, "Sitiê: From Dump to Eco-Park in Vidigal," *Rio On Watch*, last modified July 5, 2012, <http://www.rioonwatch.org/?p=4229>.

⁹⁶ Sitio, "Site Document," *Parque Sitio*, last modified 2016, <http://www.parquesitie.org/documento/>.

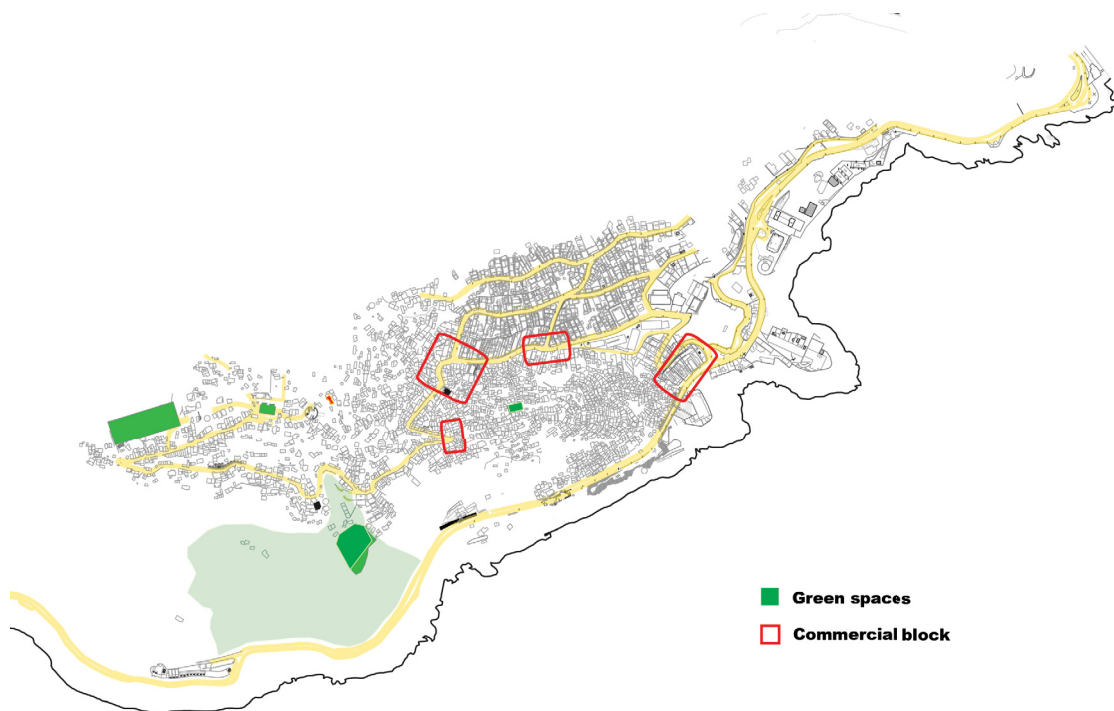


Image 32: Commercial versus recreational centres.

Strategic Plan'.⁹⁷ Sítie's focus is on sustaining their effect through evolving work and becoming a reference park for the city and an institute for the environment, arts and technology.⁹⁸ The ecological park manifests the beauty of reuse culture and its success stimulated a design proposals for a digital agora and public stair and square from +D Studio, who went on to win the 2015 SEED AWARD for their proposals.⁹⁹ The digital agora proposed is intended to be located within the formal ecological park, creating a destination to increase foot traffic through the park since it is located off the main road. The public stair/square proposed creates a large formal public space that integrates centralized water harvesting, see Image 25. This international attention to Vidigal reinforces a critical review of the type of development we continue to support in informal settlements. Casa Depósito suggests that the public stair square proposed exists as yet another example of facility focused

97 Sítie, "Site Document," *Parque Sítie*, last modified 2016, <http://www.parquesitie.org/documento/>.

98 Sítie, "Site Document," *Parque Sítie*, last modified 2016, <http://www.parquesitie.org/documento/>.

99 Sítie, "Site Document," *Parque Sítie*, last modified 2016, <http://www.parquesitie.org/documento/>.

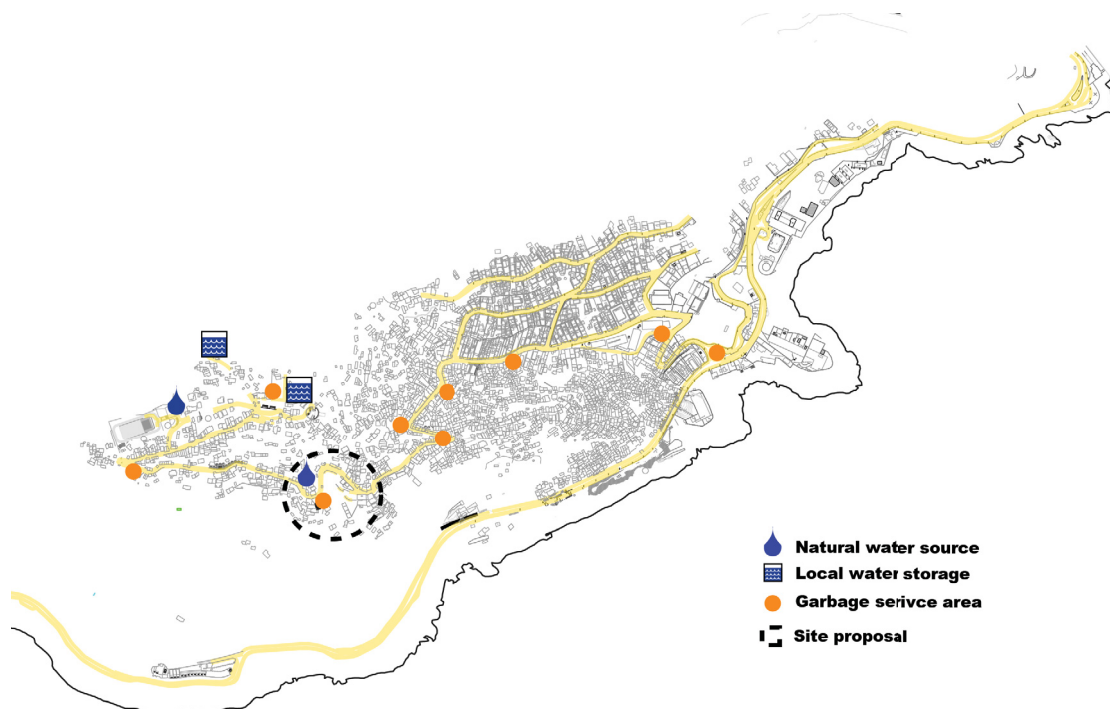


Image 33: Distribution of public services, specifically garbage and water.

top down projects. Located in Birosicao's primary water shed and popular green space dog owners, if built the project would destroy the existing natural forest and disrupt local wildlife, see Image 26. Although the majority of favelas suffer from poor infrastructure this project contradicts the parks replicability criterion failing to consider the economy involved. Poorer communities would not be able to afford such an invasive project, especially when it does not address water security and sanitation as sewage waterfalls remain as a consistent problem in all communities and overlooked in investment projects.¹⁰⁰ Furthermore the development of centralized water practices limits the transferable skills the community could learn about household rainwater management, rainwater harvesting and closed-loop sanitation systems. It also maintains a communities dependence on the formal city to maintain and service the infrastructure when community members do not have the skills and do not feel ownership of the space. Vidigal and its activists have succeeded in showing the city and the world the beauty of favelas and cannot afford to move forward holding onto the antiquated development systems of the past.

¹⁰⁰Janice Perlman, "Change and Continuity in Rio's Favelas," (Rio+ Talks, Rio de Janeiro, RJ, March 7, 2016).



Image 34: Casa Depósito #1 develops the existing green space to accommodate an outdoor public work space that connects the garbage point to the formal tool sharebuilding.



Image 35: Casa Depósito #1 support the advancement of existing public services and space by formalizing space for sorting, water and sanitation, as well as waste to energy systems.



Image 36: Casa Depósito #1 appropriates an existing collapsed and abandoned site to secure tools and materials for the community workshop.

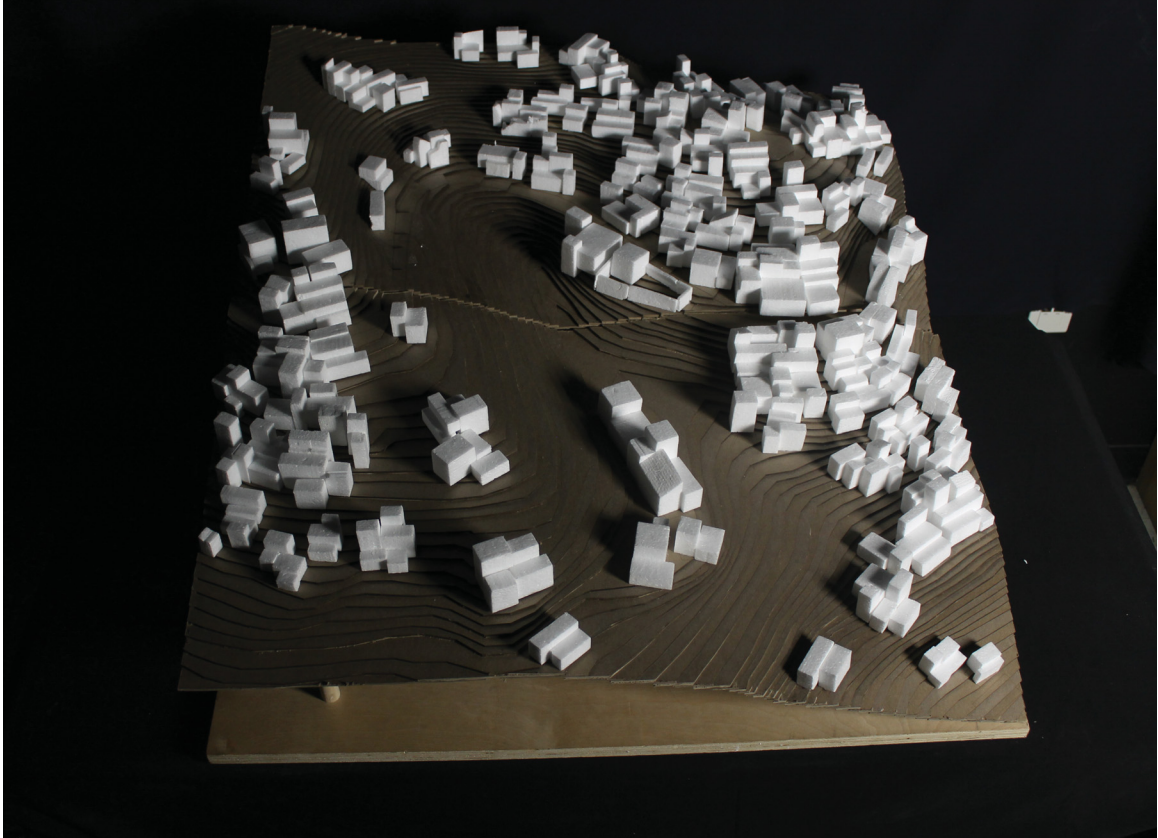


Image 37: Site model highlighting the intervention sites and the existing abandoned collapsed building.

Casa Depósito is a response to the thriving spirit in Vidigal, Sitie's larger development goals, and the systemic problems the Public Square/Stair manifests. Positioning itself as an opportunity to facilitate Sitie's 2065 completion date and articulate the importance of favelas and opportunities they can share with the city with the 500 year anniversary of Rio de Janeiro.¹⁰¹ Using the progress of the park as a benchmark, education remains as the primary intention of the project. As a result it becomes essential to extend the values and programs of the park onto the main road of Vidigal for more people to engage with. Promoting productive activism, integration, design, innovation and the creation of a sustainable urban world for future generations.

