The Squatted New Town

Modern Movement meets Self-organisation in Venezuela

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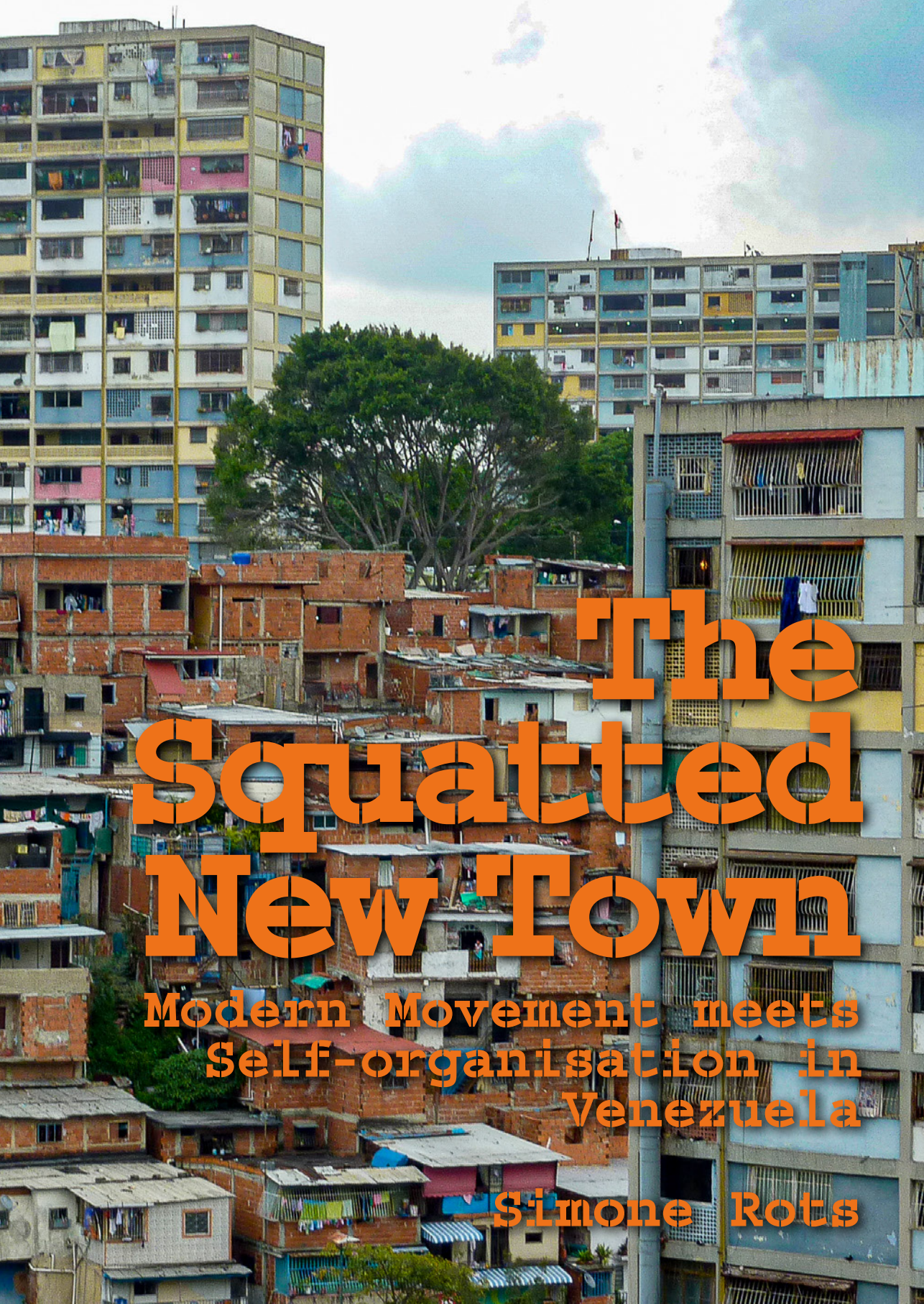

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The Squatted New Town

Modern Movement meets Self-organisation in Venezuela

Dissertation

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Chair of the Board of Doctorates
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Wednesday 6 January 2021 at 10:00 o'clock.

by

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Dr.ir. A. M. Fernandez Maldonado has contributed to this thesis as daily supervisor to a significant extent.

Acknowledgement

The topic of this research stems from the project 'New Towns on the Cold War Frontier', carried out by my office, Crimson Historians & Urbanists. This project examines, from a historical, cultural and political perspective, a series of completely new cities from the post-war period (1945-1980). Its hypothesis is that urban planning in the Cold War period was considered to be a powerful instrument in the global competition between the capitalist and the communist blocks, and that the export of architecture and planning to countries that were still outside one of these blocks functioned as a means of cultural colonisation. By unravelling case studies from all parts of the world, the ambiguous and fascinating story of new towns and their social and political ambitions unfolds.

Within this project my curiosity for an urban model in which planning and self-organisation can be combined came into being and this curiosity brought me to the new towns of Venezuela of the 1950s and 1960s. When I analysed the new towns, 23 de Enero and Ciudad Guayana situated in Venezuela, it became clear that they could tell a story on the meeting point of formal planning and informal urbanisation. The opportunity of working on this topic by completing a PhD was an offer I could not resist. When, during the research process, I started working at the International New Town Institute (INTI) I was increasingly assured that the results of the research could be an addition to the discourse of today. The current urbanisation questions are, in many ways, similar to the questions from the post-war era in Venezuela. I was convinced to carry on and find out what lessons can be learned.

This research started 12 years ago and much has happened since, in my working life and in my personal life. It has been a long journey and I could not have done it without many people who stood by me. Now is the time to thank you all for your warm support, advice, and knowledge: my colleagues, my dear friends and family and all the people that I have met during the trips for this research and the activities of INTI.

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Unless otherwise specified, all the photographs in this thesis were taken by the author.
Unless otherwise specified, all schemes and maps in this thesis were made by Ewout Dorman (Crimson Historians & Urbanists)
Images at page 210-211 are stills from a film made during the interview with Victor Artis, Gustavo Ferrero Tamayo and Oscar Tenreiro, Caracas 20 May 2009, in cooperation with Urban Think Tank.

Summary

Worldwide urbanisation is taking place at a rapid pace and many new towns or urban expansions have to be built in the near future in order to meet global economic growth and mass migration to urban environments. Currently 50% of the world's population lives in cities and it is predicted that this will be 70% by 2050. There are many questions about the way this urbanisation will proceed. Within the programmes of international agencies dealing with urban development, urban planning and design are increasingly being included as crucial instruments in response to questions about sustainability, quality of life and providing shelter. And although the field of urban planning has been subject of change, the ideas of the Modern Movement still underlie the planning of new towns. In the planning and development of new towns currently being carried out in Asia and Africa, the characteristics of the Modern Movement are clearly visible. A critical discourse on the influence of modernism has been taking place since the mid-20th century, accompanied by an ongoing search for opportunities to bring the human dimension, scale and self-organisation into this process.

This research can be placed in this long tradition of discussion and international discourse and shows that the search for human scale within new town planning in the post war era and the discussions nowadays are comparable. It addresses the context of urbanisation in Latin America in the 1950s and 1960s, especially in Venezuela, because the country had an unique position in the Latin American region since revenues from oil extraction – discovered in the 1920s – accelerated urbanisation and turned it into the most urbanised country of Latin America in a few decades. These revenues made it possible to build new towns, on a large scale, with modernist ideals. This context is in many ways similar to the new town developments nowadays and evokes the main research question "Which lessons can be learned from the urbanisation in Venezuela in the 1950s and 1960s for the current and future urbanisation debate?"

The conceptual framework of this research consisted of an analysis of the implementation of the ideas of modernism in Latin America in the 1950 and 1960s and a historic overview of the international housing policies in the region in the same period of time. The Modern Movement ideas and approaches in architecture, urban design, and planning were promoted

and implemented worldwide in very different political, cultural, and socio-economic contexts. However, the context of the implementation of the ideas of the Modern Movement in post-war Latin America, with conditions of high poverty and inequality, was very different from the European context where the Modern Movement was born. The desired form of modernisation clashed strongly with the political, cultural, and economic context of Latin American societies. The supply of sufficient affordable housing was urgent, because the informal self-organised urbanisation was expanding fast in the large cities. Within this context, the implementation of international housing policies, especially the aided self-help policy, gained a foothold in the region. The historical analysis of the aided self-help policy, that combines planning and self-organisation, identifies how the policy was promoted and implemented in the Latin American context. The sites & service scheme that was developed as a spatial instrument within the policy is analysed according to the role of planning, the role of the stakeholders and its spatial evolution in time.

Historical case study analysis is the key method of this research, that examines the meeting point of modern urban planning and informal self-organised urbanisation, using as cases the two most salient examples of the Modern Movement in Venezuela, planned and built in the 1950s and 1960s, Within the context of modernism and international housing policies, the new towns, 23 de Enero, on the boundary of Caracas, and Ciudad Guayana in the Eastern part of Venezuela, show that they are both, in their own way, clear examples of the encounter of modern urbanism with informal and self-organised urbanisation processes. They were both planned and designed according to modernistic concepts and ideas, and both had to react to informal processes that affected the new town planning processes. During the research it became clear that the experiences of the squatting of the top-down planned 23 de Enero neighbourhood, with 38 high-rise superblocks, brought insights for the planning process of the new industrial capital Ciudad Guayana. Through this important link between the cases, this research tells also the history of the post-war urban planning and housing in Venezuela.

The 23 de Enero neighbourhood was planned and built in a short period during a dictatorial regime, but the original plans did not sufficiently responded to the high housing demand from migrants in search for economic prosperity. This resulted in the self-organised squatting and land invasion of

23 de Enero. The confrontation between formal and informal urbanization delivered good and bad experiences. An evaluation carried out by the CINVA (Inter-American Housing and Planning Center) advised to stop the construction of new superblocks and to focus on upgrading the existing neighbourhood with aided self-help. This also came to the attention of the contemporary international scientific discourse on modern urbanisation, that was discussing the importance of the needs and wishes of the inhabitants in making the city.

Because the Venezuelan government was aware of the importance of broad professional knowledge in urban planning and design, they started a cooperation with the Joint Center for Urban Studies and hired the academics of MIT and Harvard to plan and build Ciudad Guayana, a new industrial capital. The Joint Center was willing to test the latest urban planning and design approaches on the field, but its academic and social perspective was in conflict with the views of their local counterparts. The Corporación Venezolana de Guayana (CVG), the Venezuelan counterpart, considered Ciudad Guayana primarily as an economic endeavour. The confrontation between the different perspectives of the two teams was clearly seen when they had to deal with concrete planning issues. The academic planners attempted to implement a planning process responsive to short-term issues without neglecting long-term planning matters. However, the growing pressure to solve the short-term problems obliged them to make a compromise, that would lead to the immediate implementation of the projects, before a comprehensive plan was approved.

Taking into consideration that urban informality was a foreseeable part of urbanisation and had to become part of the planning strategy, the planning process included the elaboration of a housing programme to test and implement demonstration projects and housing experiments with affordable housing. The programme, known as the Settlement Strategy, used an aided self-help policy to provide shelter for the urban poor combining the power of self-organisation of the residents with governmental support and guidance. The Settlement Strategy was first tested in a neighbourhood inside the El Roble Pilot project, El Gallo. A sites & services scheme was applied with a spatial layout that provided enough space for public amenities and facilities. The strategy providing basic housing, technical support and space for facilities

promoted a gradual improvement of housing in the area, which gradually densified. People were able to save in housing costs and to invest in education, business or other areas, what contributed to creating a mixed income community.

These experiences from the case study research have produced innovative insights and fourteen main lessons as an answer to the research question. The lessons are thematically divided in lessons that focus on the urban planning process (5) and lessons that address, specifically, the aided self-help policy with the sites & services scheme (8). The final, more reflective lesson is the basic lesson of this research linking historical analysis research to today's urban questions and challenges. This lesson stresses historical analysis as a valuable method of research, because it deepens insights and observations on the process of urban development. The lessons are meaningful for various stakeholders of the urbanisation process who are addressed in this research: the government, professional experts, international agencies, NGO's, the market and the residents. Each lesson is described and explains the role of the stakeholders.

Lessons for planning

1. Planning approaches in new towns should acknowledge and address the social circumstances of all the income groups, including the lowest income group, the urban poor.
2. A pragmatic comprehensive planning approach needs to combine short- and long-term planning.
3. Informal urbanisation processes require the use of flexible and adaptive planning approaches.
4. A comprehensive approach for planning demands a planning team with local and external urban experts from various disciplines.
5. The planning process of a new town should include an affordable housing programme, where housing should be understood beyond shelter.

Lessons for affordable housing via aided self-help and sites & services

6. Aided self-help can help to reach the aim for housing for all.
7. Aided self-help requires the involvement of a strong, well-organised and committed government.

8. The policy of aided self-help seems to be best applicable in small- and middle-scale developments.
9. An ideal type of the sites & services scheme does not exist; it depends on the possibilities of the government/developer and on the consultation with residents on their capacities and needs.
10. The consolidation of sites & services needs time because it is inherently an incremental process.
11. The size of the plots (within the sites & services scheme) is an important starting point for the success of implementing aided self-help.
12. The situation of land ownership influences the success of aided self-help directly.
13. A solid community and strong social networks are important drivers for the development of sites & services neighbourhoods.

Final lesson, future from the past

14. Examining historical examples is a necessary endeavour for understanding the present reality of urbanisation in highly complex situations and can provide useful inspiration for the ongoing urban issues

Finally, this research is not just a historical analysis of modernism and aided self-help in the 1950s and 1960s, but can be placed in a long tradition of discussion and international discourse regarding modernistic new town planning. The results of the research positioned within this ongoing discourse, should not be considered as an encouragement of urban informality or self-organisation as the opposite approach of modernism. Instead, it shows the opportunities of a policy that could give an alternative within the habitual use of modernistic ideas and concepts within new town planning. The analysis of the implementation of the aided self-help policy in the Venezuelan cases has provided lessons that can be shared within the current practice of new town planning. Lessons that integrate the needs and wishes of the residents, and emphasize the importance of the commitment of the authorities, policy makers and project developers.

Samenvatting

Overal ter wereld voltrekt de verstedelijking zich in een rap tempo. Dat betekent dat nu en in de nabije toekomst veel nieuwe steden en stadsuitbreidingen worden gerealiseerd om tegemoet te komen aan de wereldwijde economische groei en massamigratie naar stedelijke omgevingen. Op dit moment woont 50% van de wereldbevolking in steden en de voorspelling is dat dat in 2050 70% zal zijn. Er bestaan nog veel vragen over de manier waarop deze verstedelijking zou moeten gaan verlopen. In de programma's van internationale organisaties die zich bezighouden met verstedelijkingsvraagstukken, worden stedelijke planning en stedenbouw steeds vaker vermeld als cruciale instrumenten die oplossingen kunnen bieden voor vraagstukken omtrent duurzaamheid, kwaliteit van leven en het bieden van onderdak. Hoewel stedenbouw en planologie als vakgebieden veranderingen hebben ondergaan, liggen modernistische ideeën nog steeds ten grondslag aan het plannen van nieuwe steden. Aan de planning en ontwikkeling van nieuwe steden, die in Azië en Afrika worden gebouwd, zijn de kenmerken van het modernisme duidelijk af te zien. Sinds het midden van de twintigste eeuw vindt er een kritisch debat plaats over de invloed van het modernisme, een debat dat gepaard gaat met een voortdurende zoektocht naar mogelijkheden om de menselijke dimensie, schaal en zelforganisatie in dit proces mee te nemen.

Dit onderzoek kan in deze lange traditie van debat en internationaal discours worden geplaatst en laat zien dat de zoektocht naar de menselijke maat binnen het plannen van nieuwe steden in de naoorlogse periode en de huidige discussies in zekere zin vergelijkbaar zijn. Het onderzoek speelt zich af in de context van verstedelijking in Latijns-Amerika in de jaren vijftig en zestig en dan met name in Venezuela. Het land had een unieke positie in de Latijns-Amerikaanse regio vanwege de inkomsten uit de oliewinning – sinds de jaren twintig – die de verstedelijking versnelden en het land in enkele decennia in het meest verstedelijkte land van Latijns-Amerika veranderden. Deze inkomsten maakten het mogelijk om op grote schaal nieuwe steden te bouwen, waarbij van modernistische idealen werd uitgegaan. Deze context is in veel opzichten vergelijkbaar met de huidige stedelijke ontwikkelingen en vormt de aanleiding tot de belangrijkste onderzoeksvraag van dit onderzoek: "Welke lessen kunnen er worden getrokken uit de verstedelijking die in de jaren vijftig en zestig in Venezuela heeft plaatsgevonden, die relevant zijn voor het huidige en toekomstige debat over verstedelijking?"

Het conceptueel raamwerk van dit onderzoek wordt gevormd door de combinatie van een analyse van de implementatie van de opvattingen van het modernisme in Latijns-Amerika in de jaren vijftig en zestig en een historisch overzicht van het internationale huisvestingsbeleid in de regio in dezelfde periode. De opvattingen en benaderingen van het modernisme op het gebied van architectuur, stedenbouw en planning werden in de naoorlogse periode overal ter wereld gepromoot en geïmplementeerd in zeer uiteenlopende politieke, culturele en sociaaleconomische contexten. De context waarin de modernistische ideeën in het naoorlogse Latijns-Amerika zijn geïmplementeerd, waar sprake was van grote armoede en ongelijkheid, verschilde echter sterk van de Europese context waarin het modernisme is ontstaan. De gewenste vorm van modernisering botste hard met de politieke, culturele en economische context van de Latijns-Amerikaanse samenlevingen. De noodzaak om een aanbod te creëren van voldoende betaalbare woningen was groot, omdat de informele, zelf georganiseerde verstedelijking in de grote steden zich snel uitbreidde. In deze context kreeg de uitvoering van verschillende vormen van internationaal huisvestingsbeleid, met name het beleid van *aided self-help*, voet aan de grond in de regio. De historische analyse van het *aided self-help* beleid, dat planning en zelforganisatie met elkaar combineert, brengt in kaart op welke manier het beleid in de Latijns-Amerikaanse context gepromoot en uitgevoerd werd. Het *sites & services* schema dat als ruimtelijk instrument binnen het *aided self help* beleid werd ontwikkeld, speelt hierin een belangrijke rol en wordt in dit onderzoek geanalyseerd vanuit de rol van planning, vanuit de rol van de stakeholders en de ruimtelijke evolutie van het schema in de tijd.

De belangrijkste methode die is gebruikt voor dit onderzoek, is de analyse van historische cases, waarbij twee prominente voorbeelden van het modernisme in Venezuela, gepland en gebouwd in de jaren vijftig en zestig, als cases worden gebruikt. Hierbij wordt het raakvlak tussen de modernistische planning en de informele zelfgeorganiseerde verstedelijking onderzocht. Beide cases, de new towns 23 de Enero, bij de hoofdstad Caracas, en Ciudad Guayana, in het oostelijke deel van Venezuela, laten zien dat ze

ieder op hun eigen manier duidelijke voorbeelden zijn van de ontmoeting tussen moderne stedenbouw en informele en op zelforganisatie gebaseerde verstedelijkingsprocessen. Bij het plannen en ontwerpen van beide steden is uitgegaan van modernistische concepten en ideeën, waarbij tegelijkertijd men genoodzaakt was te reageren op informele processen die van invloed waren op het proces. Tijdens het onderzoek is gebleken dat de ervaringen met de gekraakte de top-down geplande new town 23 de Enero, uitgevoerd met hoogbouw-superblocks, van invloed zijn geweest op het planningsproces voor de nieuwe industriële hoofdstad Ciudad Guayana. Aan de hand van dit belangrijke verband tussen de casussen schetst dit onderzoek tevens een beeld van de geschiedenis van de naoorlogse stedelijke planning en woningbouw in Venezuela.

De new town 23 de Enero is tijdens een dictatoriaal regime in een korte periode gepland en gebouwd, maar de oorspronkelijke plannen speelden niet voldoende in op de grote vraag naar woningen voor migranten op zoek naar economische voorspoed. Dat leidde tot zelf georganiseerde kraak van woningen en landinname in 23 de Enero. De confrontatie tussen formele en informele verstedelijking leverde goede en slechte ervaringen op. In een door het CINVA (Inter-American Housing and Planning Center) uitgevoerde evaluatie werd het advies uitgebracht om de bouw van nieuwe superblocks te stoppen en in plaats daarvan te kiezen voor opwaardering van de bestaande wijk door middel van ondersteunde zelfhulp. Dit speelde zich af in een periode dat ook het internationale wetenschappelijke discours over moderne verstedelijking aandacht zich verplaatste van een technocratische benadering van verstedelijking naar aandacht voor de behoeften en wensen van de inwoners van de stad.

Omdat de Venezolaanse regering zich bewust was van het belang van brede vakkennis op het gebied van planologie en stedenbouw, besloot zij een samenwerking aan te gaan met het Joint Center for Urban Studies voor het plannen en ontwikkelen van Ciudad Guayana. De academici van MIT en Harvard die zich hadden verenigd in het Joint Center waren bereid om de nieuwste stedenbouwkundige en ontwerpbenaderingen in de praktijk te testen, maar hun academische en sociale benadering was in strijd met de opvattingen van hun lokale tegenhangers. Voor het Venezolaanse ontwikkelteam de Corporación Venezolana de Guayana (CVG) was Ciudad

Guayana in de eerste plaats een economische onderneming. De confrontatie tussen de verschillende perspectieven van de twee teams werd duidelijk zichtbaar toen ze te maken kregen met de concrete planningsvraagstukken. De academische planners probeerden een planningsproces te implementeren dat rekening hield met korte termijn problemen, maar zonder daarbij de lange termijn problemen op het gebied van planning te verwaarlozen. De druk om de kortetermijnproblemen op te lossen nam echter dermate toe dat ze zich genoodzaakt zagen een compromis te sluiten, dat zou leiden tot uitvoer van de projecten nog voordat er een uitgebreid plan was goedgekeurd.

Rekening houdend met het feit dat stedelijke informaliteit een voorspelbaar onderdeel van de verstedelijking was en deel moest gaan uitmaken van de planningsstrategie, werd er als onderdeel van het planningsproces een huisvestingsprogramma uitgewerkt dat met demonstratieprojecten en woningbouwexperimenten werd getest. Het programma, dat bekend staat als de ‘Settlement Strategy’, maakte gebruik van *aided self help* beleid om onderdak te bieden aan de laagste inkomensgroepen door de kracht van de zelforganisatie van de bewoners te combineren met steun en begeleiding van de overheid. In het pilotproject voor El Roble werd in de wijk El Gallo een *sites & services* project toegepast met een ruimtelijke schema dat naast plots voor woningen ook voldoende ruimte bood voor publieke voorzieningen en faciliteiten. Het *aided self help* beleid voorzag in ondersteuning in financiële en technische zin en bood ondersteuning bij het opbouwen van de gemeenschap. Dit bevorderde de geleidelijke verbetering van de woningen en geleidelijke verdichting van de wijk. Inwoners waren in staat om te besparen op huisvestingskosten en investeringen te doen op het gebied van onderwijs, zakelijke ondernemingen of andere terreinen, wat bijdroeg aan het ontstaan van een gemeenschap met gemengde inkomstenbronnen.

De ervaringen uit het casestudy-onderzoek hebben geleid tot innovatieve inzichten en veertien lessen, die antwoord geven op de onderzoeksvraag. De lessen zijn thematisch verdeeld in lessen die zich richten op het stedenbouwkundige proces (5) en lessen die specifiek gericht zijn op het aided self-help beleid in combinatie met de toepassing van een *sites & services* schema (8). De laatste, meer reflectieve les is meteen ook de voornaamste les van dit onderzoek, waarin historisch onderzoek aan hedendaagse stedenbouwkundige problemen en uitdagingen wordt

gekoppeld. In deze les wordt benadrukt dat historische analyse een waardevolle onderzoeksmethode is, omdat inzichten en observaties over het stedelijke ontwikkelingsproces hierdoor worden verdiept. De lessen zijn zinvol voor verschillende stakeholders in het verstedelijkingsproces die in dit onderzoek aan bod komen: de overheid, professionele experts, internationale agentschappen, ngo's, de markt en de bewoners.

Lessen op het gebied van planning

1. Bij het plannen van new towns dienen **de sociale omstandigheden van alle inkomensgroepen te worden erkend en aangepakt, met inbegrip van de laagste inkomensgroep**, de urban poor.
2. Een pragmatische, allesomvattende planningsaanpak dient een combinatie te zijn van **planning op korte en lange termijn**.
3. **Informele verstedelijkingsprocessen** vereisen de toepassing van flexibele en adaptieve planningsbenaderingen.
4. Een allesomvattende planningsaanpak vraagt om een **planningsteam** met lokale en externe stedelijke experts uit verschillende disciplines.
5. In het planningsproces van een nieuwe stad moet een **programma voor betaalbare huisvesting** worden verwerkt, waarbij onder huisvesting meer wordt verstaan dan alleen onderdak.

Lessen op het gebied van betaalbare huisvesting via *aided self-help* beleid en *sites & services*

6. ***Aided self-help*** kan bijdragen aan het bereiken van het doel om iedereen te huisvesten.
7. Voor de uitvoering van *aided self-help* beleid is de betrokkenheid van een **sterke, goed georganiseerde en toegewijde overheid nodig**.
8. Het *aided self-help* beleid lijkt het best toepasbaar in **ontwikkelingsprojecten op kleine en middelgrote schaal**.
9. Er bestaat geen **ideaal *sites & services* schema**; alles hangt af van de mogelijkheden van de overheid/ontwikkelaar en van het overleg met de bewoners over hun capaciteiten en behoeften.
10. De consolidatie van een ***sites & services* schema heeft tijd nodig** omdat het inherent een stapsgewijs proces is.
11. De **grootte van de percelen** (binnen het *sites & services* schema) is een goed uitgangspunt voor het welslagen van de implementatie van *aided self-help*.

12. Hoe het **landeigendom** precies geregeld is, is rechtstreeks van invloed op het welslagen *aided self-help*.
13. Een **hechte gemeenschap en sterke sociale netwerken** zijn belangrijke aanjagers voor de ontwikkeling van *sites & services*-projecten.

Finale les

14. De analyse van **historische voorbeelden** is noodzakelijk om de huidige realiteit van verstedelijking in zeer complexe situaties te kunnen begrijpen en kan een nuttige inspiratiebron zijn voor de voortdurend terugkerende stedelijke vraagstukken.

Tot slot is dit onderzoek niet alleen een historische analyse van het modernisme en het *aided self-help* beleid in de jaren vijftig en zestig in de Latijns Amerikaanse context, maar kan het onderzoek worden gesitueerd in een lange traditie van debat en internationaal discours over de modernistische planologie van nieuwe steden. De resultaten van het onderzoek moeten binnen het lopende discours niet worden gezien als aanmoediging van stedelijke informaliteit, waarbij zelforganisatie het tegenovergestelde is van modernisme. In plaats daarvan geeft het onderzoek juist een beeld van de mogelijkheden van overheidsbeleid dat een alternatief zou kunnen bieden binnen de gebruikelijke toepassing van modernistische ideeën en concepten bij de planning van new towns. De analyse van de implementatie van het *aided self-help* beleid in de Venezolaanse casussen, in het kader van het moderniseringsproces van het land in de jaren vijftig en zestig van de vorige eeuw, heeft lessen opgeleverd die kunnen worden gedeeld binnen de huidige praktijk van de planning van nieuwe steden. Het zijn lessen die de behoeften en wensen van de bewoners integreren en het belang van betrokkenheid van de kant van overheden, beleidsmakers en projectontwikkelaars benadrukken.

Information on publication

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Part 1. Definition of the problem field, aim of the study, and research design

1. Introduction

This research presents an historical analysis on new town development in Latin America. At the same time, it addresses today's urban planning and design question to plan a liveable and inclusive city that can adapt to growing urbanisation (UN, 2017). This study of two new towns in Venezuela, 23 de Enero in Caracas and Ciudad Guayana built in the 1950s and 1960s and planned according to the ideals of the Modern Movement, provide valuable insights and lessons for the current situation in the Global South. The planning process and inhabitation of these new towns represent the struggle of finding solutions for the rapid urbanisation that took place in Latin America in that period.