Fundamental to Casa Depósito is the intersection of public infrastructure, public services and public space. Specifically the educational opportunities 'favela

¹⁰¹ Sitie, "Site Document," *Parque Sitie*, last modified 2016, <http://www.parquesitie.org/documento/>.

problems' such as garbage, sewage, and water management provide. Choosing a site for Casa Depósito requires an analysis of the locations and types of garbage and water points, vehicle accessibility (as a function of material transportation), gaps in the urban fabric (abandoned as the result of collapsed or partially collapsed buildings), outdoor workspace and proximity to public art or parallel programs. Resulting in the proposed site for Casa Depósito #1, north of park Site and adjacent to the proposed public stair/square. This site brings together a garbage point, a non potable water point, a collapsed building, as well as open space for design build workshops. Designed in series the project order social values onto program and construction to develop the project over time. The project is constructed into four phases; appropriation, establishment, transformation, and consolidation. These phases correspond to the incremental building movements that would take place over time.

Appropriation is second phase of development and manifests as the public appropriation of the larger site. This includes site preparation and structural assessment of existing foundation wall, development of outdoor public space and footpath that connects to the garbage point. Investing in the existing garbage point as destination and resource of recyclable and salvageable materials. Materials that can be used, stored and incorporated back into the community as needed via Casa Depósito. This phase represents the movement of materials through the sites and their integration back into the community, establishing reuse culture as a fundamental value within Casa Depósito.

Establishment is the second phase of development and represents the community's ownership of its built environment. This involves the first phase of construction on the collapsed building site. Not to undermine the existing structure Casa Depósito is set within the wall, utilizing it for envelope, and establishing the maximum frame for the building site. The frame is outfitted with a primary services core that integrates water storage, closed loop water systems, and domestic appliances. Investing in infrastructure and the securing of program establishes Casa Depósito as community institution.

Establishment also involves determining the material palette of the primary frame. The presence of bamboo in Vidigal's surrounding forest as well as its use in the ecological park reinforces its use, recognizing that bamboo will not always be the most appropriate material, but that the principles can be reproduced. Vidigal has a three storey building allowance and in order to secure rights to the entire site a three story bamboo balloon frame is established. The frame uses a mixture of Brazilian bamboo species to construct the primary frame, services core and ceiling for the workshop.¹⁰² Using bamboo also serves to educate these communities with the growing economy of bamboo knowledge and products. Used robustly it provides a supportive frame work that anticipates future use and can support diverse infill assembly systems.

Transformation is the third phase of the development and is when Casa Depósito begins to facilitate smaller development projects within the community to provide replicable examples of sustainable development. It does so by addressing infrastructural upgrades to the public services and space surrounding the garbage point. Formalizing sorting spaces for garbage, recyclables and salvaged materials that support existing recycled art programs within the community by providing access to materials and space for these workshops to be held. The intersection of food, water and sanitation is addressed by developing the space surrounding the informal vendor.

Consolidation is the final phase of development and refers to the infill of Casa Depósito's community class rooms. These spaces develop from open air rooms with dividers, to formal indoor spaces through a variety of wall assembly techniques. The flexibility of these spaces and their formalization in terms of environment allow the community to accommodate temporary programs and as demand increases can be established as permanent. Within the context of favela development these spaces have been programed in Image 41 to layer the additional tools, such as 3D printers, to diversify the products and services Casa Depósito supports. Becoming an incubator for entrepreneurs to design, scale, and experiment with

102 Rubens Cardoso Junior, "Arquitetura com Bambu," (Universidade para o Desenvolvimento do Estado e da Região do Pantanal and Propar Universidade Federal do Rio Grande Do Sul Programa de Pós-Graduação, 2000), 25-48.

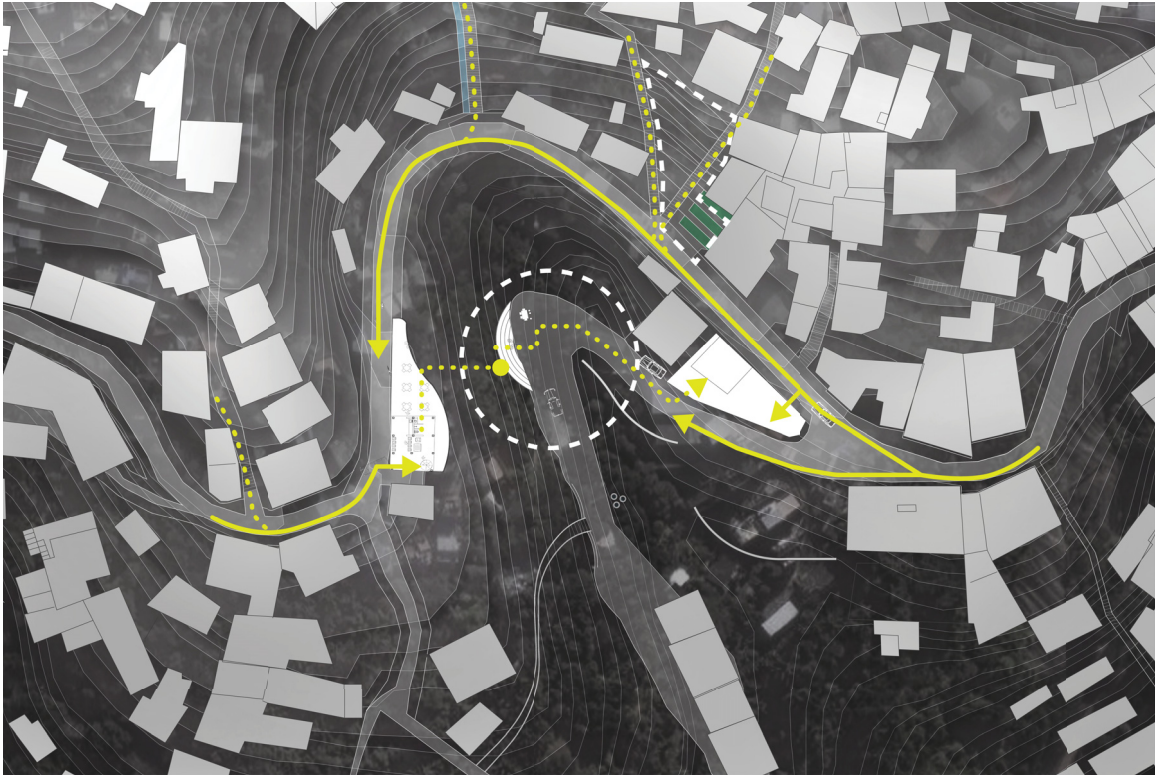


Image 38: Casa Deposito #1, Site plan including public space, outdoor work space, and tool share. Drawing also highlights opportunity for urban agriculture.

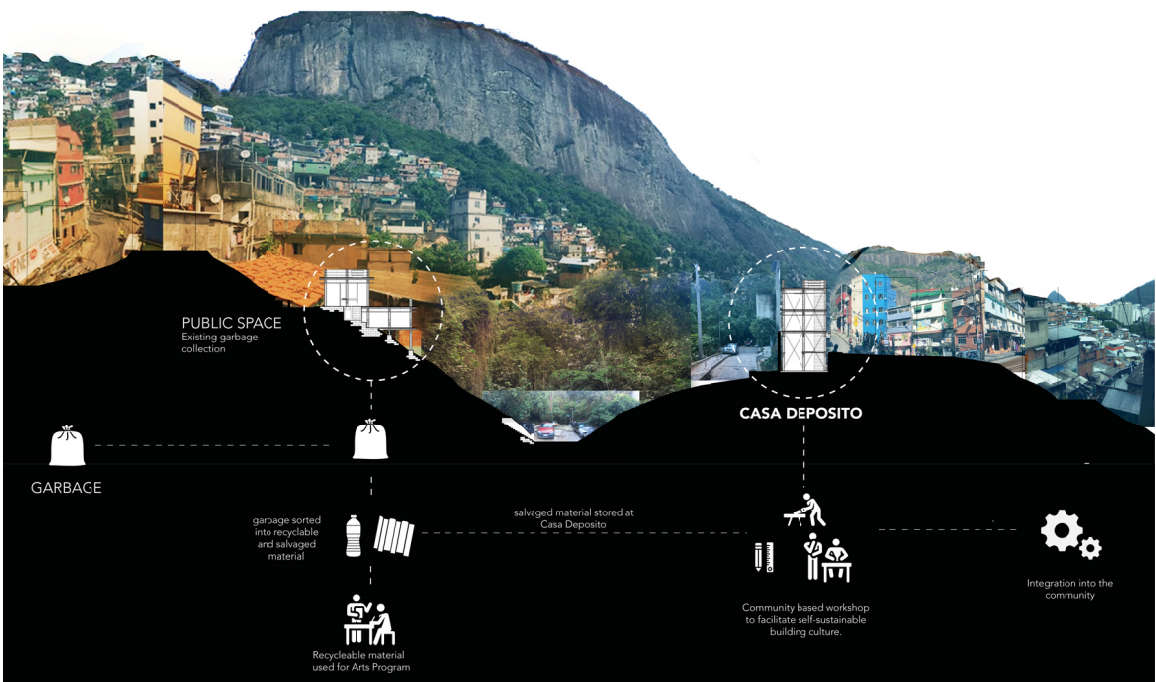


Image 39: Casa Deposito #1, Site section describes the movement of materials through the site to the community workshop.