From the mid-twentieth century onwards, Latin American urban development is characterised by both formal and informal urbanisation processes based on self-organisation. Within the context of the modernisation of the Latin American countries, the national governments were building new towns. Still, not enough houses could be built to shelter the inhabitants because of financial reasons and a huge demand; and especially for lower-income groups the situation became worse. As a result, informal urbanisation grew rapidly. This research focusses specifically on the experiences with modernist planning and the integration of self-organisation, because within rapid urbanisation, planning needs the flexibility to facilitate the informal self-organised dynamics of its old and new inhabitants (Watson, 2009).

Venezuela had a unique position in the Latin American region because revenues from oil extraction – discovered in the 1920s –accelerated the rapid urbanisation and turned it into the most urbanised country of Latin America in few decades. These revenues made it possible to build, on a large scale, with modernist ideals. The most salient examples of this approach to design and planning were implemented in two new towns (Figure 1.1): one on the boundary of Caracas, the capital city, and another as an industrial new town

Figure 1.1. Case studies: 23 de Enero (Caracas) and Ciudad Guayana in Venezuela

built in the Guayana region in order to profit from regional resources in order to improve national economic development.

23 de Enero was planned and built in the 1950s as a large extension of the Northwest side of Caracas for 60 thousand new residents. It was one of the icons of the Modern Movement in urban Venezuela, designed as a complex of three sectors with high-rise buildings of 15 stories, so-called superblocks, using prefabricated materials that allowed them to be built in 40 days. The industrial new town of Ciudad Guayana was a special case because it was designed and planned in a joint effort to implement new ideas about planning, for which the governments hired the most prestigious design and planning experts at that moment, including Rafael Corrada, Donald Appleyard, Kevin Lynch, John Friedmann, John F.C. Turner and Lisa Peattie.

Nowadays, planners, designers, and policymakers deal with similar problems of rapid urbanisation. In Asia and Africa urbanisation increases mainly because of migration to the cities. One of the concerns is shelter for this growing population and, particularly, this growing population that earns a low but increasing income of $2 -16 a day, are in need of housing and a liveable city (Rosling, 2018). This is not only a quantitative need, but also a need for a better quality living environment, thus, planners and policymakers are trying to find ways to combine the planning of new urban developments and the needs of its inhabitants. This research suggests that the story of the urban challenges in Venezuela from the mid-twentieth century are meaningful for current and future urbanisation.

1.1. Motivation

1.1.1. Modern Movement in Latin America

The architectural and urban planning ideas of the Modern Movement – published through the CIAM congresses and writing by Le Corbusier – became dominant at a global level during the 1930s and 1940s (Fraser, 2000; Brillembourg, 2004). Le Corbusier's ideas of a spatial model in which the city was restructured by architectural and technical innovations were welcomed on a large scale (Hall 2002, Weiss, Harbusch, Maurer, 2014). Le Corbusier thereby addressed the connection of the house with street and traffic, and the connection between space and density. He used this famous paradox: unlock the centre of our cities by increasing the density, the circulation and the amount of open space. The paradox could be solved by building high on a small part of the total available land. Le Corbusier promoted the use of modern techniques to solve urban planning problems. According to him, architecture worked like a machine and it had to be functional, produced by methods based on mass production (Hall 2002).

The modernist planning doctrine established zoning and the organisation of cities in separated areas for the main urban functions, as a key aspect of planning. An important vehicle for both modernisation and the planned expansion of cities was precisely the concept of new towns, that were designed from scratch, following the combined ideas of the Garden City

model, the neighbourhood principles and CIAM modernism. This approach radically broke with the urban development model established until then, whereby the relationship between public street and building was a main issue (Heeling et al., 2001). It was a (more) democratic approach but designed for a homogeneous type of household: the nuclear family with a car.

The 1950s and early 1960s were a period of great economic dynamics and demographic change In Latin America. Mass-production industrialisation was producing an economic boom while industrialisation through import substitution was attracting rural populations to cities. Cities were growing fast due to this rural-urban migration. In this context, the planning and design of new cities and/or city expansions became an important government task, for which urban planning agencies dedicated to such matters were established at a national level.

Furthermore, modernist architecture, and later, modernist urban design and planning, played an important role in nation building, closely linked to state support (Almandoz, 2002). From the 1930s onwards, for the national governments, architectural modernism was a means of exhibiting the achievements of rapid modernisation pursued by economic developmentalism. This resulted in a building boom in the Latin American region and the modernist ideas and experiments became reality within the urban realm.

A wave of critique on the effects of modernism started in the 1950s, by a broad group of city-makers that were concerned with the lack of human scale and social inclusion. A growing international group of critics, like Alison and Peter Smithson, Jane Jacobs, and Kevin Lynch (Van Es et al., 2014) accused the Modern Movement –and new towns- of being too technocratic and without a human scale. Together, with the modernist new towns, this debate, which originated in the North, was brought to the Latin American region, where large-scale modernist output was delivered. It was precisely during the 1960s that worldwide urban planning experienced a major shift which moved it from an urban design exercise, into a more social science-oriented discipline (Taylor, 1999). Urban settlements were seen as part of a system of inter-related activities, which included the social, cultural, and economic aspects of city life, for which multidisciplinary teams of experts were

considered necessary (Mumford, 2000; Van Es et al.,2014). This made way for experiments in humanising urban design and planning.

1.1.2. Housing Policies in Latin America

The conventional approach to housing policies in Latin America was housing supply by the state, a process which generally only reached the middle class. Within the process of increasing rural-urban migration, it became clear that the conventional way did not deliver enough houses for the people that recently arrived to the cities (Fraser, 2000; Koth, 1965). Next to this economic and social problem, the issue of available housing became a political matter during the Cold war period, gaining the attention of the US, interested in avoiding political insurgency as in Cuba. International housing policies, that already existed and applied in Latin America through the attention of international agencies for the housing problem, were stimulated and broadened within Inter-American relationships by extra financing and other assistance for housing through, for example, the Alliance for Progress (Koth, 1965).

Inspired by informal settlements, new ideas about housing for the poor were experimented (Harris, 1997). One of these was the so-called, aided self-help, a housing approach based on the ability of the residents to organise themselves like they do in the informal settlements. The aided self-help policy used different approaches to answer the need for housing. The sites & services scheme through which plots of land with basic services were planned, that could be inhabited in a progressive way, was a popular instrument (Harris, 1997).

The numerous publications of John F.C. Turner during the 1960s and 1970s helped to make this self-help housing approach mainstream in academic fields. Before Turner, conventional academic wisdom considered that the rapidly growing informal neighbourhoods in Third World cities were, by definition, slums, places of delinquency and social breakdown (Hall, 2002). Between 1972 and 1982 the World Bank promoted the 'Sites and Services' approach, lending money to finance shelter projects or components in 35 countries, that yielded accommodation to some three million people over that period (Van der Linden, 1986). In 1976, the first Habitat conference of the United

Nations in Vancouver promoted the aided self-help approach for housing. The subsequent housing policies in the Global South began to include a form of aided self-help (Harris, 1999; Wakely, 2014).

At the end of 20th Century, the rise of neo-liberalism facilitated the growth of the private sector and market principles produced the decline of aided self-help policies. "The mind-set and operational systems were largely in place to revert to 'conventional' public housing production in the 1980s and 1990s. This was frequently accompanied by new programs for the disbursement of housing grants directly to low-income, would-be homeowners in order to assist them in gaining access to the formal private sector housing market." (Wakely, 2014: 16).

Today, the policy of aided self-help as a form of planning in which space is offered for self-organization is not prevalent in international theory and practice. In literature, aided self-help is described as part of the history of public housing policies with all the pros and cons, but the link to actual urbanisation is rarely made. Perhaps, the general unanimity at the end of the 20th Century (Wakely, 2014) about the failure of this model is the reason, but it is more likely that people are not (any longer) familiar with the model.

1.1.3. Today's urbanisation questions

In the Global South, urbanisation is taking place at a rapid pace and many new cities or urban expansions have to be built in the near future in order to meet global economic growth and mass migration to an urban environment (Watson 2009).[1] Currently more than 50% of the world's population lives in cities and it is predicted that this will be 70% or even 80% by 2050 (United Nations, 2017). The question is how this urbanisation will proceed. Within the programs of globally operating institutes dealing with social, cultural,

1 The term Global South is used in this research in contrast to the North as "it rests on the fact that all of the world's industrially developed countries (with the exception of Australia and New Zealand) lie to the north of developing countries. The term does not imply that all developing countries are similar and can be lumped together in one category. What it does highlight is that although developing countries range across the spectrum in every economic, social, and political attribute, they all share a set of vulnerabilities and challenges" (UNDP, 2004:1) Although I'm fully aware of the discussion regarding the use of this term dividing the world in two, for this research Global South is the most suited.

and economic issues in the developing world, urban planning and design are increasingly being included as instruments in response to questions about sustainability, quality of life and the provision of shelter, with the New Urban Agenda as a recent result of this development (United Nations, 2017).

In the early stages of the international policy debate, the urbanisation in predominantly developing countries was conceived of as a problem, because of the difficult discussion that involves the need to informal urbanisation (Parnell, 2016). In recent discussions, the shift towards a more positive view of urbanisation in the Global South has led to the inclusion of a stand-alone urban goal, #11 Sustainable Cities and Communities, in the Sustainable Development Goals of the United Nations. This is a clear signal of the widespread recognition of the potentially significant contribution of the urban issue for long term development (Pineda-Zumaran, 2016): a comprehensive understanding of urbanisation that attempts to holistically address the social, economic, environmental, physical, and governance dimensions of the process. UN Habitat has taken a prominent role in the theoretical and operational discussions since some years now, and the agency has placed a more evolved understanding of the (formal and informal) urbanisation at the core of its work. In the recently embraced planning guidelines of the New Urban Agenda, urban principles express the commitments for social inclusion, spatial justice, urban prosperity, and opportunities for all, and sustainable and resilient urban development (United Nations, 2017).

> "Rethinking the planning approaches that have been put forward to manage cities in the region in the past is necessary in this context and this asks for a better understanding of the theoretical underpinnings of the approach to (formal and informal) urbanization embedded in the Southern planning frameworks" (Pineda-Zuaran, 2016: 3).

Although the modernist approach towards town-planning and design brought mainly critical reactions, the experiences and knowledge that are derived from the Latin American urban laboratory of the 1960s are still very useful for current questions about urbanisation (Watson, 2009; Cobbett, 2011).

1.2. Problem Statement

1.2.1. Rapid urbanisation –problems of new towns in Latin America

In the context of rapid urbanisation and population growth in Latin America in the 1950s and 1960s, some governments decided to use new towns as a tool, as an answer to mass-migration to the cities. However, the European and North American new towns were designed for, and used in the context of economically-advanced countries with well-established design and planning agencies and with democratic governments interested in the welfare of all citizens. This was not the case in the Latin American region, which had a completely different social and economic context dominated by poverty, rural-urban migration, inequality, and the urban problems of a deeply divided society. The planning and building of the new towns was a tool in trying to solve these problems.

The top-down planned new towns as icons of modernity, first promoted as the urban solution, were confronted with the increasing shortage of shelter in the developing countries. Although there was critique of the top-down modernist approach from different urban disciplines (Abrams, 1964; Peattie, 1987), there was not a sustainable alternative from urban design practice available for this situation. So, informal settlements on the outskirts of cities grew fast because the conventional housing supply, through the building of modern new towns, could not keep up with the growth of the cities.

1.2.2. Aided self-help policies in Latin America

In response to the shortage of shelter, international housing policies were promoted from the 1950s onwards with a focus on aided-self-help as an attempt to integrate the capacity of self-building for the growing number of new residents within the planning process. Aided self-help is a policy that combines planning with self-help and uses a sites & services scheme as an instrument, that, in its most rudimental form, provides land (sites) and infrastructure for basic services. The sites & services are provided by the state or the landowner and the inhabitants fill in the site in a progressive way when financing and materials are available. In the 1950s and 1960s both the modern new towns and aided self-help housing policies concerned with the demand for shelter, were part of the international housing policies. The first

Habitat conference organised by the United Nations in 1976 promoted the aided self-help policies as the solution for the shortage of housing, but in the late 1980s aided self-help faded gradually, because of the growing dominance of the market. This again caused a top-down approach of the planning and building of new towns without facilitating the needs and possibilities of the inhabitants. This increased informal urbanisation and the planning approaches that are economically driven did not respond to sheltering the urban poor in a sufficient way.

1.2.3. Examples from the past, for today's urbanisation questions

Although the context of the rapid urbanisation of the 1950s and 1960s in Latin America is, in many ways, similar to the current rapid urbanisation of the Global South, the insights that can be gained from analysing the experiences of this post-war period are inadequately used nowadays. History repeats itself but lessons are not always learned. The modern top-down planned new towns that were used in the Latin American region by the nations to modernise their countries are comparable to the master-planned urban developments that are the outcomes of the market-driven developments currently answering to urbanisation issues in the Global South. Despite criticism, the ideas of the Modern Movement are still alive in the new town planning and again, the problem is of how to integrate the social-economic situation of the inhabitants in these processes is on the table. In the Latin American post-war era, experiments were conducted in an attempt to solve this and, although the outcomes are overshadowed by the results of neo-liberalism of the 1980s and 1990s, they are worth analysing and evaluating for their adaptiveness in planning. A connection has not been made between these examples from the past with the current practice, like the recently embraced planning guidelines of the New Urban Agenda expressed in the commitments for social inclusion, urban prosperity and opportunities for all, and sustainable and resilient urban development (United Nations, 2017).

1.3. Aim of the study and Research questions

The primary aim of this research is to draw meaningful lessons and insights from the post-war new town developments in Latin America that can contribute to the current debate on global urbanisation and housing. The questions raised during the period of urbanisation of the 1950s and 1960s in Latin America regarding modernist planning and human needs, are comparable to the current urbanisation questions in the Global South. The planning of new towns is one possible solution for the problems of rapid urbanisation, but housing policies based on planned self-organisation (aided self-help) were also promoted and implemented to provide shelter and to build communities.

From this set of aims the following research questions are derived:

Main Question

- Which lessons can be learned from the urbanisation in Venezuela in the 1950s and 1960s for the current and future urbanisation debate?

Sub Questions:

1. In what way did Latin American post-war urban development embody the planning and design ideas of the Modern Movement?
2. How were the international housing policies originated, developed, and implemented in the rapid urbanisation process in the Latin American context of the 1950s and 1960s?
3. What was the outcome of the process of building a CIAM new town, developed in a rapidly growing Venezuela?
4. Which planning approaches and dilemmas were experienced during the planning and implementation processes of an industrial new town in Venezuela?
5. How was the challenge of rapid urbanisation tackled in this implementation process?

The questions 1 and 2 are guiding the theoretical framework. 3, 4, and 5 are the questions that guide the empirical research.

1.4. Research design and methods

1.4.1. Research design

This research originates from the assumption that urban history is an important source for current and future urban development. Planning history attempts to uncover urban development whether it is planned or developed in an organic progressive way. In the Latin American region, Venezuela was the country where, next to Brazil and Mexico, the implementation of modern architecture was used in the most explicit way to modernise the nation. The case studies of this thesis are located in Venezuela, because of the extreme visible results of the confrontation between this modern impulse with local conditions of a developing country. By revealing the history of urban development, findings from modern new towns in Venezuela can be actualised in the context of the current urbanisation issues. In this way the current debate on urbanisation will be fed by the lessons from the experiments of the past that are accountable for the urban questions of today.

The research design consists of three parts (figure 1.2.). A conceptual framework in which an historical analysis reveals the context of the modernist new towns in the Latin American region. An historic overview of the aided self-help policies shows the specifics of the implementation of the international housing policies in Latin America. The new town development and aided self-help policies were both used in the 1950s and 1960s as tools in response to the post-war rapid urbanisation in Latin America. The second part involves the case study research, in which the ideas and effects of the implementation of Modernist ideas in relation to and in combination with the housing policies are analysed. In the third part, the findings and conclusions that are derived from both the case study research and the conceptual framework are evaluated and described as lessons for the current urbanisation challenges.

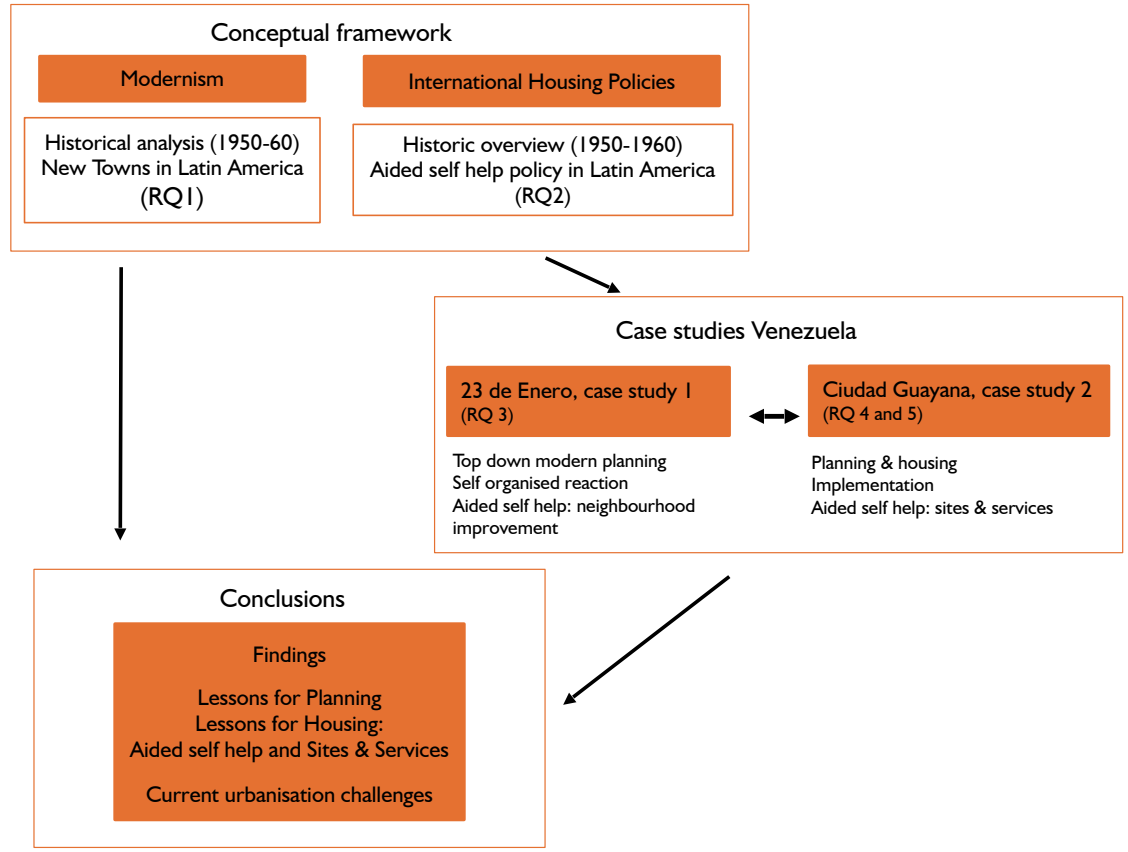


Figure 1.2. Research design

1.4.2. Research methods: Conceptual framework

The conceptual framework is based on of the historical analysis of modernism in Latin America and a historic overview of the international housing policies that were promoted and implemented in Latin America. The history of the implementation of modernism in Latin America, with a focus on new towns, has been analysed by desk research. First the origins, ideas, and characteristics of the Modern Movement have been analysed by conducting a literature review. The origins and results of the CIAM 4 congress on the Functional City were specifically studied because of their influence and fundamental impact on the Latin American urban context in the 20th century. "The Atlas of the Functional City" (Van Es, 2014) is one of the important recent sources on the CIAM 4 congress. The influence of modernism on the Latin American urban context of the 1950s and 1960s was researched through publications and articles from the post-war period when the modernist urbanisation of Latin America considerably dominated international discourse. The current studies and analyses on this period provided insight of the long-term effects of the post-war urban modernisation period in Latin America.

One of the sources of post-war modernist new towns developments is the ongoing research that has been done by Crimson Historians & Urbanists on the topic of 'New Towns in the Cold War era' (Crimson 2020).

In addition to the literature review, the archives that were researched in the context of the case studies provided insight on the effects of modernism in the Latin American context. The archive of the Villanueva Foundation in Caracas, Venezuela was helpful in understanding the origins of 23 de Enero. The archives of the Joint Center for Urban Studies situated at Massachusetts Institute of Technology (MIT) and Harvard University, were important sources for the ideas and discourse on the implementation of the Modern Movement in the Latin America. These archives were also important in developing an historic overview of the origins of the international housing policies of the 1950s and 1960s.

The historical overview of the international housing policies was also done by literature and archival research. The analysis of 'Housing in Latin America' published in 1965 by researchers from MIT sheds light on the visions and projects completed in the context of the housing policies that were promoted and implemented in Latin America at that moment of time. Both current and historic literature from the 1960s were analysed for the origins, characteristics, and the short- and long-term effects of these housing policies in the Latin American context. During the research, the focus was on the aided self-help policy, that was analysed as the policy that combined the planning of housing with self-organisation. The archive research done for the cases study Ciudad Guayana in MIT Libraries, Department of Distinctive Collections and the Special Collections of the Francis Loeb Archive of the Harvard Graduate School of Design especially helped in understanding the aided self-help policies in Latin America and Venezuela. The articles of Richard Harris on his research of the origins of aided self-help policies were very important to gain insight into the historical context of the policies.

1.4.3. Research methods: Case Study Research

To answer the research questions regarding the confrontation of new towns based on modernist design and planning ideals with the troubled realities of urbanisation processes in Latin America, case study research has been done

focusing on two locations in Venezuela: 23 de Enero (on the outskirts of Caracas) and Ciudad Guayana (in the Eastern part of the country)[2].

The selection of these cases derives from the unique context of Venezuela in the post-war era. The discovery of oil in Venezuela since the 1920s led to –for Latin America- unusual opportunities and rapid developments in a state effort to modernise the country. The modernisation of the country meant the modernisation of the cities. Venezuela's oil-driven economy provided its national government with sufficient means to realise ambitious urban development plans, in which modernist architecture and urban planning had an important role. 23 de Enero and Ciudad Guayana were the two more salient new towns within the ambitious development plans of Venezuela. The analysis of these cases represent two ways that modernism was embodied, - the top down (CIAM) approach and the more human-scale approach -, show an evolution in the way modernism dealt with the reality and specifically with unregulated urbanisation.

The first case study, 23 de Enero, shows the confrontation between top-down modernist planning and the reality of rapid urban migration. Informal self-organised urbanisation clashed with the modernist new town in a radical way, making the confrontation of modernism in the Latin American context visible. It is the most clear example of urban modernism that occurred in the 1950s in Venezuela and became, for a short time, an icon of the Venezuelan government. When President Perez Jimenez, who initiated and stimulated this new town, was overpowered by a revolution on January 23, 1958, the new town was immediately squatted by low-income populations, while an informal settlement nestled in and around the blocks at a rapid pace. It is precisely this extreme encounter between formality and informality that made this new town an inspirational example for the international design discourse in the beginning of the 21st century. 23 de Enero shows a discrepancy between the reality of fast urbanisation in Latin America/Venezuela and the implementation of the CIAM European-based ideology of modern new town development. This case study also identifies possibilities for combining the ideology of a

2 These case studies were part of the ongoing research 'New Towns in the Cold War Frontier', a project of Crimson Historians & Urbanists on new towns that were built worldwide in the post-war era by both the United States and the Soviet Union as a form of cultural colonisation.

modern inclusive city with facilities, opportunities for all and the benefits of self-organisation based on the needs and wishes of its inhabitants.

Ciudad Guayana shows the efforts to combine the modernist ideas and ideals with the economic driven reality of the urbanisation of Venezuela. Ciudad Guayana was planned and built using the lessons of 23 de Enero. It was supposed to become the new industrial capital of the country, an important element in a broader strategy of national economic planning within the developmentalist approach common throughout Latin America in the 1950s and 1960s. Ciudad Guayana's planning process was especially singular because it was the result of a collaboration between prestigious academic planners from the Joint Center of Urban Studies and local professionals, who shared the assumption that new planning approaches could provide solutions to the social and economic problems experienced by cities of developing countries. In such a context, Ciudad Guayana can be considered as an urban laboratory that would test the main ideas of international planning during the early 1960s, against the dynamics of the development of a new town in Venezuela, whose government had both the intention and the resources to realise the plans.

Both case studies are based on a multi-method research approach, using literature and archival research, fieldwork, informal interviews and on-site observations. In 2009, both case study sites in Venezuela were visited, the archive of Fundacion Villanueva in Caracas was visited, interviews were conducted and informal conversations took place, which provided insight into the origins and development of the new towns, but also on the inhabitation of these spaces. In 2011, the archives of the Joint Center for Urban Studies, located at MIT and Harvard University in Cambridge Massachusetts, were also visited.

Interviews with different experts, that were involved in both case studies provided useful information about the past but also about the current situation of the case studies. The network of designers at Urban Think Tank, based in Caracas contacted me with members of the CVG team in Venezuela. During the archival research in Cambridge I also met a team member of the Joint Center for Urban Studies. Finally, the observations during the field visits were essential for understanding the development of the new towns.

23 de Enero

The original planning and development of 23 de Enero was analysed through a literature review, archival research, fieldwork and (informal) conversations with inhabitants and experts. A thorough study of both historical and recent literature on 23 de Enero and the connection with designers of the Urban Think Tank, who were based in Caracas, led me to the archives of the Foundation of Carlos Villanueva. They also helped with the site visits to 23 de Enero and helped to contact the residents, who guided a visit into the heart of the neighbourhoods.

The literature review consisted of the assessment of literature on 23 de Enero from the 1950s onwards. This review demonstrated the different approaches on the development of urbanisation at 23 de Enero. In the literature of the 1950s, 23 de Enero is described in international discourse as the symbol of modernist Latin American urbanisation. The publications of the 1960s addressed the informal invasion of 23 de Enero as a problem that needed government involvement. On the contrary, the literature published at the beginning of 21st Century explains 23 de Enero as a positive symbol of urban informality. An important starting point was the publication 'The Informal City Caracas Case' (Brillembourg, 2005) in which the informal urbanisation process in 23 de Enero was promoted as an example of a new form of urbanism, that uses urban informality as a source instead of an obstacle. This motivated further research on urban informality, in order to better understand the characteristics of informal self-organised urbanisation. This literature review showed the broad international discourse on the topic of urban informality.

Fieldwork to the different neighbourhoods and superblocks of 23 de Enero, was facilitated by a community leader of the neighbourhood. During the visit to the Fundacion Villanueva archives, I met Paulina Villanueva, the daughter of Carlos Villanueva, who was the architect of 23 de Enero. The knowledge and network of Alfredo Brillembourg and Hubert Klumpner of the Urban Think Tank based in Caracas were crucial for the accessibility of 23 de Enero and its inhabitants. Other experts available to discuss the 23 de Enero were Oscar Tenreiro, Mrs. Ridgemonte, Felix Madrazo (Supersudaca) and Antonio Paiva.

Ciudad Guayana

Through the literature on Ciudad Guayana, a unique collaboration of the Venezuelan government with the Joint Center of Urban Studies that was established for the planning of this new town brought me to the archives of the Massachusetts Institute for Technology (MIT) and Harvard University. The main resources for the analysis of the planning and building of Ciudad Guayana were documents from the archives of the Joint Center for Urban Studies at MIT and at the Frances Loeb Library's Special Collections at Graduate School of Design at Harvard. This was a very rich source of information about the planning methods, dilemmas, and implementation process of both case studies.

The original planning and urban development of Ciudad Guayana was analysed by literature research, archive research, interviews and site visits. During the 1960s, the planning of Ciudad Guayana was well documented in different reports and (unpublished) documents by the academics from the Joint Center of Urban Studies of MIT and Harvard University that worked together with the Venezuelan government on the planning of Ciudad Guayana. Next to these sources from the original planners, much has been written about this new town: academic publications and articles were published in the 1960s, but, until now, Ciudad Guayana and its specific position and urban development processes were an object of academic attention. Academics like Thomas Agnotti, Felipe Correa and Clara Irazábal have analysed the development of the new town until recently. The published research of Carlos Reimers on the neighbourhood of El Gallo, an example of implementation of the aided self-help policies in Ciudad Guayana, motivated me to analyse El Gallo deeper. Both older and recent sources allowed me to analyse the development of this neighbourhood during a long period of time.