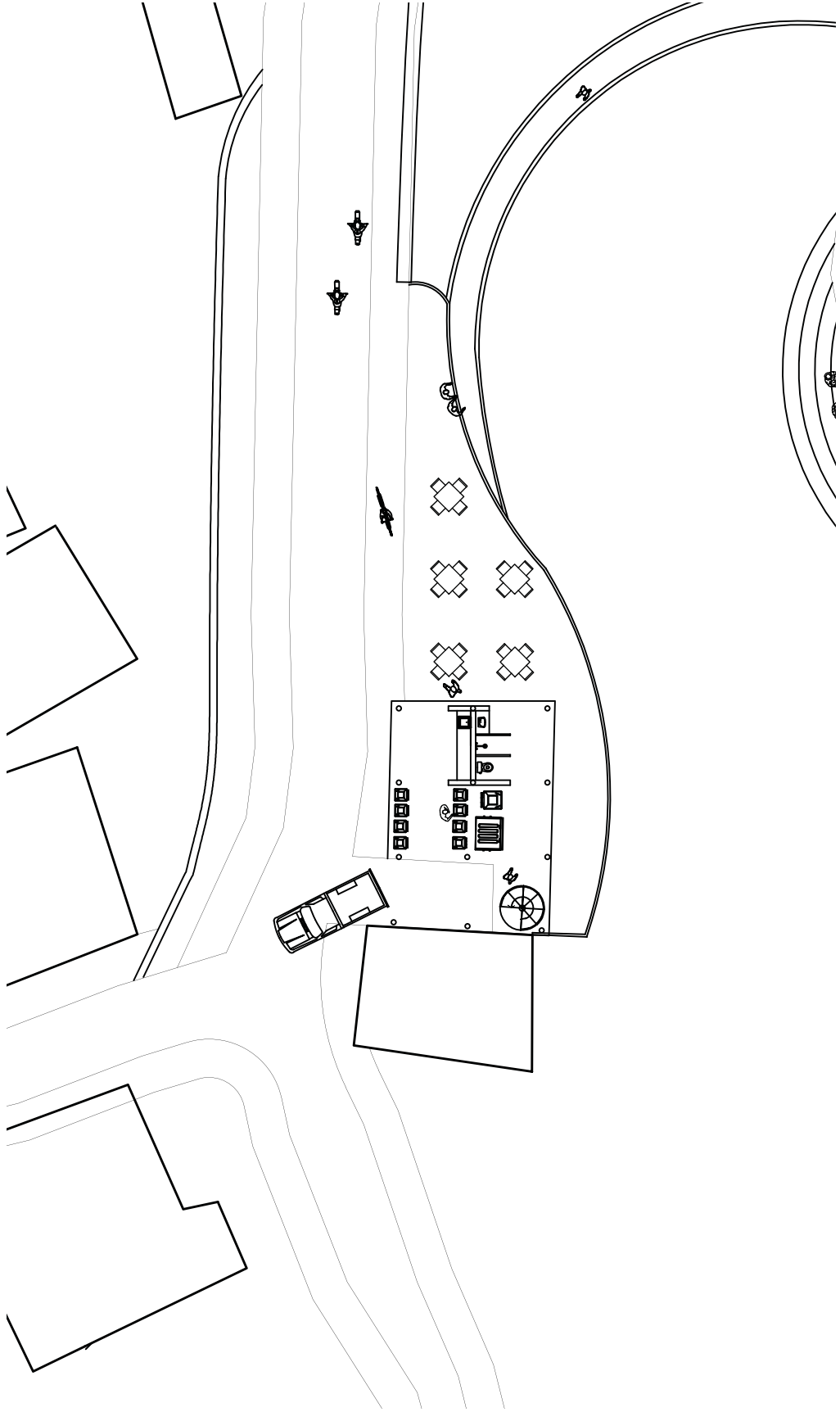


Image 40: Casa Deposito #1, Public Services Space SitePlan

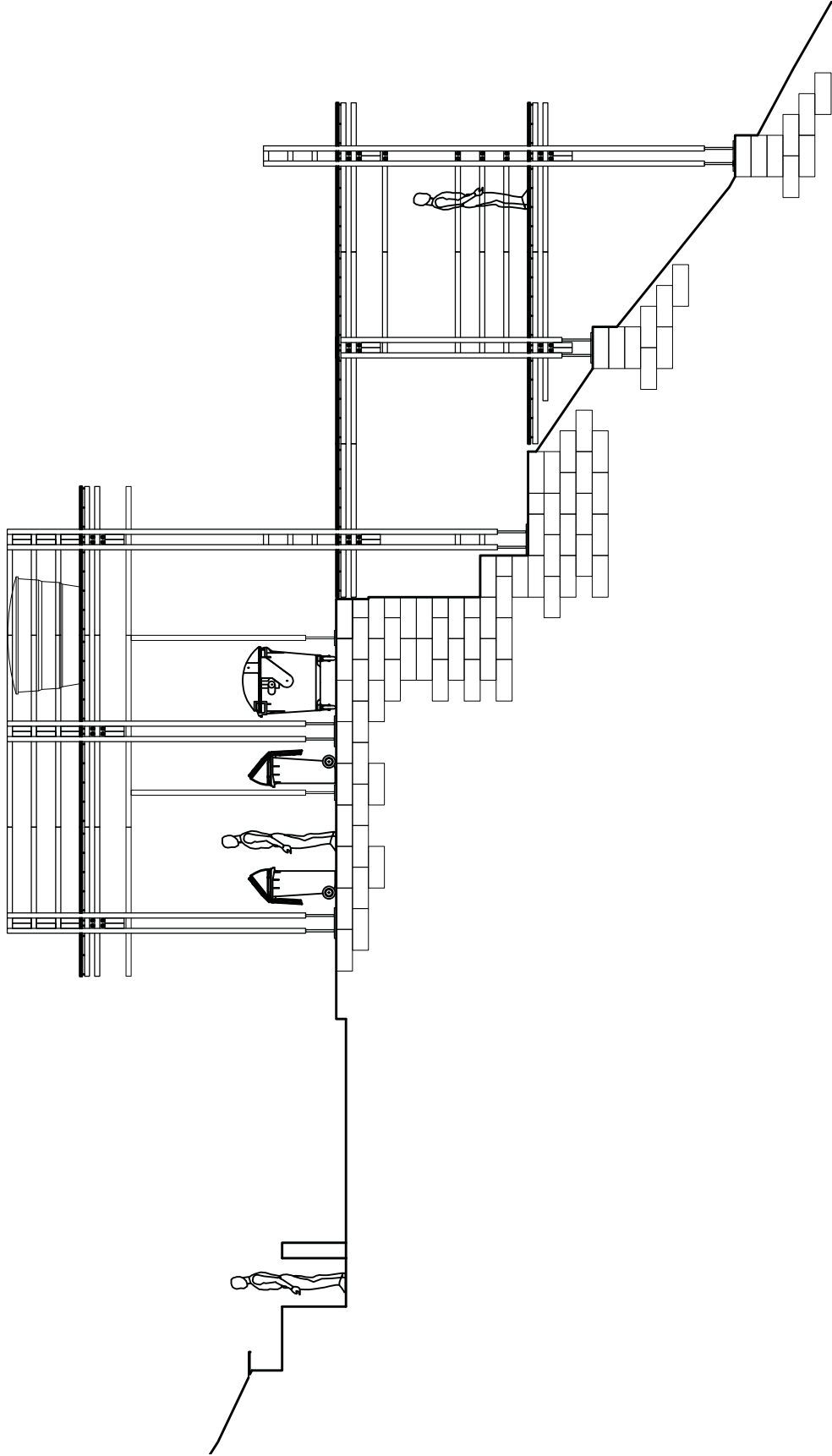


Image 41: Casa Deposito #1, Public Services Space Site Section 1

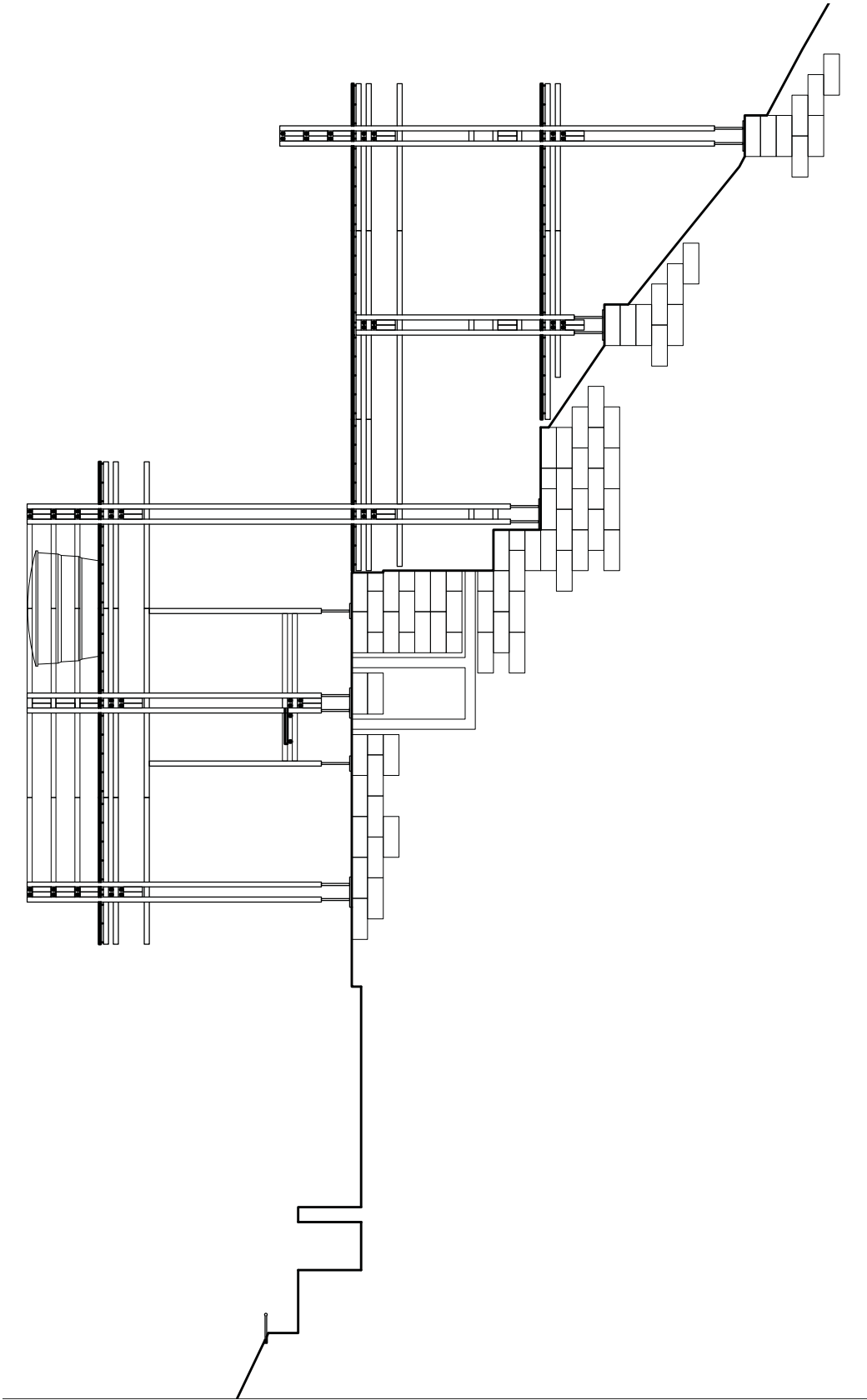


Image 42: Casa Deposito #1, Public Services Space Site Section 2

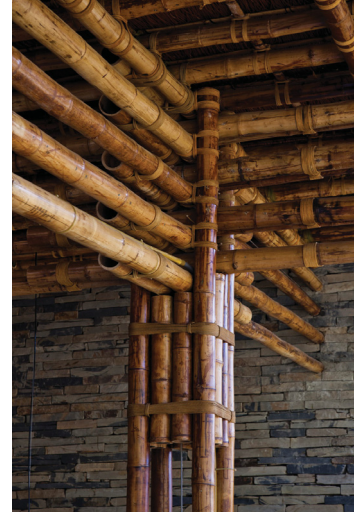


Image 43: El Guadual Children Center designed by Daniel Joseph Feldman Mowerman and Iván Dario Quiñones Sanchez; footing detail.

Image 44: Terra Cotta Studio designed by Tropical Space; new versus old detail.

Image 45: Son La Restaurant designed by VTN Architects; column-ceiling detail.



Image 46: Casa Ecologica designed by Zuarq Arquitectos; material integration.

Image 47: Bamboo house in Parque Estadual de Niterói designed by architect Celina Llerena, director of Ebiobambu (School of Bioarchitecture and Center for Research and Experimental Technology in Bamboo)

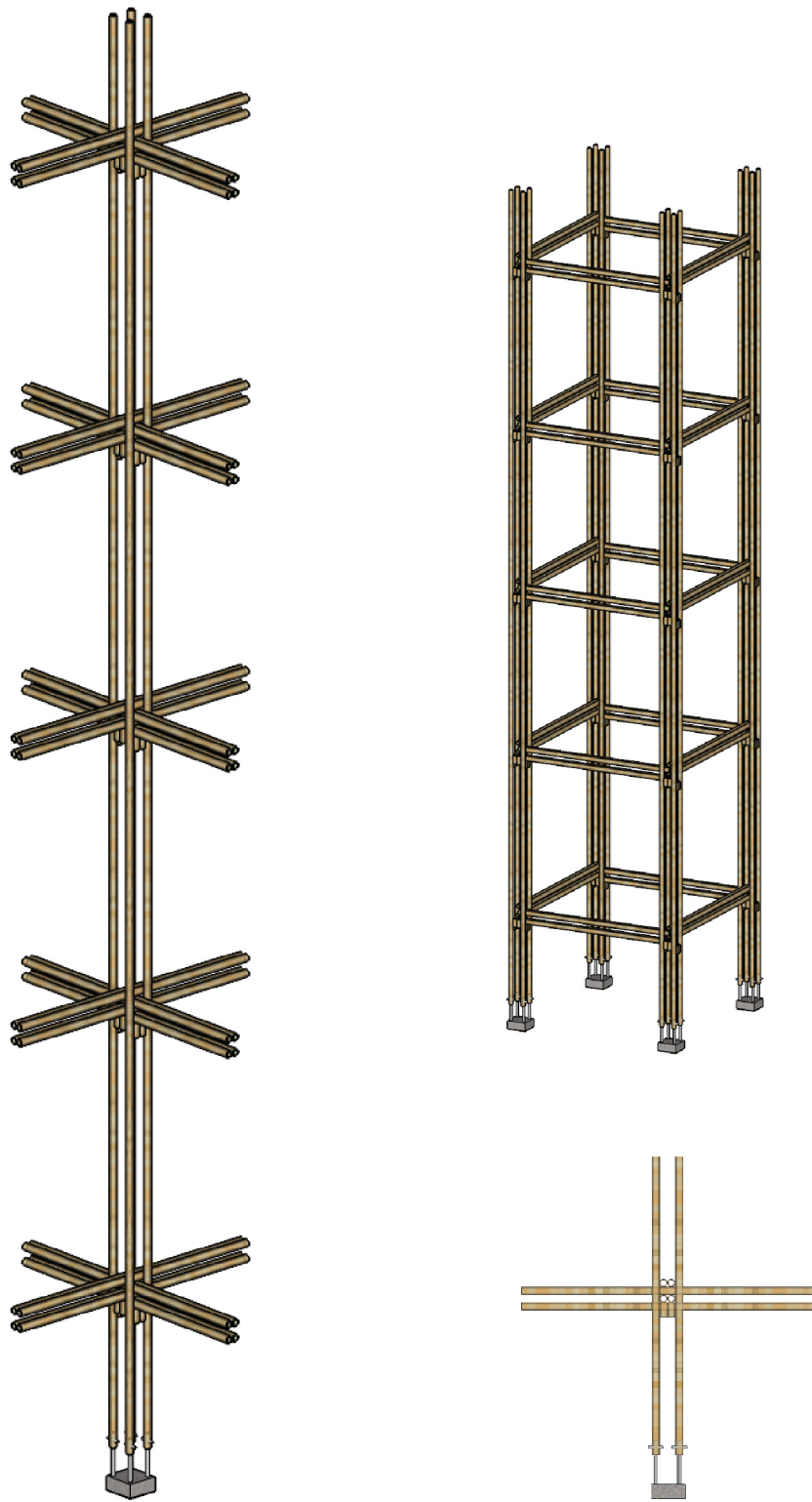


Image 48: Structural detail.

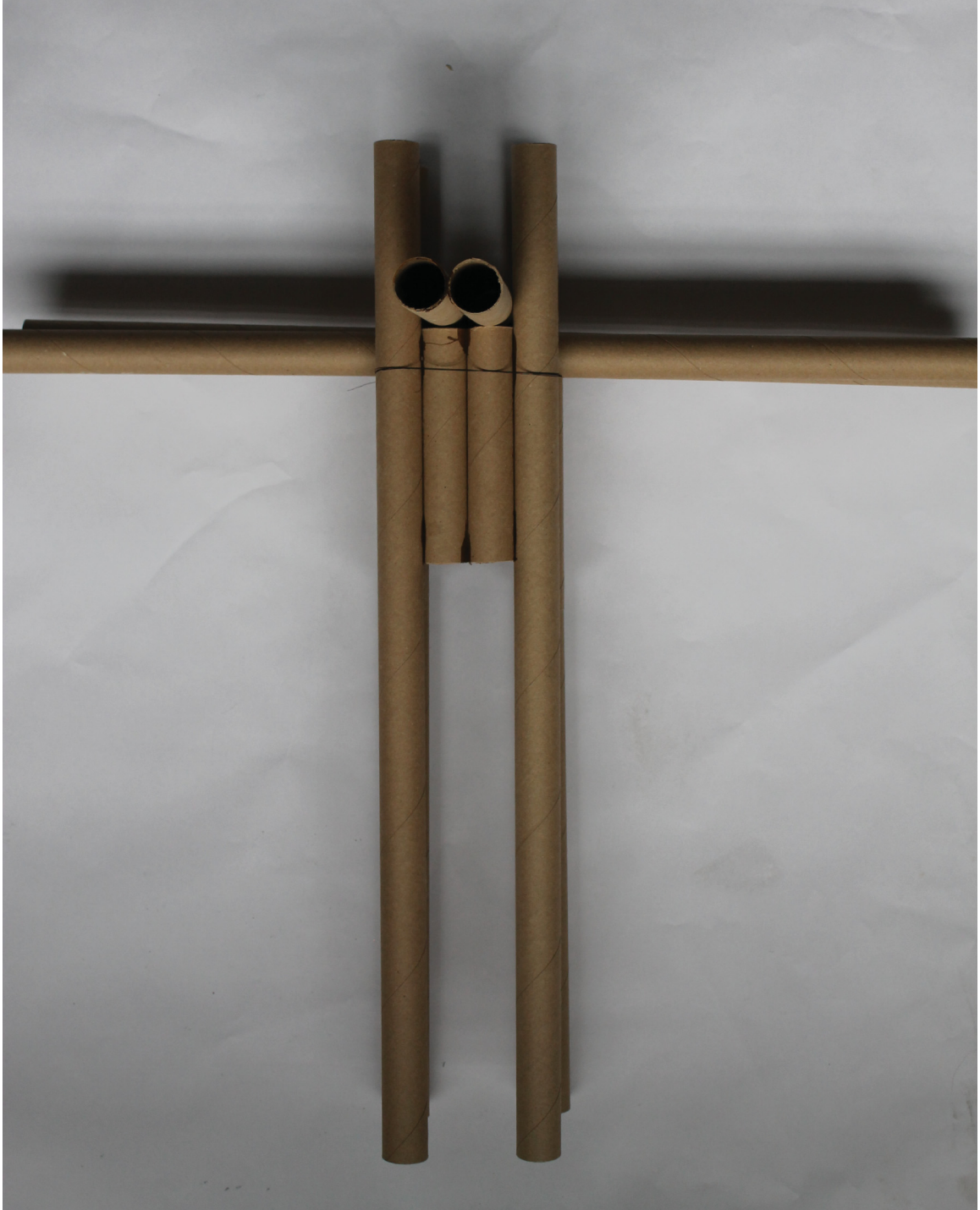


Image 49. Structural detail.



Image 50: Casa Deposito #1, Building site.

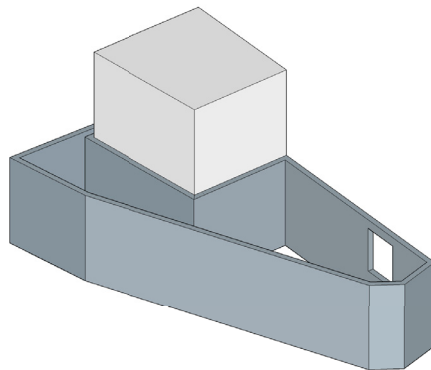


Image 51: Casa Deposito #1, Found condition.

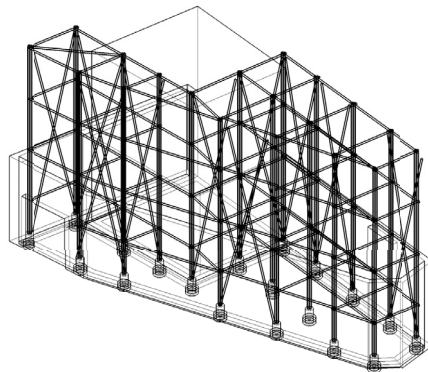
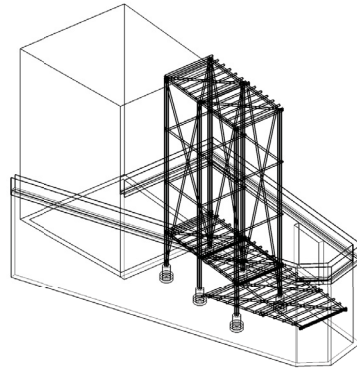
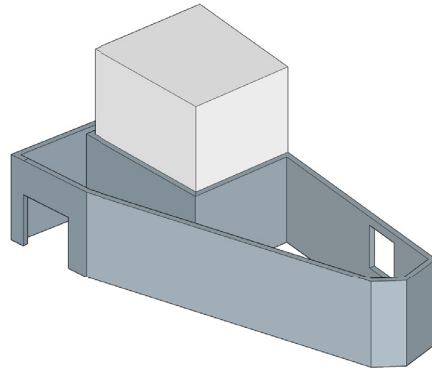


Image 52: Casa Deposito #1, Building process.

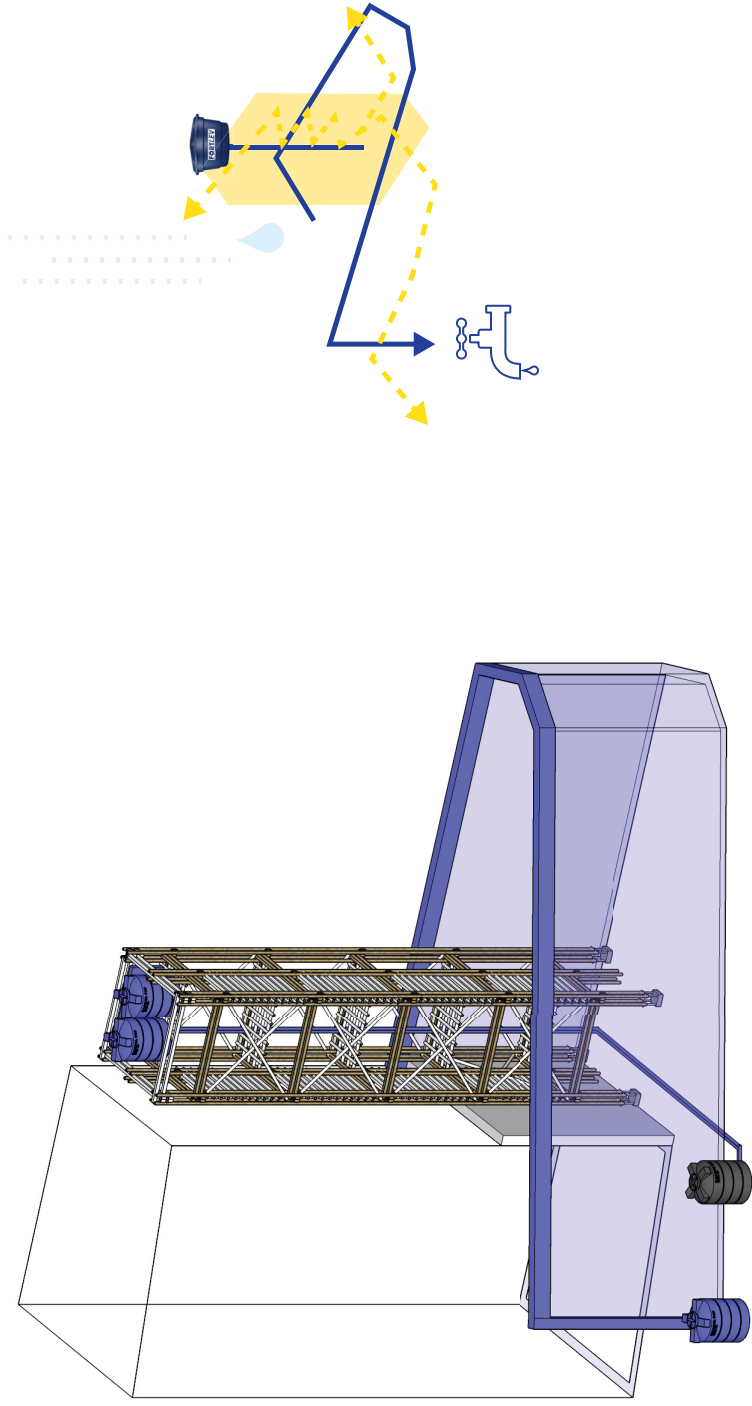


Image 53: Casa Deposito #1, Building process.