During the period of the field-visit in 2009, on-site observations were done in Ciudad Guayana and interviews were held with professionals who worked both in the current planning practice and in the 1960s. I interviewed Victor Artis, who worked for the Venezuelan government as an urban planner; Gustavo Ferrero Tamayo, a Venezuelan architect working on Ciudad Guayana for the Corporación Venezolana de Guayana (CVG, the public–private corporation that steered the planning of Ciudad Guayana) in the 1960s; and Oscar Tenreiro, the brother of Jesus Tenreiro who was the architect of

the headquarters of the CVG. During the archival research in Cambridge Massachusetts in 2011, an interview was conducted with William Porter, one of the team members of the Joint Center for Urban Studies that worked on Ciudad Guayana. Next to his older publications on Ciudad Guayana, in 2011 he wrote an article reflecting on his work as a planner and his job at the Joint Center in Ciudad Guayana.

To research the connectivity between new town planning and self-organisation, an analysis was done on the experiments and pilot projects that were realised in the case studies (especially in Ciudad Guyana), where the aided self-help policies were implemented. Literature research, archive research, interviews with the previously mentioned professionals and the site visits were very useful sources of information about the results of the implementation process in Ciudad Guayana. The El Roble Pilot Project is well documented in the archives of the Joint Center for Urban Studies. Unpublished documents in this archive of the team members of the Joint Center and CVG led to further investigation into the development of the neighbourhood El Gallo, as part of the EL Roble Pilot Project. El Gallo was repeatedly researched and documented from the start of the planning process until 2002. First by the Joint Center specialists, then by John Turner, later by Carlos Reimers in the 1990s and a research group from MIT in 2002.

1.4.4. Methodological considerations and limitations

For the case study research only one visit could be done to Venezuela in 2009, which included field work in both new towns. More visits were planned but Venezuela became less accessible because of the politically unstable situation in the country. Since the death of President Chavez in 2013, it became even more dangerous. This limited possibilities for fieldwork because some of the observations and specific results from the literature analysis could not be verified. This limitation led to a stronger focus on desk research and visits to the archives of the Joint Center of Urban Studies in Harvard and MIT. This did not change the research aim, but instead it brought an extra layer to the research, the importance of planning approaches in the early 1960s, and further insight into the way in which the aided self-help policies were integrated in these planning approaches.

To illustrate the possible use of the lessons from this research in the current practice of new town development, in the concluding chapter three examples of new town planning processes are described as a glimpse for future research. This should not be regarded as new research results but as an incentive for future research.

1.5. Dissertation structure

This research has seven chapters divided into four parts. After the introduction (part 1), the second part of this thesis consists of two chapters that form the conceptual framework and analyse the context of urban modernism and housing policies in Latin America in the post war era. Chapter 2 identifies the Latin American context of the 1950s and 1960s that was characterised by the implementation of the ideas of the Modern Movement and informal urban dynamics defined by self-organisation. The reality of the Latin American context of rapid urbanisation dominated by poverty and inequality was not the same as the Western European context were the Modern Movement was born. Next to the influence of modernism in the urban context, the international housing policies were of great importance for the urbanisation of Latin America. The policies aimed to answer the demand for shelter in developing countries. Chapter 3 presents an historical analysis of these policies, promoted, and implemented in the Latin American context, with a focus on aided self-help, that combines planning and self-organisation.

Part 3 consists of three chapters in which the two Venezuelan post-war case studies are analysed, built in a period when the modern new towns and the aided self-help policies were implemented as the ultimate tools to search for a solution to rapid urbanisation. In chapter 4, the effects of the implementation of top down modernist CIAM ideas in 23 de Enero, a new town in the outskirts of Caracas are identified. The meeting point of the formal planned and built new town and the informal self-organised reaction, that is extremely present in this case, demonstrates the challenges and lessons when formal and informal dynamics are combined in the urban realm. In chapter 5, the planning of the new industrial capital Ciudad Guyana is analysed, another national attempt to restrain the fast expanding cities in Venezuela as a result of the rural-urban migration. Planning Ciudad Guayana coincides with a change

in the approach towards urban planning and design within the international academic discourse. Chapter 6 identifies the various efforts of implementing this change in approach within the building process of Ciudad Guayana. The construction of this new town can be seen as an urban laboratory in which different models are implemented and tested in an effort to integrate self-building and self-organisation within urban planning and design.

In the concluding part, chapter 7, a synthesis of the main findings and the conclusions of the entire research is presented, as well as 14 lessons and recommendations for future research. The lessons, derived from the Venezuelan cases from mid-twentieth century, can be compared with the current urbanisation practice. By showing the similarity in the questions of the 1960s and the current questions regarding the overwhelming global urbanisation process, I show that the lessons on combining planning and bottom up self-organised activities can be used today both in the Global South and some of the Global North situations.

Ciudad Guayana - San Felix, 2009

Part 2.
Theory and Context

2. The Modern Movement in Latin America during the 1950s and 1960s urbanisation

The implementation of the ideas of the Modern Movement in Latin America is one of the starting points of this research, that examines the planning process and inhabitation of modern new towns in Latin America in the 1950s and 1960s and shows the struggle to find solutions for the rapid urbanisation challenge of this period. The ideas of the Modern Movement gained a foothold on the Latin American region from the 1930s onwards. In the application of modernistic architecture and urbanism, Latin American countries saw a way to realise their desired form of modernisation and a solution for housing demands characteristic of this period.

This chapter reveals how the Modern Movement influenced Latin American urbanisation in the 1950s and 1960s. Specifically, it looks at how the post-war new towns in Latin America were shaped on the basis of modernist ideals and physical form. First, the Modern Movement is explained within the context of the planning tradition of the 20th century, with an emphasis on the results of the fourth Congrès Internationaux d'Architecture Moderne (CIAM 4). The CIAM congress, under the title 'the Functional City', had great influence on the international dissemination of the ideas of the Modern Movement. Attention is then shifted to the Latin American context. After a sketch of the socioeconomic context, the confrontation of modern thought with Latin American practice is made clear. The significant influence of modernism on Latin American urbanisation (Brillembourg, 2004; Fraser, 2000) is illustrated by several projects.

2.1 Modern Movement

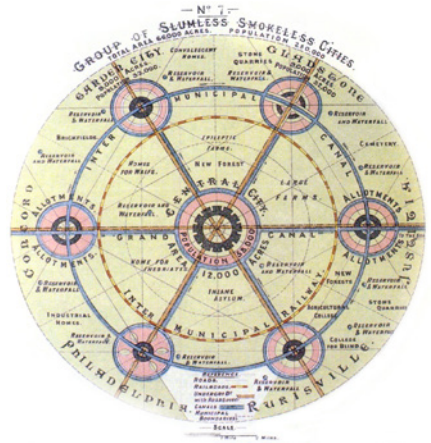


Figure 2.1. Garden City model, Ebenezer Howard, 1898 (Source: Vernet and Coste, 2019: 47)

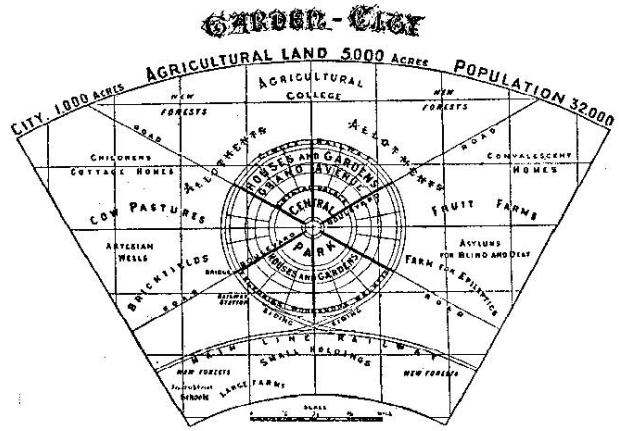


Figure 2.2. Diagram Garden City (Source: Howard, 1944: 52)

2.1.1. Origins of the Modern Movement

Garden cities

Modern urban planning emerged as a direct response to the worrying state of European cities following rapid urbanisation at the end of the 19th century as a result of industrialisation, unhealthy, and polluted living conditions for the poor and the disappearance of open green spaces (Hall, 2002; Watson, 2009). Different urban visions arose to create a healthy and regulated life for residents. Some of these visions looked for possibilities to limit urbanisation or to regulate urbanisation in new locations away from the big cities (Watson, 2009). Ebenezer Howard developed the most influential urban ideas with the 'Garden City Model', which combined the advantages of the city and the countryside to create new cities in which the needs and wishes of the inhabitants were central.

The Garden City model had a concentric pattern with a central city surrounded by a green belt and connected to other small cities to form a circle (see Figure 2.1). Economic activities, housing, and administration were separated by green zones. The city was planned to house up to 32,000 inhabitants, in neighbourhoods with open space, public parks and

six boulevards 37 metres wide, from the centre that formed the radiant of the city. In total, it concerned an area of 2,400 hectares (see Figure 2.2). The Garden City was self-sufficient and when the maximum population was reached, a new city would be developed nearby. Howard imagined a cluster of garden cities as satellites of a central city with 58,000 inhabitants, interconnected by motorways and railways. The city was planned as a whole and controlled by the government to prevent speculation and undesirable uses (Caldeira, 2000). But the Garden City was also a social model with the clustering of public buildings in the centre in which the citizen had a vital position.

The reasons for developing this model were twofold: firstly, it was a social model, anti-urban and preferable to the chaos of the industrial city and, secondly, it was an aesthetic model that brought the beauty of the countryside within the city, that would result in improved physical and mental health (Hall, 2002).

Neighbourhood Units

Following Howard's ideas, Clarence Stein and Clarence Perry simultaneously developed principles for hierarchically structured neighbourhood units in the United States in the 1920s. Stein's urban planning principles included the idea of a super-block of housing units grouped around a central green public space. Inspired by growing car ownership, a 12 to 20 hectare traffic-free zone was proposed in which a separation of vehicles and pedestrians was planned within a road hierarchy with cul-de-sacs for local access roads. This allowed the street area to be reduced so that there was more space for pedestrians and recreation. A cluster of superblocks formed a residential area and a group of neighbourhoods would then encompass the city. This idea was applied by Stein and Henry Wright, with whom he collaborated, in 1928 in Radburn, New Jersey. This new town was planned for 25,000 inhabitants in three neighbourhoods, of which one was eventually built. Figure 2.3 shows the value of the Radburn urban pattern with the separation of traffic flows. The cul-de-sacs serves a cluster of 20 dwellings interrupted by garden strips and green communal areas in the centre of the 'super-block'.

Clarence Perry went one step further and proposed self-sufficient neighbourhoods of 5,000 inhabitants with a community centre and a school in

Figure 2.3. Diagram of Radburn, Stein, 1929 (Source: Stein, 1966 :43)

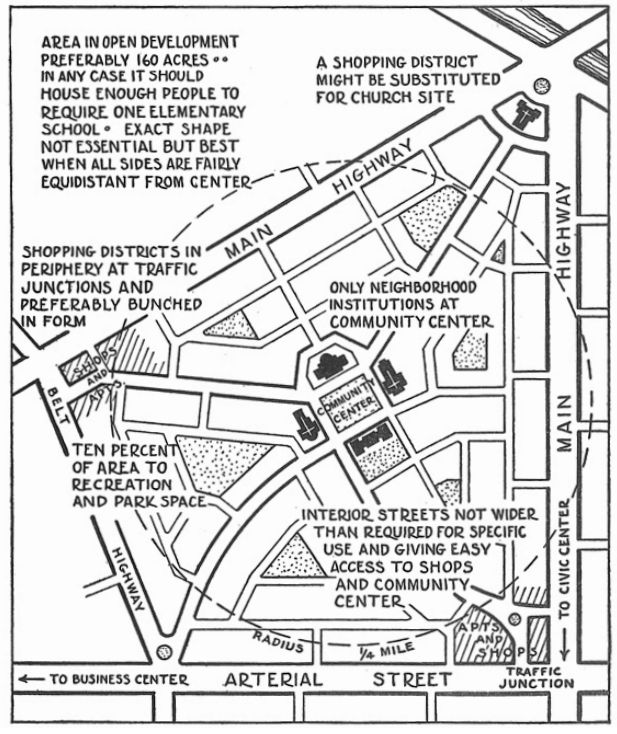


Figure 2.4. Diagram of Perry's neighbourhood unit, illustrating the spatiality of the core principles of the concept (Source: Perry, 1929: 88)

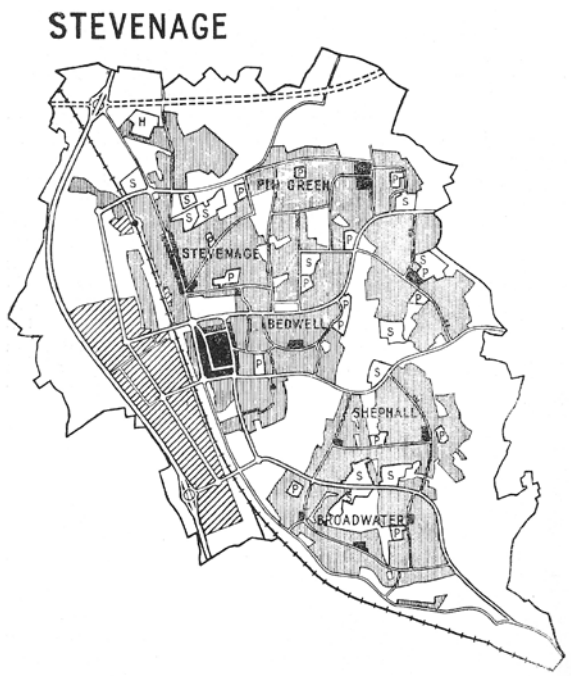


Figure 2.5. Stevenage Townplan 1955 (Source: Osborn & Whittick, 1977: 237)