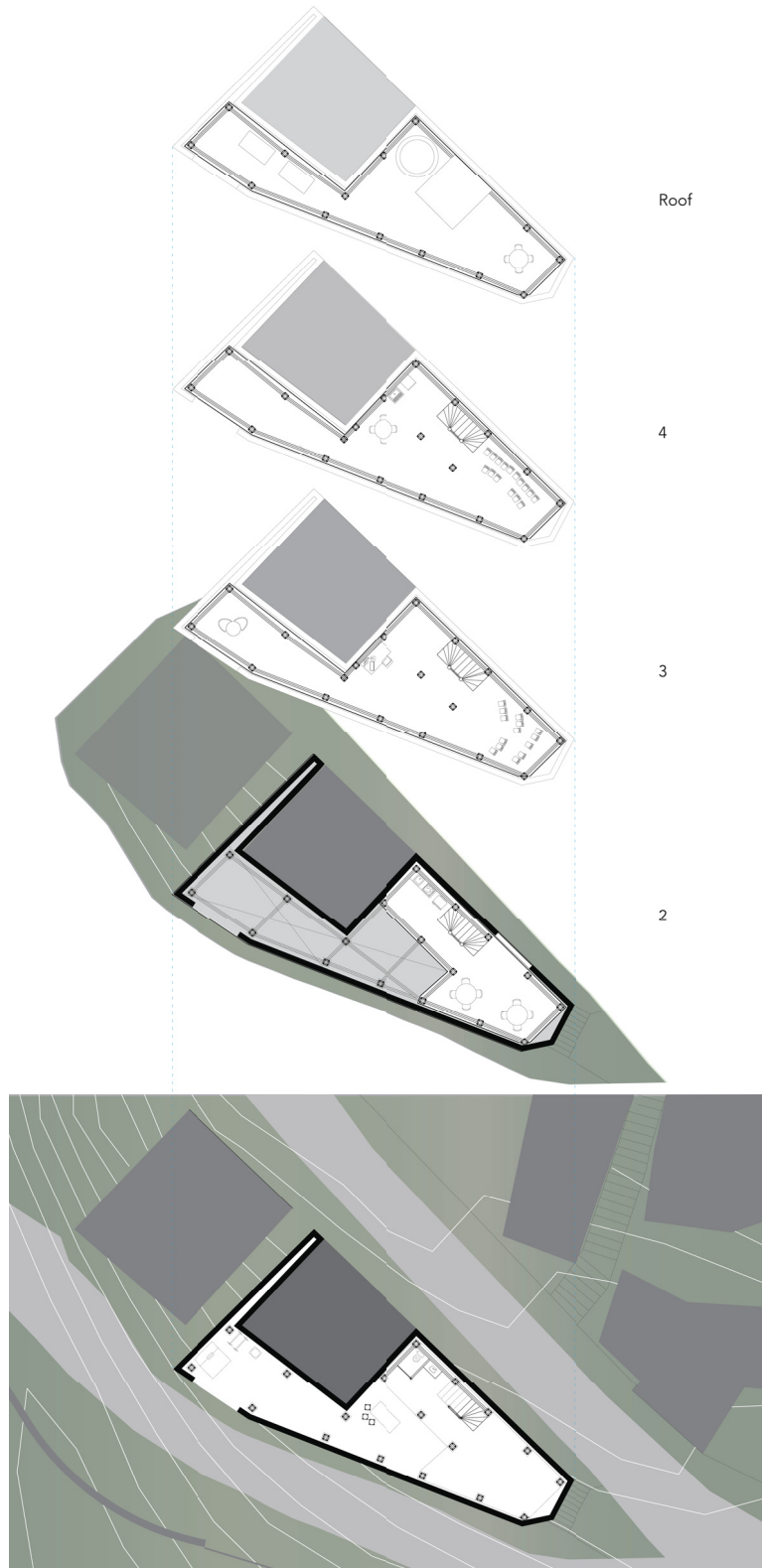


Image 54: Casa Deposito #1, Building plan.

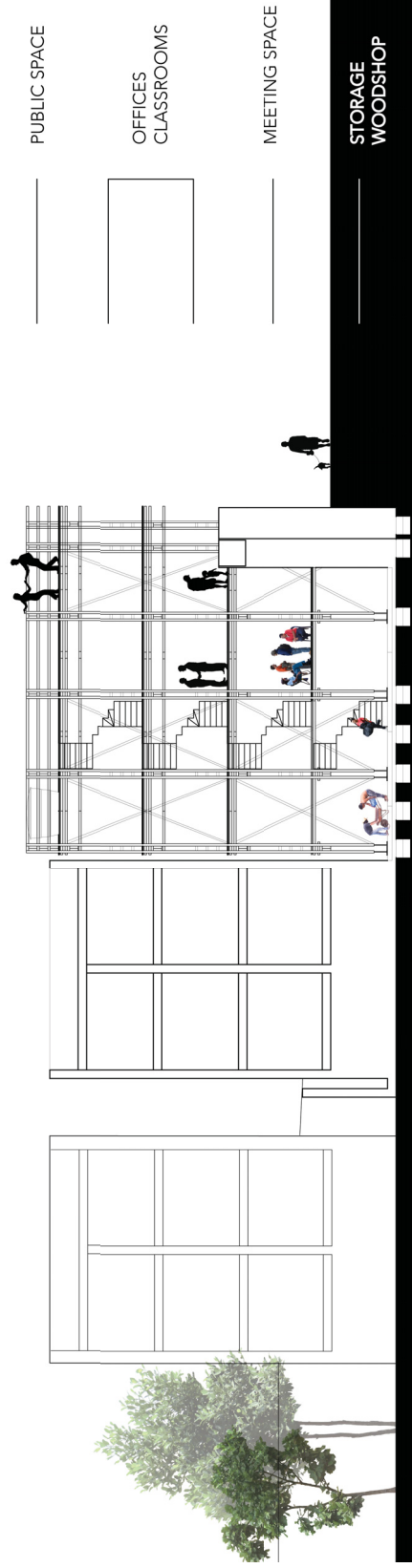


Image 55: Casa Deposito #1, Program section.

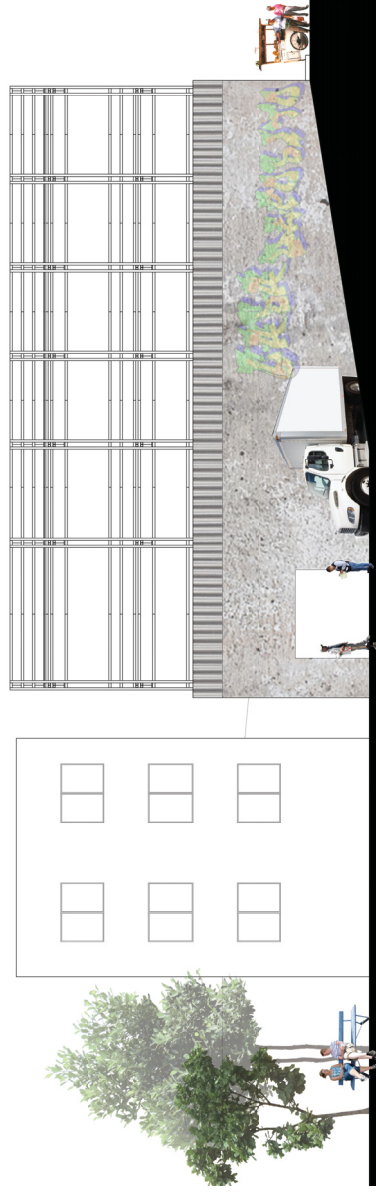


Image 56: Casa Deposito #1, Schematic elevation.

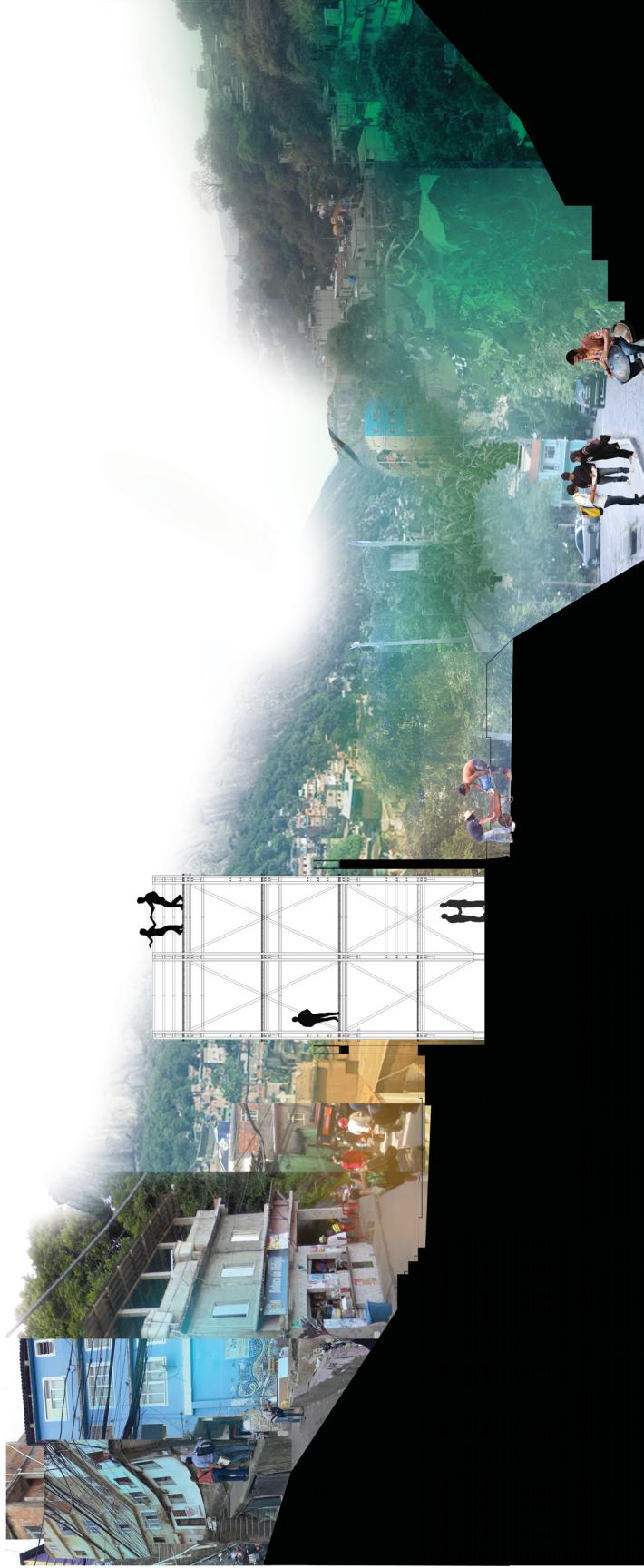


Image 57: Casa Deposito #1, Community engagement.

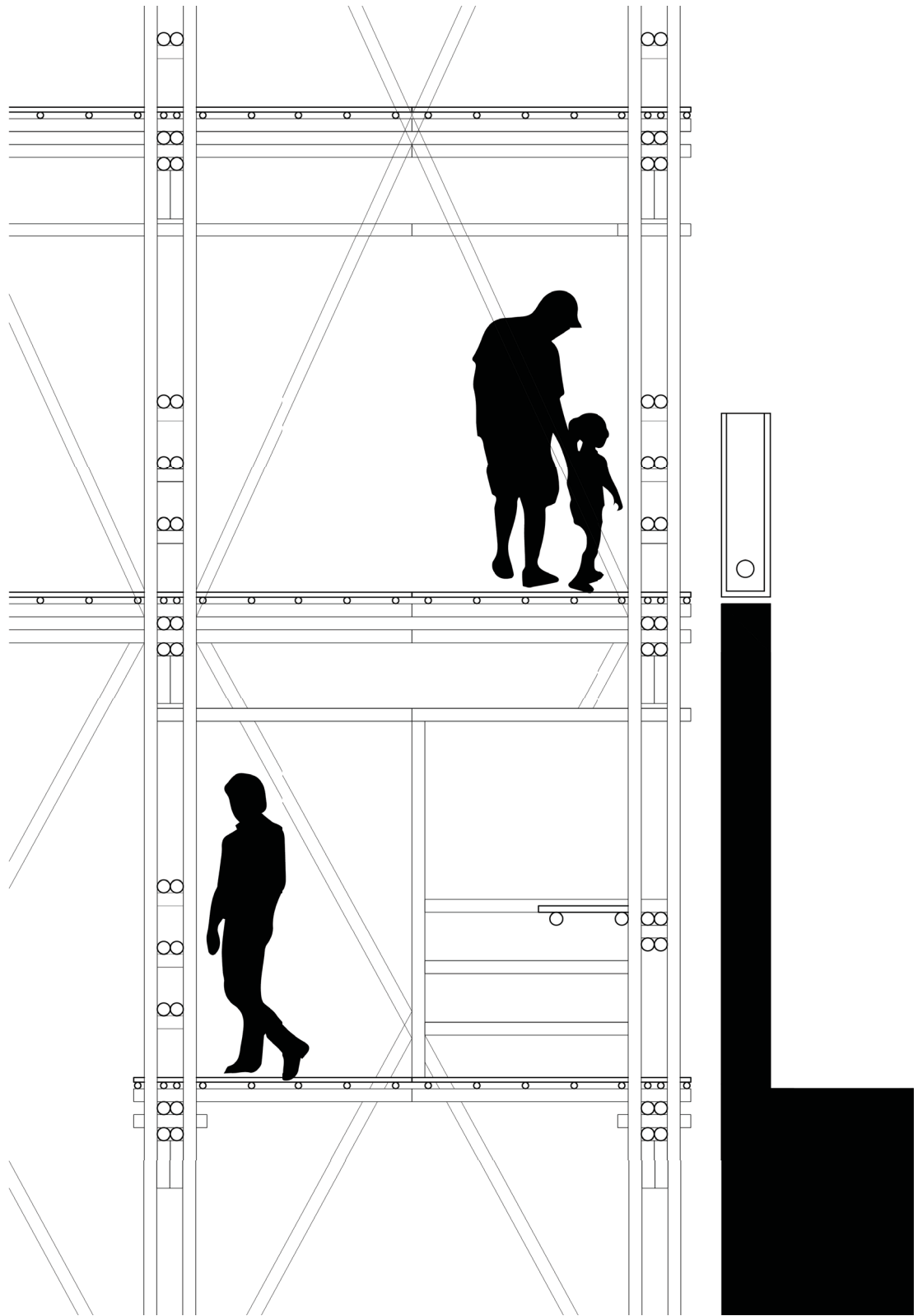


Image 58: Casa Deposito #1, Educational section and details.

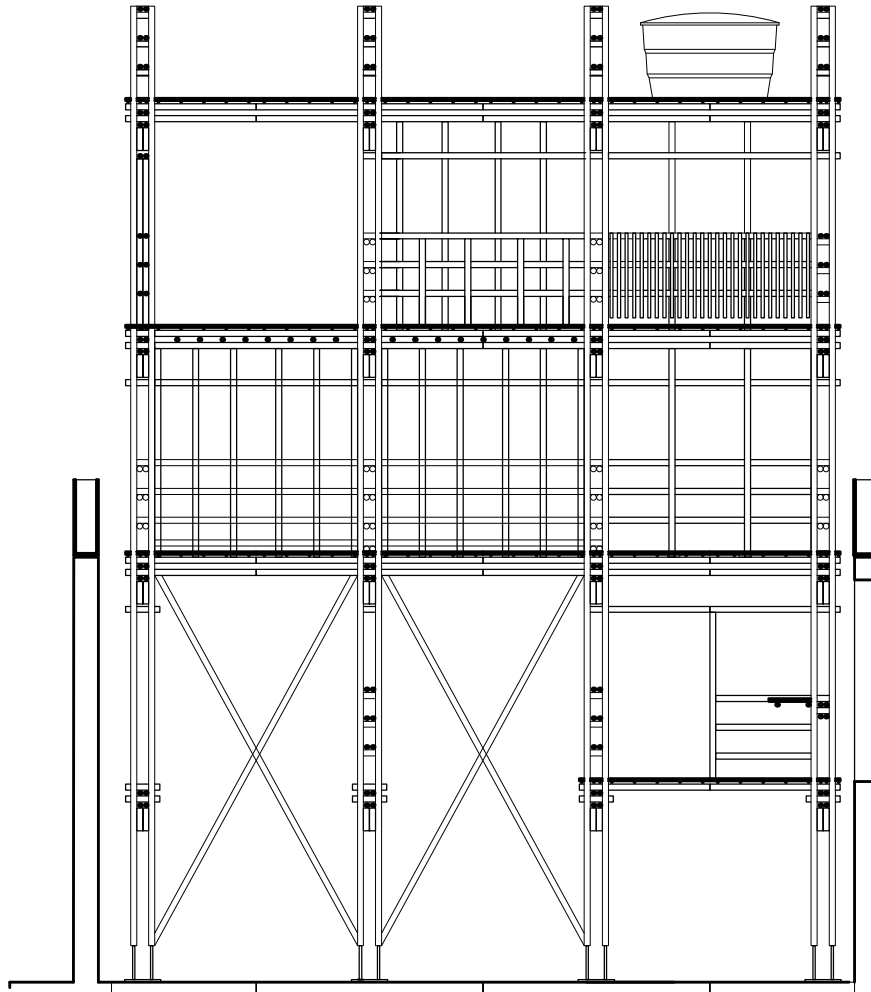


Image 59: Casa Deposito #1, Educational section and details.

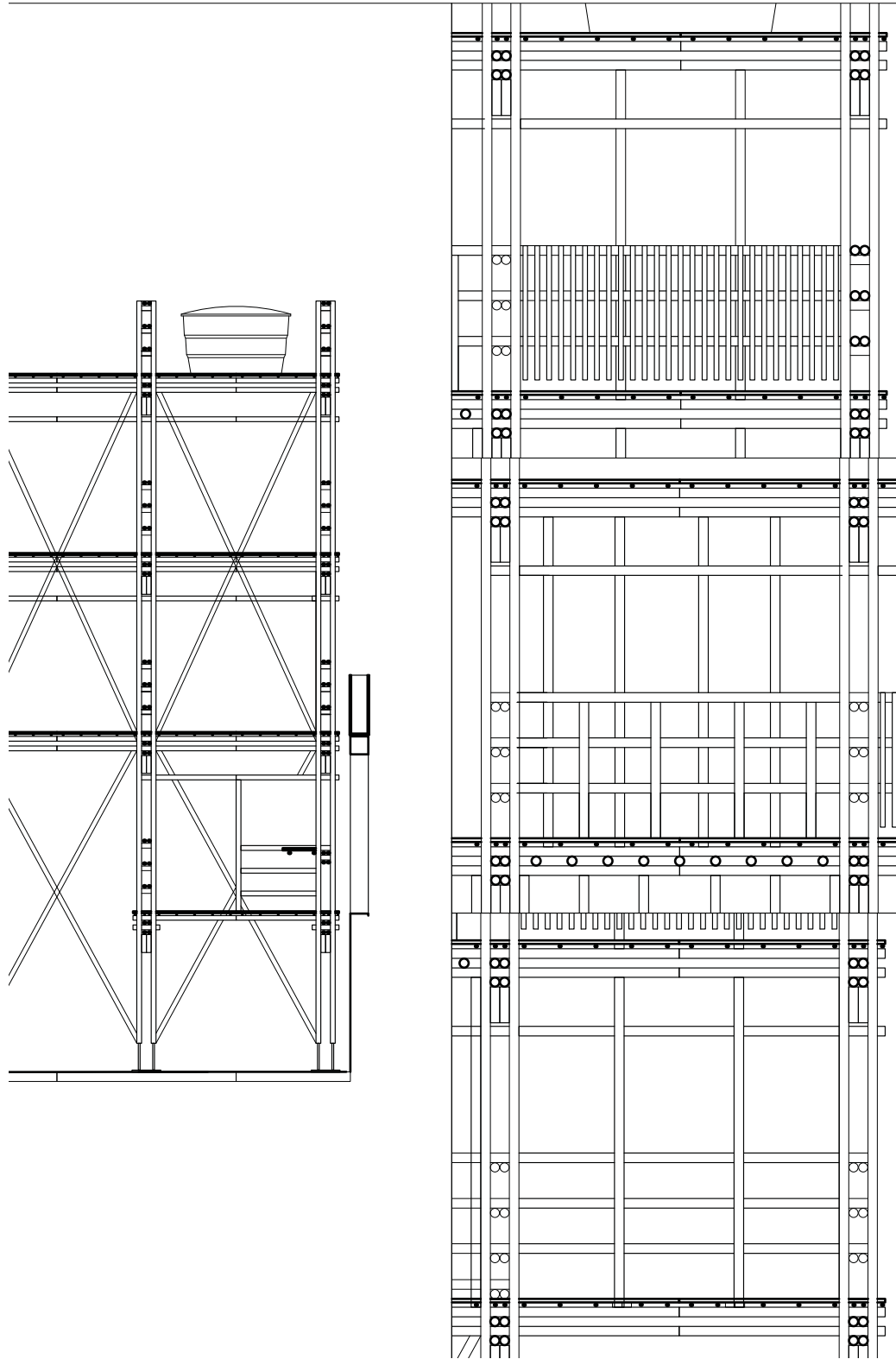


Image 60: Casa Deposito #1, Educational section and details.

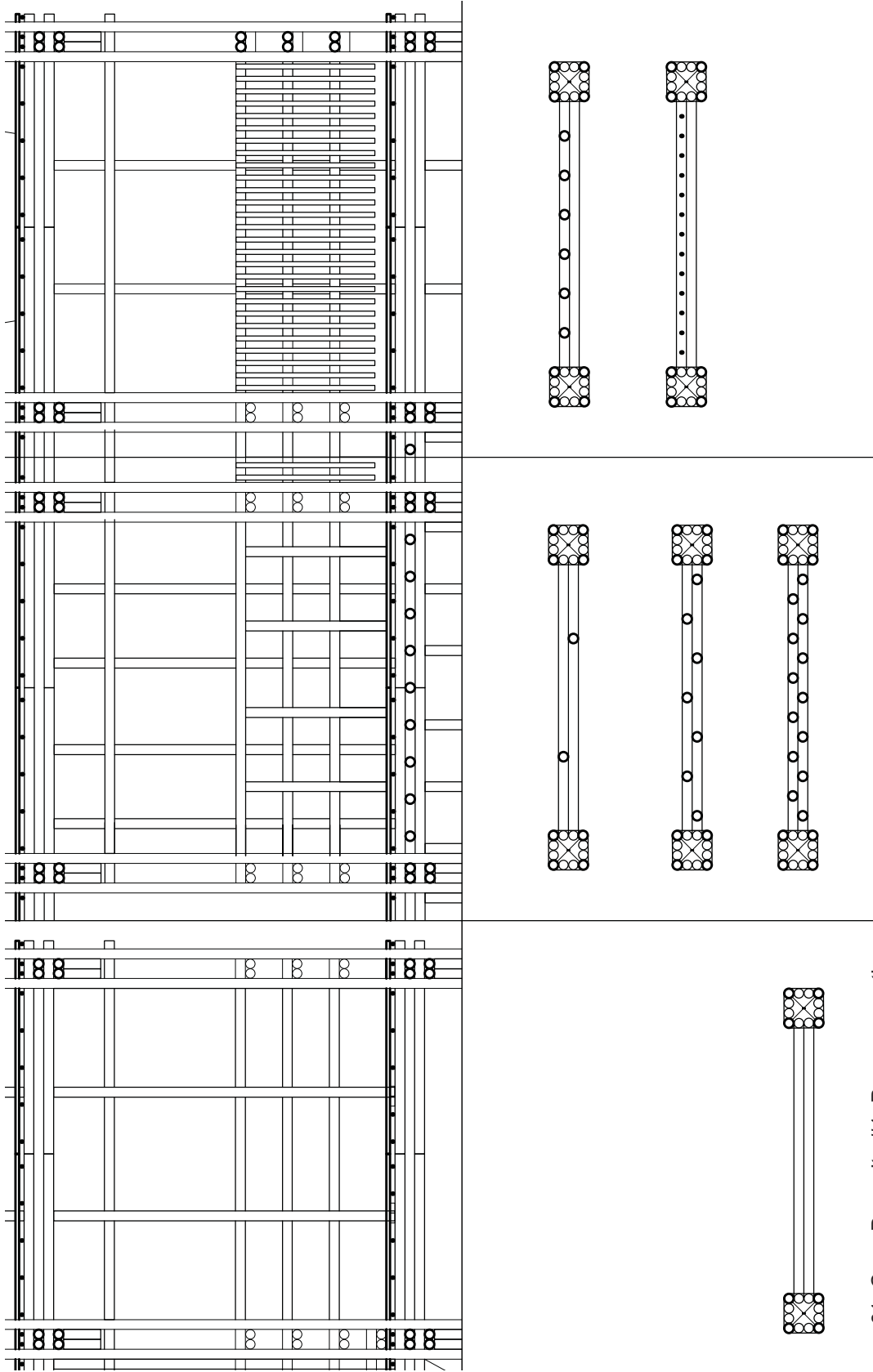


Image 61: Casa Deposito #1, Program section.