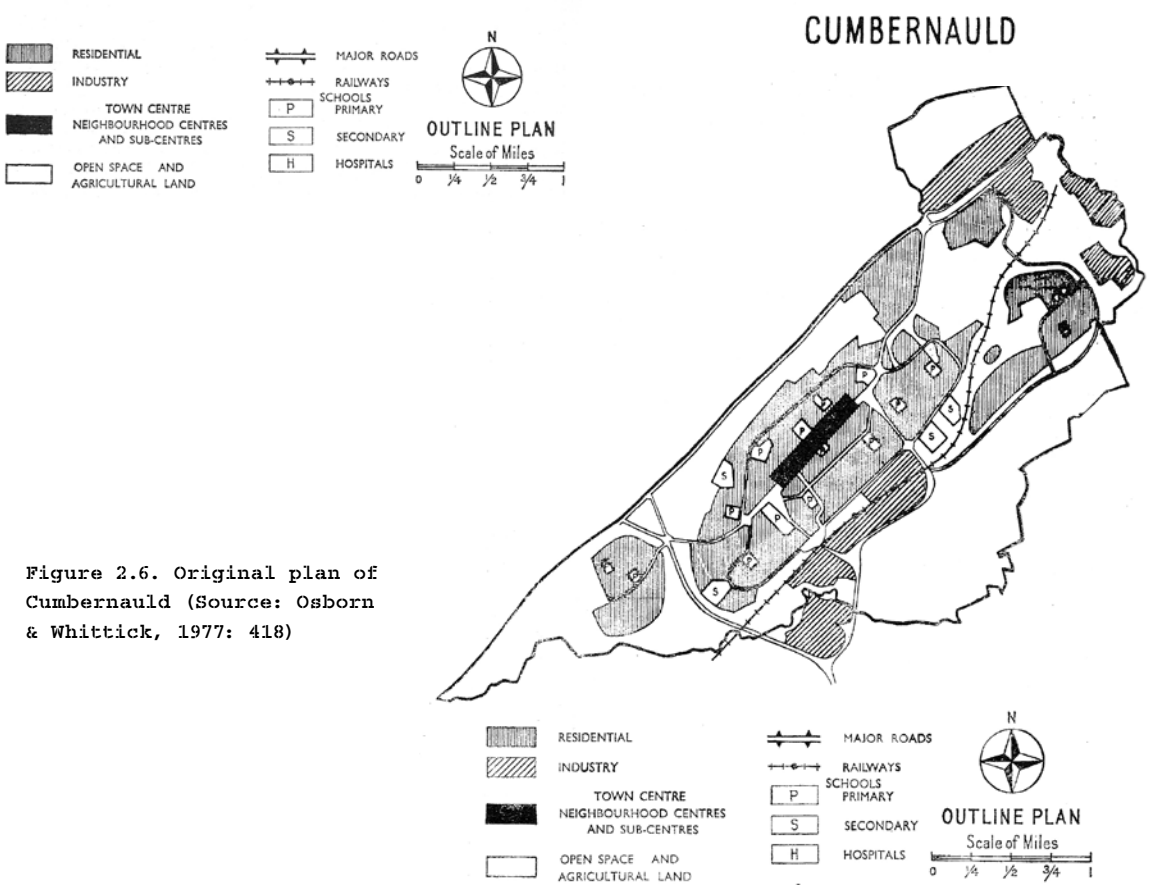


Figure 2.6. Original plan of Cumbernauld (Source: Osborn & Whittick, 1977: 418)

the centre, within a physical arrangement in which small parks, playgrounds and local shops formed the basis of his ideas about the neighbourhood units: each neighbourhood should form a 'unity' of the city (see Figure 2.4) (Patricios, 2002).

English New Towns

The Garden City model, in combination with the principles of hierarchical neighbourhood units, formed the basis of the English New Towns developed after the war, in response to the housing shortage in England's rapidly growing cities. Three generations of such new towns can be distinguished. The first generation was planned and developed with the purpose to stop suburban sprawl created by the industrialisation-driven rapid growth of London. Patrick Abercrombie proposed, in the Greater London Plan of 1944, to limit the growth of London by creating a permanent 'green belt' around the built-up part of the city. He proposed a maximum density of 250 people per hectare. To achieve this, around 1 million people had to be relocated from London's 'inner ring'. The Greater Plan also involved the construction of ten new towns outside the 'green belt'. Because of the consequences of the war, decision-making on the plans then proceeded quickly (Galantay, 1975). The new towns were planned to be more self-sufficient than satellite towns and should be located 40 to 50 km from London, with a population of between 20,000 and 60,000. They would be built by corporations designated by the government instead of local authorities, commercial parties, or non-profit organizations. When completed, they would gradually be given their own local government.

The New Town Act of 1946 made it possible to designate a plot of land, including existing towns and villages, as the location for a new town and to designate the Development Corporations, which, as public organisations, carried out the development of the new towns. Stevenage belonged to the first generation of English New Towns built before 1950, which are characterised by low density with autonomously functioning districts (see Figure 2.5). Planned for 60,000 inhabitants, 55 km from London, Stevenage consisted of six neighbourhoods around a city centre, located next to the station. Each district had its own sub-centre. The city centre was completed in 1962 and functioned as a centre at a regional scale.

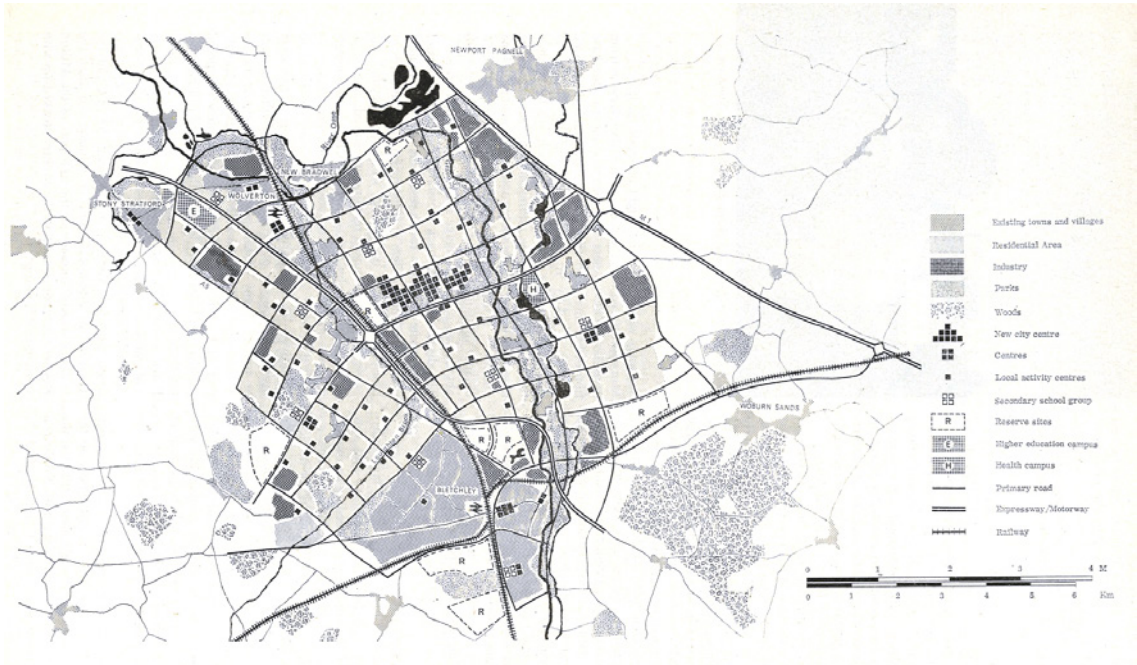


Figure 2.7. Interim proposal of Milton Keynes with land uses and transportation pattern (Source https://www.architectsjournal.co.uk/news/culture/aj-archive-milton-keynes-planning-study-1969/10016661.article)

The second generation of new towns responded to the insights and criticism of the first generation and focused on achieving greater density and a strengthening of the city centre so that it would function better alongside the community centres. At the same time, there was more demand for parking spaces due to growing car ownership. An example of this generation of new towns from the period 1950 - 1960 is Cumbernauld, intended for 70,000 inhabitants, 20 km from Glasgow, a compact new town with a strikingly linear city centre, including a covered shopping mall, located on and over the main infrastructure. The centre itself was strongly connected by pedestrian walkways to the dwellings in the neighbourhoods surrounding the centre (Figure 2.6).

Milton Keynes, planned in 1967, represents the third generation of English new towns, in which the focus on the car and growing car ownership became a leading planning criterion, with a non-hierarchical homogenous structure

to make the new town accessible to all. Milton Keynes applied a grid pattern, that can be repeated and balances living, working and recreation for the residents, with a comparatively large city centre operating on a regional scale (see Figure 2.7). Milton Keynes was the largest but also the last new town to be built under the New Town Act of 1946.

2.1.2. CIAM IV and the Functional City

The Congrès Internationaux d'Architecture Moderne (CIAM,) which existed from 1927 to 1959, became an international platform of great importance for architectural debate. The creation of CIAM in 1928 was marked by a manifesto drawn up by architectural historian Sigfried Gideon and the architects Le Corbusier and Gabriel Guevrekian, in which architecture was seen as a social and economic endeavour rather than an aesthetic one (Van Es et al., 2014). The CIAM congresses had emerged from the modernisation processes initiated by the ideas around the Garden City Movement and new towns, as philanthropic trends promoting better living conditions for the working class as a symbol of modernity (Van Es et al., 2014).

The idea of the modern city embedded in ideals of collectivism, socialisation, and the transparency of society became the subject of international debate, which CIAM organised in a series of congresses from 1928 onwards.
The architects and planners associated with CIAM wanted innovation in architecture and urbanism, and CIAM responded to the trend towards modernisation which emerged from different directions and corners of the world at the beginning of the 20th century. In particular, the results of the fourth edition of the CIAM Congress in 1933, dedicated to modernistic urban design and planning under the title, 'The Functional City', influenced urbanisation worldwide. The aim of this CIAM congress, which took place on board of the steamship 'Paris' that sailed to Athens, was to gain insight, from a broad international orientation, into the organisation of the contemporary city and its universally recognised shortcomings. (Van Es et al., 2014). CIAM ideals also influenced the modernist new towns planned and built worldwide in the post-war period.

Modernistic ideals / Functional City - Welfare State

In the preamble of the CIAM 4 Congress on the Functional City, 34 urban analyses of internationally cities were carried out by CIAM national groups. The analyses followed a prearranged common format developed by Cornelis van Eesteren, whose results were used for a joint debate and comparative analysis. The idealistic objective was to use the conclusions to formulate a new urban model. The conference focused on the interaction between the various functional parts of the city, from an integral approach.

The first final version of CIAM 4's conclusions were published in 1933 in the journal Technika Chronica (translated into English for the first time in 2014)[3]. The publication reveals that the thinking behind the Functional City was not as technocratic and "cold" as it was usually considered. The conclusions mention the typical themes of the Functional City, such as the separation of urban functions, densification by high-rise buildings, focus on infrastructure, but with an emphasis on people's individual needs and the human scale. The Functional City would ensure the freedom of the individual and the benefits of collectivism. Furthermore, the scale of the project had to be considered in light of the human scale and their needs. These two factors would form the basis of the architect's work in urban design and planning, to ensure daily life and residential living as the most significant element of urbanisation. The text also indicated that the city must develop organically, under a programme based on thorough analyses by experts, who would anticipate urban developments in time and space. Moreover, regulating the distribution of land was considered essential, as urban developments depended on land ownership. For this, private interests would need to be submitted to collective interests (Van Es et al., 2014).

The traditional city of streets, plots and islands was considered a pernicious place of congestion, lack of hygiene, and other injustices. The alternative were the public areas of the modern city, considered collective property, which followed a functionalist order. The functional programme served as a guideline for the urban design, aimed at a composition of freestanding masses in open space instead of a composition of urban spaces (Heeling

3 Van Es, E. , Harbusch, G., Maurer, B., Perez, M., Somer K., Weiss D. (Eds..) (2014) Atlas of the Functional City, CIAM 4 and Comparative Urban Analysis, Bussum: THOTH Publishers, Zurich: gta Verlag

et al., 2002). This new open and transparent city represented the open society. This new arrangement was a deliberate break with conventional urban planning, in which a relationship was established between the public street and a plot or building. The concentration of dwellings in high blocks creates a surface that can be arranged as an open landscape, in which the traffic networks can be laid out more freely. Colin Rowe (1978) clarified this break by comparing the 19th and 20th-century modern urbanism with a clear analogy between the Roman Forum and the Greek Acropolis. In the Forum model, dominant until the 20th century, public space is planned and designed to be enclosed between streets, squares, etc., while the infill of the plots to be built privately is relatively free. In the Acropolis model of the modern city, it is precisely the position and shape of the buildings that are planned and designed. The open, flowing space is largely indeterminate. This results not only in a large morphological difference, but also in the process of infill, which has been completely reversed. In the first model there is a framework or grid in which the infill, the buildings, are relatively free, while the next model leaves precisely the public area free for infill. Whereas in the Forum model the distinction between public and private coincides with undeveloped and built-up areas, in the Acropolis model the collective space dominates, intended to strengthen both community feeling and open landscape.

In short, the basic planning approach of the Functional City was well oriented towards human needs and requirements, albeit within a strict functional separation. The ideals of a healthy and regulated life, freedom and desires of the individual combined with collectivism in an open society were translated into a functional technocratic approach, resulting in the modern urban doctrine of zoning, high-rise, mass production, and segregated urban functions.

The Charter of Athens

The Charter of Athens, usually considered as the compilation of conclusions from the CIAM 4 congress, was published in 1943, many years after the congress. The Charter's recommendations for the Functional City were used internationally as the urban model for the realisation of a modern society, with a functional division of zones for living, working, transport, and recreation. To build the modern city, the Charter advocated for the use of industrial mass production to build high-rise buildings, separated by transport

Figure 2.8. Plan Voisin, Le Corbusier 1925 (Source: Van Es et al., 2014: 150)

infrastructure for the car. The modernist planning doctrine proclaimed zoning, the organisation of cities into separate areas for specific urban functions, as the most important aspect of planning. The functionalist approach radically broke with the urban development that had been developed up to that point (Heeling et al., 2002).

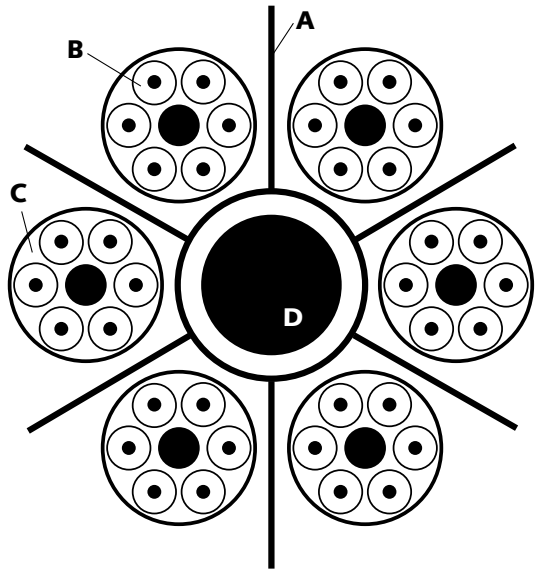
In retrospect, it appears that the Charter was written by one of the main figures of the CIAM, Le Corbusier, and was not endorsed by all CIAM 4 participants, nor did it mention the diversity of opinions and ideas on urban development within the CIAM group. Furthermore, the Charter's recommendations followed Le Corbusier's earlier ideas behind La Ville Contemporaine (1922) and La Ville Radieuse (1933) of a city model restructured through architectural and technical innovations (Hall, 2002; Van Es et alt., 2014). Le Corbusier used a paradox: it was necessary to unclog the centre of the cities by increasing density, circulation, and the amount of open

space. The paradox could be solved by constructing high-rise buildings, which would use a small part of the available land, a process that would require building on a 'tabula rasa' (see Figure 2.8).

The ideals of the Modern Movement quickly spread and became a new doctrine that changed the way cities were built around the world, transforming their structure and form through the separation of functions and an altered connection of the house with the street and traffic. This led directly to a very specific feature linked to modern urbanism: the solution to build high-rise blocks in a green and open public space, connected by a separate infrastructure for pedestrians and cars. The rapid increase in car ownership reinforced the idea of the hierarchy of roads, to make the city accessible to pedestrians but above all, to the car. The modernist ideals of collectivism and the human scale are reflected in the division of residential areas into independently functioning residential areas with the necessary facilities. At the same time, as a result of industrialisation and new techniques and as a solution to the housing shortage, the mass prefab industries are inextricably linked to the spread of modernist architecture and urban planning (Heeling et al., 2002)

2.1.3. Worldwide dissemination of modern New Towns

One of the most important instruments for implementing the urban doctrine of the Modern Movement was the planning and construction of new towns after the Second World War on a worldwide scale. In this generation of new towns, the same characteristics can be established, allowing a global family of modern new towns to be named. (Crimson, 2019). These new towns were planned, in most cases as a tabula rasa, following the combined ideas of the Garden City model, the neighbourhood principles, and CIAM modernism. From Western Europe to Asia and Latin America, from Africa to the former communist countries, the universal model of the new town was adapted to local cultures, economies, and politics. Starting in the greater London area in the 1940s, the new cities soon became a panacea for urban growth in Western Europe (Crimson, 2012). Then, the new town model broke through the barriers of the Cold War and reached post-colonial Africa, South America and Asia. New towns were partly driven by the political ambition to build the welfare state. They were the ideal projection of the new society that had to be created. The universal model for the new towns (...) is a



A: a system of circular and tangential infrastructure, B: neighbourhoods each with their centres for daily needs, assembled into C: communities of limited size with a small urban centre, that revolve around D: an urban centre on a regional scale.

Figure 2.9. The universal model for New Towns (Source: Crimson, 2012)

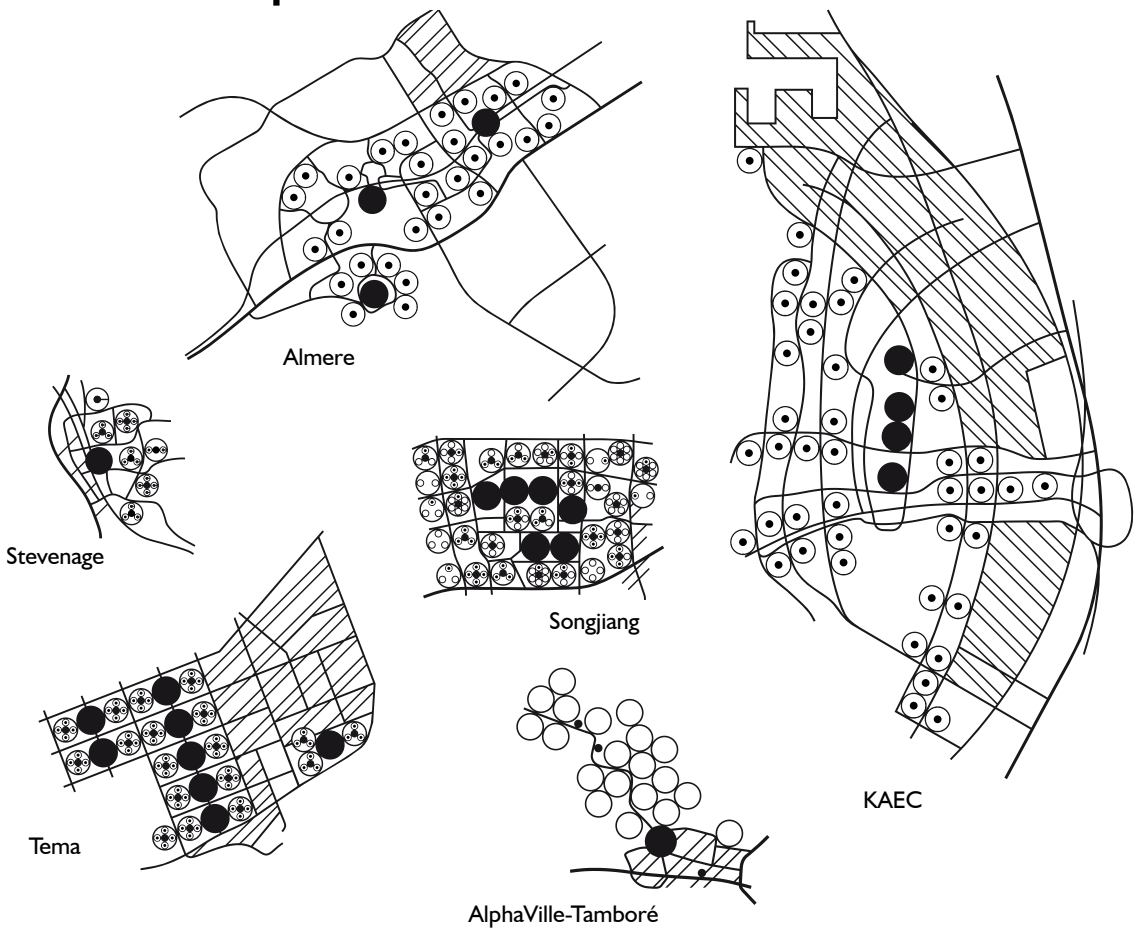


Figure 2.10. Implementation of the model in post-war and contemporary new towns (Source: Crimson, 2012).

hierarchical construction of neighbourhoods of limited size brought together in communities arranged around an urban centre. Seemingly neutral and abstract, the model became loaded with values of equality and emancipation and was realised for millions of people. (Crimson, 2012) (see Figure 2.9).

This universal diagram can be recognised as the initiator of post-war new towns, while contemporary new town planning is also based on the elements of this model. The zoning and hierarchical subdivision into quarters and neighbourhoods with specific centres can also be found in the master plans of the new towns of the 21st century. Figure 2.10 shows original masterplan diagrams of six new towns in different parts of the world (Crimson, 2012). The layout of the new towns is different but they use the main elements of the universal model, which are recognisable in the structure of the town.

2.1.4. New ideas in the 1960s

The post-war period brought major changes due to increased industrialisation and economic growth, while cities grew rapidly due to the baby boom in the Western hemisphere and rapid urbanisation began in developing countries. During this period, the way modern planning was applied within urbanisation was driven by new ideas, which had emerged from criticisms within the international discourse of the technocratic and economically-driven approaches of the Modern Movement.

The functional separation advocated by the Modern Movement was difficult to reconcile with more recent considerations that a city must develop organically and strive for the freedom of the individual, as human needs and behaviour could not be predicted or forced (Somer, 2014). Furthermore, the focus on top-down planning and separation of functions, was increasingly criticised for not being attuned to the needs of residents and far removed from the human scale. At the end of the 1950s and beginning of the 1960s, several movements emerged that focused on people and the role of residents in the process of urban development. In urban planning theory, a major shift occurred from a strict design exercise into a more socially-oriented discipline (Taylor, 1999) in an attempt to become more effective by integrating social, economic, and cultural processes.

During the ninth and last CIAM congress in 1959, a group of CIAM members (including Alison and Peter Smithson and Aldo van Eyck) established Team X, after concerns about the tendency in modern architecture to submit to abstraction and bureaucracy. Their image of the city was not based on a hierarchical structure, but on the existence of overlaps and nuances between the various elements of a city. This group reflected the critical voices on modern architecture, which should focus more on people's needs, without losing sight of modernism (Van Es et al, 2014).

An important criticism to the functional city in the United States was articulated by Jane Jacobs in 1961. In her most famous book, The Death and Life of Great American Cities, she protested against the gigantic plans of Robert Moses, the modernistic city architect of New York, who promoted drastic infrastructural interventions in the city to give the car plenty of space. She argued that the city does not arise from a drawing board but grows from the bottom up as a living organism. She proposed that most attention should be paid to the 'diversity' that a city or street must possess in order to be a living organism, which was precisely the opposite of separation of functions. Both Team X on the European continent, and Jacobs in the US, sought for a new way to facilitate the organic growth of cities, both in the Western hemisphere but also in the Latin American region.

2.2. Modernism in Latin America

2.2.1. Growth of Latin American cities in the 20th century

At the beginning of the twentieth century, Latin American countries embarked on a process of urban modernisation, supported by their earnings of export-oriented economic policies. Old colonial centres were expanded, and the primary industries settled on the outskirts of the cities. Systems for drinking water, sewerage, electricity, the telephone, and tram lines were built. A professional class and a state bureaucracy arose, and technical universities were established to train the engineers needed for the construction industry. The economic and cultural influence from Europe gradually diminished, while the influence of the United States increased. The global economic crisis of the 1930s brought an abrupt end to the export economy and reinforced

the region-oriented industrialisation in Latin America. As most factories were located in large cities, urbanisation tendencies intensified (Fernandez-Maldonado, 2011).

> "During the period of European and North American modernization, Latin America was setting up the political, economic and material conditions and infrastructures as part of broader initiatives and aspirations. Many of the elements that allowed Latin American countries to compete with other more 'advanced' ones were generally imported, including new ways of transportation (railway) communication (telegraph, newspapers), production (factory machinery) and governmental ideas (i.e. positivism and neoliberalism). Latin America in other words became dependent on European and later North American capital, and development as well as its political systems. In many cases, Latin American countries and cities as a result, quickly modernized and acquired the effects and characteristics of modernization." (Carranza, 2014: 1)

Two different, but related, processes coincided from the end of the 1920s in the Latin American region. The need for urban planning became clear to local governments and professionals in the context of growing cities, and soon after the first urban planning institutions were established and professional training courses were introduced in most Latin American countries. Second, the influence of the Modern Movement in Latin America grew rapidly through the visits of important CIAM representatives to Latin America, such as Le Corbusier and Joseph Luis Sert, as well as through a new generation of professionals who had studied at foreign universities. This was reinforced by international congresses, inter-American events and professional magazines that provided an international exchange of knowledge on planning and urban design (Almandoz, 2010)

From the 1940s onwards, urbanisation trends accelerated drastically due to a process of demographic transition caused by improvements in health, food, and hygiene. The subsequent reduction in mortality rates significantly increased natural growth, which in turn resulted in an unprecedented migration of people from rural to urban areas. This led to a period of rapid

urbanisation with high economic dynamics and demographic growth. “In 1950 more than half of the population of Uruguay (78%), Argentina (65.3%), Chile (58.4%) and Venezuela (53.2%) already lived in urban centres. While Latin America’s average percentage of urbanisation was still 41.6%, some other countries such as Brazil and Mexico were not demographically urban because of their huge populations and territories, yet had long boasted some of the world’s greatest metropolises” (Almandoz, 2016: 32). Cities grew rapidly, mass production brought about an economic boom (‘import substitution’), and these processes allowed a rapid application of modernist ideas, with implementation projects taking place sometimes earlier and on a larger scale than in Europe, the cradle of modernism.