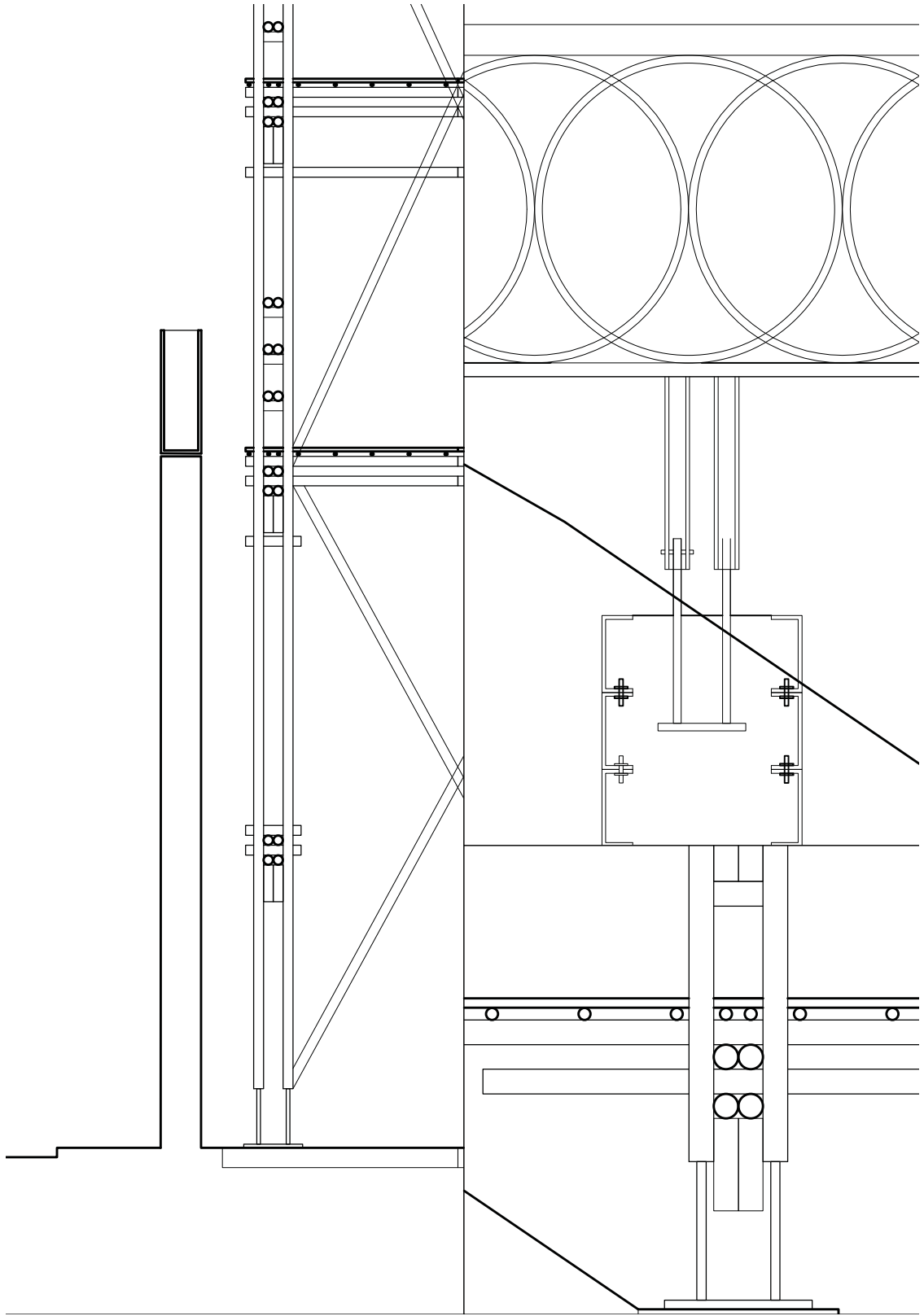


Image 62: Casa Deposito #1, Educational section and details.

new products. In turn adding to the economy in informal settlements and supporting the advancement of skills in favelas.

CHAPTER 6: CONCLUSION

This thesis on informal building culture involves a design proposal that focused on education through a system of infrastructural interventions in the public realm. Recognizes inherit biases in its proposal, it stands to questions the legacy of past investment projects and facilities-focused design. Casa Depósito is inspired by the collective spirit in favelas and promotes a movement of cross-disciplinary activists to empower residents as they design and build a better tomorrow for themselves.

Embracing reuse culture this thesis challenged itself to not buy any new materials for the construction of models, instead turning to salvaged materials from model grave yards. This practice recognized the economy of an architectural education and the money students invest in models that are only used once. Revealing a more intimate reading of the studio culture; its consumption, use and waste. Becoming an informal *catador and carregador*, spending time determining what materials could be of use and collecting them, and reusing or repurposing the materials into the resulting models. This practice also mirrored the network of people involved in reuse design, requiring collaboration with colleagues for critique and inspiration. Incorporating this way of working provided a frame of reference for understanding how to design with informal building culture.

Reflecting on time, limited material resources and program development 3D printing was explored in a 1:100 building model. Stimulated by its program inclusion in the digital agora proposed for Vidigal, 3D printing and hacking culture was investigated for its role in commons-based peer production.¹⁰³ Commons-based peer production, or social production, describes a socioeconomic production model where large numbers of people work cooperatively.¹⁰⁴ Projects have

103 Vasilis Kostakis, "At the Turning Point of the Current Techno-Economic Paradigm: Commons-Based Peer Production, Desktop Manufacturing and the Role of Civil Society in the Porezian Framework." *TripleC: Cognition, Communication, Co-operation* 11, no. 1 (2013): 173–190

104 Yochai Benkler and Helen Nissenbaum, "Commons-based Peer Production and Virtue". *The Journal of Political Philosophy*, 4, no. 14, (2006): 400-403.



Image 63: Salvaged model material: clays/plasters, extruded foams/boards, wood, plastics/acrylics, card.



Image 64: Explorations in reuse culture, informal building within an architectural education.



Image 65: Explorations in found objects; art.

less rigid hierarchical structures but are based on the principles of modularity, granularity and integration.¹⁰⁵ This creates a network where objectives can be divided into independently produced components, allowing participants to work asynchronously.¹⁰⁶ Where the type of work is different and allows people with different levels of motivation to work together but consistent with their level of interest and motivation.¹⁰⁷ Requiring integration mechanisms for quality control and developing the contributions into a finished product.¹⁰⁸ Principles and a way of working found in the design of Casa Depósito and the phases of construction. Furthermore, by incorporating 3D printing and other low-cost manufacturing techniques provide an economy of scope that allows the community to actively create more sustainable and customized products.¹⁰⁹ Neil Gershenfeld's positions Commons-based peer production and 3D printing as a tool for thinking globally but acting locally.¹¹⁰ Some of the world's least developed areas need the most advanced technologies and these technologies provide a response.¹¹¹

¹⁰⁵ Benkler Nissenbaum, "Commons-based Peer Production and Virtue," 400-403..

¹⁰⁶ Benkler Nissenbaum, "Commons-based Peer Production and Virtue," 400-403.

¹⁰⁷ Ibid.

¹⁰⁸ Ibid.

¹⁰⁹ Neil Gershenfeld, "FAB: The Coming Revolution on your Desktop," *Personal Computers to Personal Fabrication*. (Cambridge: Basic Books, 2007), 13-14.

¹¹⁰ Gershenfeld, *Personal Computers to Personal Fabrication*, 13-14.

¹¹¹ Gershenfeld, *Personal Computers to Personal Fabrication*, 13-14.



Image 66: Rendering of workshop in Casa Deposito #1.

It is the vision of this thesis that Casa Depósito spreads from favela to favela, diversifying skills and strengthening inter favela relationships. Regardless of the size of project, buildings or public spaces, Casa Depósito represents informal residents taking back control of the built environment. Culminating in a network of skilled trades people and activists that represent the incremental city. That the proliferation of technology and sustainable building practices will endow these residents with the rights of full citizens, including but not limited to land titles and property rights. No longer the informal other within a city but a formal incremental neighbourhood.

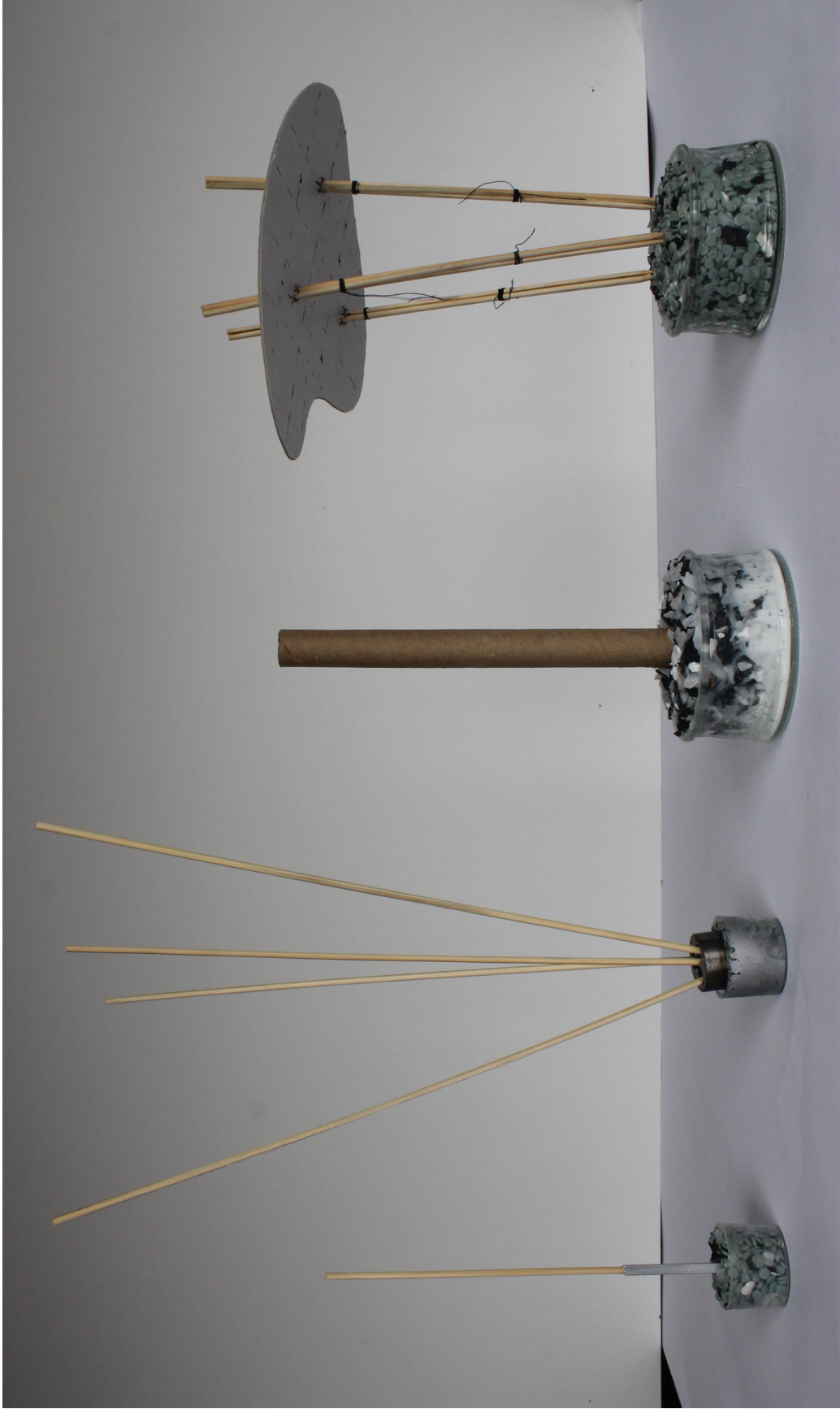


Image 67: Explorations in found objects; structure.



Image 68: Explorations in found objects; structure.



Image 69: 1:100 building model of Casa Deposito following establishment.

APPENDIX A: BRAZIL IN CONTEXT

A.1 Demographics of Brazil and Rio de Janeiro

Brazil is the fifth largest country in the world, and the largest in South America. Founded as a Portuguese colony in 1565 and was the seat of the aristocracy in 1808 and has experienced years of systemic European colonization continuing past its independence in 1822.¹¹²

The State of Rio de Janeiro is the second most important contributor to the country's Gross Domestic Product (GDP) producing almost 11 per cent of the country total and the GDP of the city represents 67 per cent of the State's GDP.¹¹³ Rio de Janeiro is the second largest city in Brazil, with a population of 6,453,682, it is famous for its breathtaking landscape, laid back beach culture and annual carnival.

A.2 Geography of Rio de Janeiro

The city of Rio de Janeiro rests within the rugged topography of Southeast Brazil and occupies 1,255 km², with a density of 4640.17 inhabitants/km².¹¹⁴ The result is 86 km of coastline with 72 beaches interrupted by beautiful granite mountains.¹¹⁵ The city has a hot and humid climate, sunny all year round, with maximum and minimum temperatures of around 40° C and 22° C in summer and 24° C and 12° C in winter. Rio is at sea level (average altitude of two metres) and is dominated by three large ranges: Tijuca, Pedra Branca and Gericinó.¹¹⁶ Within the heart of Rio, surrounded by urbanity, is Floresta da Tijuca, the largest urban forest in the world.¹¹⁷ Rio is also known around the world for its social inequality and manifested

112 IBGE, "Atlas Nacional do Brasil Rio de Janeiro, RJ 2000," *Instituto Brasileiro de Geografia e Estatística*, last modified 2010, <http://www.ibge.gov.br>

113 Xavier and Magalhães, "Urban Slums Reports," 1.

114 Xavier and Magalhães, "Urban Slums Reports," 4-5.

115 PCRJ, "Rio de Janeiro: A Cidade de Todos," *Prefeitura da Cidade do Rio de Janeiro*, (Rio de Janeiro, RJ, 2000).

116 PCRJ, "Plano de Governo da Cidade do Rio de Janeiro: 1997-2000," *Prefeitura da Cidade do Rio de Janeiro*, Rio de Janeiro, RJ, 2000.

117 Xavier and Magalhães, "Urban Slums Reports," 5.

in different types of slums all over the city.

A.3 History of Rio de Janeiro, RJ, Brasil

Founded in 1565 as a fortification against French pirates, the city remained as an outpost until gold and diamonds were found in the neighbouring state of Minas Gerais.¹¹⁸ Rio de Janeiro's instrumental role in the development of Brazil began in 1763, when the capital was moved from Salvador to Rio de Janeiro, raising its political status and stimulating investment in infrastructure, drainage, water supply and aesthetic projects to accommodate urban growth.¹¹⁹ This was further stimulated when the royal family moved to the city in 1808 and the city became the capital of the United Kingdom of Portugal, Brazil and Algarve.¹²⁰ Following Brazil's independence in 1828 Rio became the capital of the country with the Proclamation of the Republic in 1889, and the political elite and bourgeoisie were ousted. The abolition of the slavery in 1888 emptied the coffee plantations, bringing migrants to the city.¹²¹ Social differences became more acute and the first favelas, informal settlements or slums, appeared.

The city centre became a place of narrow streets and alleys, low houses, deep plots, insalubrious tenements with unhealthy conditions and prone to epidemics. Mayor Pereira Passos, 1902-1906, called for a radical renewal of the city, with a Haussmannization that demolished large areas to create wide green avenues and modern new buildings.¹²² By the late 1920s the city's population has reached around 2 million people and the first urban plan, Plan Agache, was developed.¹²³ This plan proposed the organisation of the city following a segregated functionalist principle, reserving the boroughs of Ipanema, Leblon and Gavea for the upper classes, while the suburbs were left for the working classes. The plan was also the first official document to deal with the 'problems' of favelas and suggests their

118 Xavier and Magalhães, "Urban Slums Reports," 2.

119 Ibid., 2.

120 Ibid., 3.

121 Ibid., 9-13

122 Ibid., 10.

123 Ibid., 11.

eradication.¹²⁴ Growth of the favelas continued and in 1948 the census registered 139, 000 living in 105 favelas spread across the city.¹²⁵

Migration reached its highest rate in the 20th century with 38 per cent of inhabitants originating from outside the city.¹²⁶ A lack of housing and mass transport to attend to this growth forced the spread of favelas to environmentally fragile areas, such as swamps, steep hills, mangroves and riverbanks. Rio's position as the capital sustained its growth until 1960 when the modern movement facilitated the development potential of the country and moved the capital to Brasilia. In the years to follow the city's development began to focus on international tourism and with the development of the Pub-Rio in the 1970s relocated industries to northern metropolitan regions, invested in middle and high income groups in the eastern areas of Barra da Tijuca and Jacarepaguá, whereas larger ex-rural areas such as Bangu, Santa Cruz and Campo Grande were subdivided into plots, mostly illegally, lacking infrastructure and services, to house the poor population unable to acquire housing in the formal market.¹²⁷

Today, after hosting the 2016 Summer Olympics Rio's development and informal settlement programs continue to propagate the same elitist development and interests.

124 Ibid., 12.

125 Xavier and Magalhães, "Urban Slums Reports," 12.

126 Ibid., 13.

127 Ibid., 14.

APPENDIX B: FAVELA TIMELINE

1897 - 1st favela

Veterans of the Canudos War squat in Rio de Janeiro after broken promises of land

1837 - Codigo de Obras (Building Code)

1st city policy regarding the favelas, re: aberrations and evictions
Haussmannization of Rio

1947 - Brazilian Communist Party Banned | Fundacao Leao XIII

Brazilian Communist Party received 24% of municipal election
“Climb up the hill before the communists come down”

1960 - Operacao Mutirao established

Carlos Lacerda (Rio governor) unlinked municipal assistance to the favela from the Catholic Church and appointed sociologist Jose Arthur Rios to coordinate government social services

Acknowledged the importance of residence participation

*was shut down after a year and half due to real estate interest in Zona Sul favelas

1963 - Federacao das Associacoes de Moradores de Favelas do Estado do Rio de Janeiro (FAFERJ)

City formalized the role of the residents association (especially in terms of service upgrades being delivered)

1964 - Rural-Urban Migration

Avenida Brasil, a major highway running from the northwest to Rio, opens facilitating thousands of people moving to the city from the interior

1968 - Companhia de Desenvolvimento de Comunidades (CODESCO)

Negrao de Lima gathered architects, economists, and planners to offer design support and long term, low-interest loans on construction materials to residents for community decided upgrades

*completed 3 favela upgrade projects before CHISAM began eviction programs

1968 - Coordenação de Habitação de Interesse Social da Área Metropolitana do Rio de Janeiro

Eviction program launch, 100,000 people lost their homes between 1968-

1975

Conjuntos, such as Cidade de Deus, Vila Kennedy and Quitungo, were built to rehouse people

1970 - Promorar Program

Gave land titles and upgrades to six communities in Complexo da Mare.

1973 - CHISAM shut down

National Housing Bank took over financing rehousing to avoid a financial crisis

1980 - PUC-Rio Rector Independent Initiatives

Installed some pavement and sewage infrastructure

1985 – Military dictatorship ends, Brazil returns to democracy

1988 - Federal Constitution declares Squatter's Rights

Land became the property of an adverse possessor after five years of occupation

1992 - Cesar Maia elected mayor of Rio

Plano Diretor de Rio de Janeiro (master plan) article 148 and 151 establish goals for "integrating favelas into the formal city and preserving their local character"

1993 - Improvement Projects Proposed

Six municipal neighbourhood improvement project were proposed

1994 - Favela-Bairro Program 1994-2008

Coordinated by Secretaria Municipal de Habitacao (Municipal Housing Secretariat)

Assistance from COMLURB, municipal trash-collection company, and CEDAE, state water company

Focused on mid-range communities of 500-2500 homes

3-phases implemented;

Phase 1: 1995-1996

38 favelas received upgrades

two offshoot programs started

Bairrinho - communities with fewer than 500 homes

Grandes Favelas - communities with over 2500 homes

Phase 2: 1997-2001

62 favelas and 24 loteamentos irregulares (informal subdivisions)

Program expansion to include childcare centres, computer centres, training in hygiene and community development and land titling

Phase 3: 2001-2008

44 more communities received upgrades

1996 - PROSANEAR

National program to upgrade sewerage

2001 - Special Zones of Social Interest (ZEIS)

Federal Statute of Cities recognizes favelas as places to secure affordable housing

2007 - Programa de Aceleracao de Crescimento, PAC (Growth Acceleration Program)

Nation wide program that includes infrastructure upgrades and social assistance programs for low-income communities

2010 - Morar Carioca Municipal Program

Upgrading program that would be arranged by the Brazilian Institute of Architects (IAB)

Sought to implement "Area of Special Social Interest" (AEIS) zoning regulation

Guidelines were published in October, 2012

2011 - Morar Carioca Short-term Goals Released

Municipal Housing Secretary, Jorge Bittar announces upgrades to 216 favelas before the World Cup in 2014

2011 - Mega-event induced Favela Evictions and Gentrification

Accommodating the 2016 Summer Olympics favelas such as Vila Autodromo were demolished

2012 - "favelas can be a solution"

Eduardo Paes films a TEDtalk in Long Beach, California about the potential in Brazil's informal areas

2016 – Rio hosts the Summer Olympic Games

APPENDIX C: POLITICAL PROPOGANDA

LEGADO DE MENTIRAS E DESIGUALDADE

A Baía de Guanabara é o maior exemplo da farsa do legado olímpico. O Governo Estadual simplesmente “desprometeu” despoluí-la. Praias e lagoas também continuam sujas. A construção do campo de golfe em área de preservação ambiental e a opção pelo transporte rodoviário e poluente (Trans Oeste, Carioca e Olímpica) demonstram o total descompromisso com o legado ambiental.

Falta ar-condicionado nas escolas e nos ônibus. A Prefeitura não resolve o problema e autoriza aumentos da tarifa acima da inflação. A tal reordenação de linhas obriga o povo a mais baldeações, mais gastos e desconforto, e certamente aumentará o lucro das empresas. E o metrô pra Barra já nasceu lotado.

Eduardo Paes promoveu a maior política de remoção da história da cidade. Cerca de 100 mil pessoas tiveram que deixar suas casas. A maioria ficou longe do trabalho, em áreas sem segurança e serviços, revelando um dos objetivos da “cidade de negócios”: esconder a pobreza. Na Vila Autódromo, vizinha ao Parque Olímpico, a resistência dos moradores conquistou a permanência de cerca de 20 famílias. Outras 600 famílias foram removidas, beneficiando a maior doadora das campanhas de Paes, a empresa Carvalho Hosken, que tem ganho previsto de 1 bilhão de dólares com os Jogos.

Governo Federal ilegítimo, calamidade Estadual e caos na prefeitura. As Olimpíadas deveriam servir ao esporte e não de pretexto para violações de direitos e lucros de empresários e governantes. Por isso defendemos uma verdadeira CPI das Olimpíadas. Por isso também apoiamos os que lutam por moradia, por justiça ambiental, por educação, saúde e transportes públicos e de qualidade. **Acreditamos que resistir é preciso e que outra cidade é possível!**

Ilustração: Renato Mall



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Image 70: Political proppranda exposing what public legacy projects are not going to be delivered, specifically water pollution in Gaunabara Bay.

PREFEITURA FAZ OLIMPIADAS PARA EMPRESAS E NÃO PARA O POVO!



Ilustração: Renato Moll

Há uma década o Rio de Janeiro vem sediando grandes eventos internacionais. A promessa dos governos era atrair muitos investimentos para resolver nossos graves problemas urbanos e superar a pobreza e a desigualdade. Mas alguém ainda acredita que isso de fato aconteceu ou acontecerá?

Muito dinheiro público foi usado em obras polêmicas ou não prioritárias, como as "reformas das reformas" do Maracanã e do Engenhão e a derrubada da Perimetral. Tragédias como a da ciclovia e os buracos no recém-inaugurado Elevado do Joá denunciam a falta de qualidade dessas obras. Desde 2013, mais da metade dos investimentos da Secretaria Municipal de Obras foram para os megaeventos. Em 2015 foram 71,9% e serão 70,1% em 2016. Ou seja, obras mal feitas e só pra inglês ver.

Como não viver um caos na saúde e na educação se os megaeventos abocanharam mais da metade do TOTAL de investimentos da prefeitura em 2013 e 2014 e 63,9% em 2015? O Rio se tornou a cidade mais cara e engarrafada do país. Será esse o legado olímpico?



Renato **Cinco**
vereador de luta

Image 71: Political propaganda exposing where public investment was focused in preparation for the 2016 Summer Olympics.

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