Governments started to build social housing projects, mainly targeting the middle class. There are many examples such as La Soledad in Bogota from 1952-1953, (see Figure 2.11) described as having an almost English type of architecture of red brick walls. Hitchcock, in 1955, gives an overview of the Latin American Architecture and modernisation in the period 1945-1955, mentioning:

> “these ranges of small houses provide a rather unusual sort of middle-class dwelling in Latin America where there tends to be a very great disparity between the accommodations offered in single large dwellings for the upper classes and in small apartments for the working class.” (Hitchcock, 1955: 144-145)

Another significant example is the Parque Guinde project by Lucio Costa in Rio de Janeiro, consisting of three apartment buildings: Nova Cintra, Bristol and Nova Caledonia (Figure 2.12). These are one of the most characteristic and successful examples of the Carioca (from Rio de Janeiro) School of modernist architecture in the 1950s (Hitchcock 1955). The design of the buildings had a major impact in Brazil and abroad:

> “By using different types of sun control — both vertical louvers and grills of tile to provide a happy combination of regularity and variety — Costa has expressed with unusual clarity on the exterior the individuality of the dwelling units within. He has also avoided the inhuman scale and monotonous

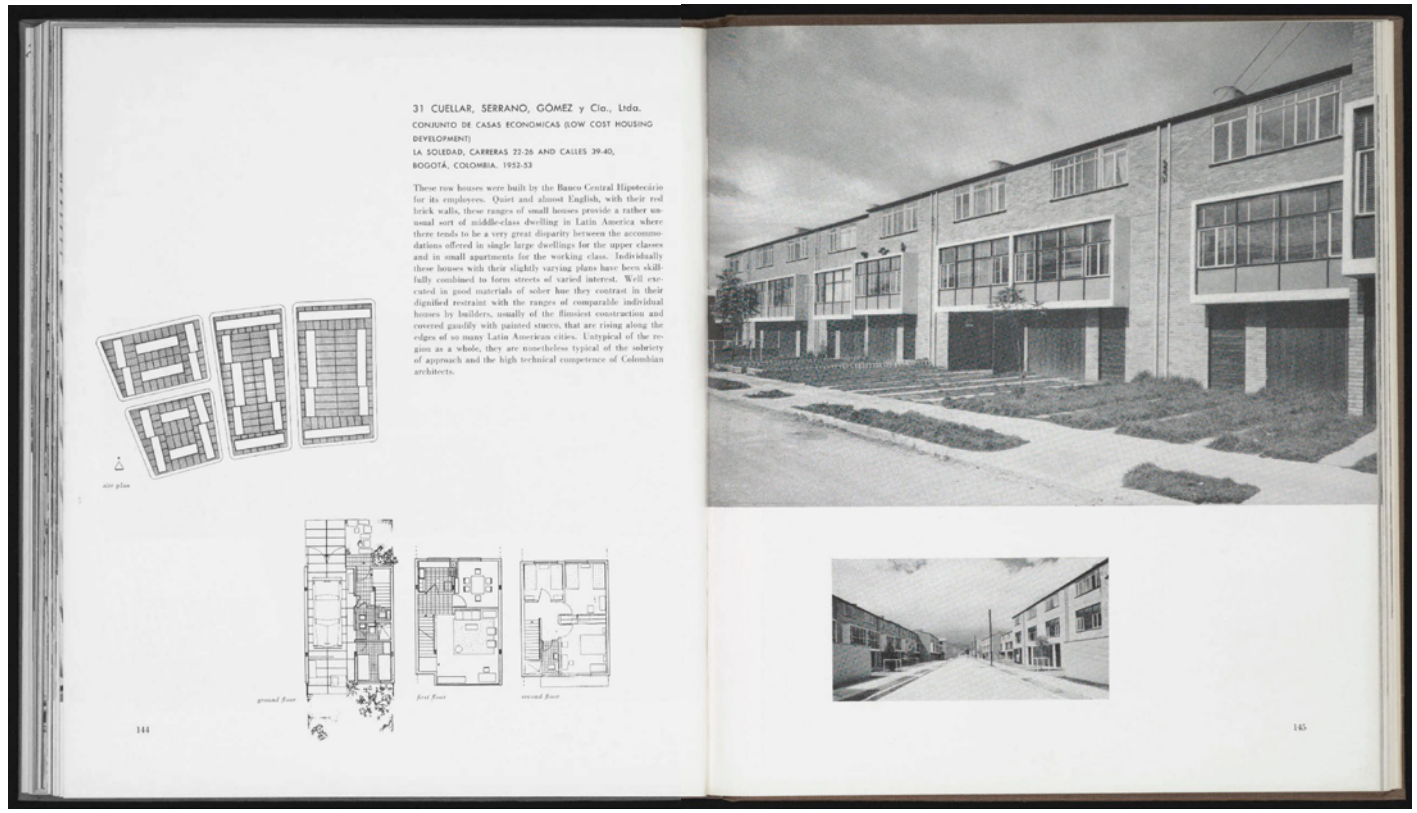


Figure 2.11. Low-cost housing development in Bogotá, La Soledad 1952-1953 (Source: Hitchcock, 1955: 144-145)

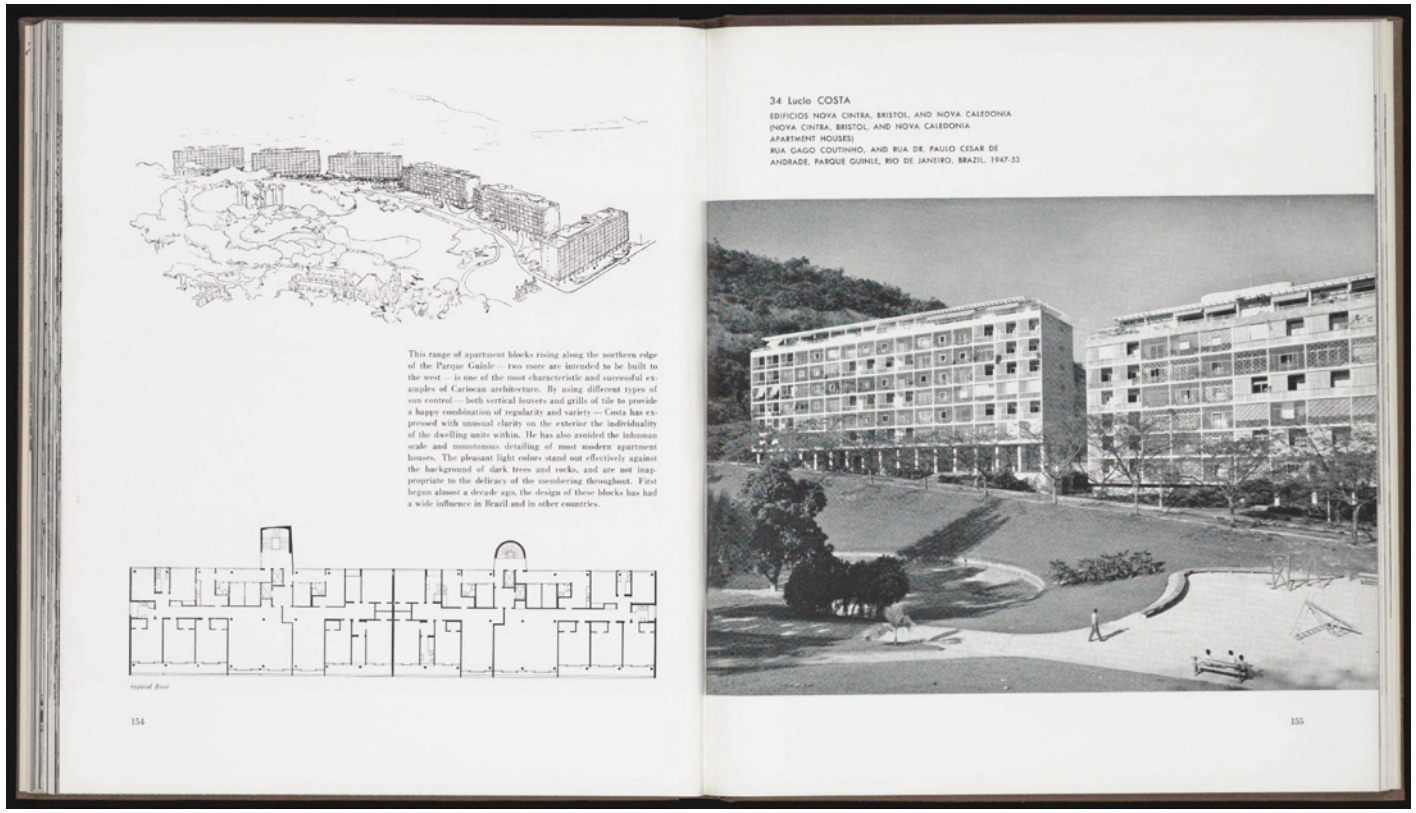


Figure 2.12. Original plan of Lucio Costa's social housing project in Parque Guinle, Rio de Janeiro, 1947-195 (only three buildings were built) (Source: Hitchcock, 1955: 154)

Figure 2.13 Façade of social housing buildings in Parque Guinde, showing the different ways used to fill in the external frame and to control the sun (Source: Hitchcock, 1955: 155)

detailing of most modern apartment houses. The pleasant light colors stand out effectively against the background of dark trees and rocks and are not inappropriate to the delicacy of the membering throughout." (Hitchcock, 1955: 154) (Figure 2.13)

2.2.2. Influence from the Western hemisphere

Professionals

The beginning of the influence of modernism in Latin America is attributed to the moment when Le Corbusier visited the region in 1929 and gave conferences and lectures in Buenos Aires, Montevideo, and Rio de Janeiro, disseminating the CIAM's ideas. In such a way, his visit promoted the initial adoption of Modern Movement concepts in urban development in Mexico, Brazil and, a little later, Venezuela (Brillembourg, 2004). Furthermore, many Latin American architects and planners were trained in Europe or North America, bringing modernist ideas to the Latin American region, where they were able to implement the knowledge they had acquired once they returned. Many other European architects and planners fleeing war-torn Europe also brought these new ideas to the Latin American region between 1936 (beginning of the Spanish civil war) and 1950. In those years, European professionals who had been 'exiled' to Harvard and MIT, Yale, and Berkeley, made CIAM's functionalism the mainstream in architecture and planning education curricula (Almandoz 2010).

Josep Luis Sert was one of the prominent representatives of CIAM and he was a promoter of the Functional City ideas. As highly visible representatives of CIAM, Le Corbusier and Sert were the most important promoters of the Modern Movement in Latin America. Sert was exiled in New York after the fall of the Spanish Republic in 1939. Together with architect Paul Lester Wiener, he formed the partnership Town Planning Associates (TPA), based in New York. His ties with CIAM began when he worked with Le Corbusier in Paris. He attended the second congress in Frankfurt in 1929 and was one of the founders of the Catalan CIAM group. In 1947, Sert succeeded Cornelis van Eesteren as the president of CIAM. TPA's involvement in Latin America included master plans for important Latin American cities such as Lima and Chimbote in Peru (Figure 2.14), Medellin and Bogota in Colombia, and Havana in Cuba. These master plans clearly incorporated the CIAM theories

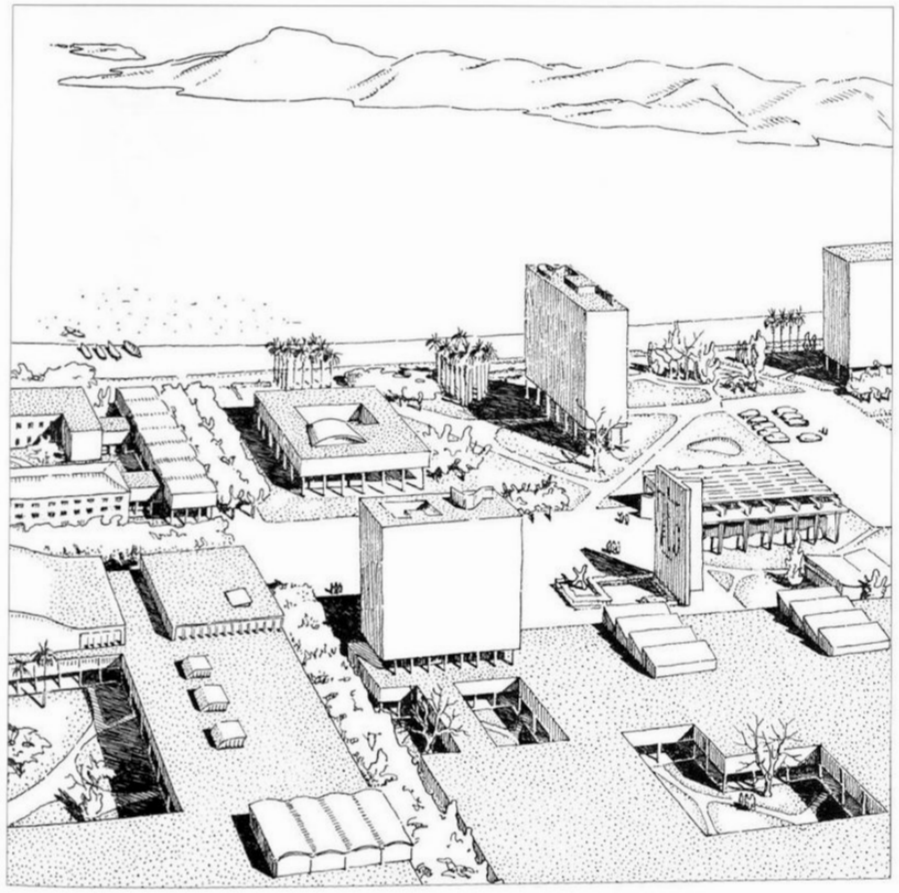


Figure 2.14. Perspective of the Civic Centre in Chimbote, TPA 1947- 1948 (Source: Carranza, 2014: 120)

and guidelines in the context of Latin American urban traditions and urban forms. The master plans for those cities became expressions of the principles of the Functional City and were symbolic within the debates that led to the dissolution of CIAM in 1959 (Carranza, 2014).

Most Latin American national governments were eager to use the knowledge and expertise of the CIAM designers to apply it to their cities, to validate their own ideals of modernising their country. However, the situation was not the same in all countries; the differences in political and economic conditions produced different speeds and possibilities in the process of modernising the country. Furthermore, the limited technological possibilities to implement an urbanisation model based on mass production produced large differences

regarding the implementation of the actual plans (Real, 2011). For example, due to revenues from oil production, Venezuela had more financial resources at its disposal than most Latin American countries and could experiment with the large-scale use of high-rise buildings as a solution for rapid urbanisation in the context of modernisation.

International institutes and the United States

In addition to the influence of international planners and designers, who promoted modern movement ideas in Latin America, the role of international organisations such as the United Nations and the Inter-American Development Bank (the lending bank of the Organization of American States (OAS)), has been of great importance in policies related to housing and urbanisation. These institutions, which work to improve economic, cultural, and social conditions and focus on areas such as sustainability, development cooperation and poverty alleviation, attach great importance to housing conditions and quality of life. Their influence has been, and continues to be considerable, not only because of the associated funding and attached political interests, but also because they organise many conferences and publications for knowledge exchange in the area.

In the period between 1940 and 1960, the United States was particularly focused on Latin America (Fraser, 2000; Almandoz, 2010), and a variety of its funding programmes played an important role in spreading the priorities of urbanisation and housing policy across Latin America. Such support for Latin American urbanisation and housing was strongly driven by the circumstances of the Cold War, which dominated global politics from 1945 onwards. Both the United States and the USSR expanded their influence around the world through cultural colonisation. They promoted the construction of modern new towns and supported social housing projects with financial flows and other resources for development within friendly countries to the United States and the USSR (Crimson, 2020).

The ‘Alliance for Progress’ was a direct result of the Cold War, supporting the modernisation of cities in Latin American countries in the 1960s. The aim was to prevent ‘Cuban-style’ development by promoting and supporting social reforms and economic developments in Latin America. The countries gladly made use of these schemes: “In the polarized atmosphere of the

period, there wasn't a single American institution not cooperating in the "war on communism": The State Department, the CIA, the United Nations, the Rockefeller, Ford, and Carnegie Foundations, MIT, Rice and Harvard Universities all played a role in the cultural Cold War" (Provoost, 2006: 2).

New towns based on modern functional ideas were spread around the world during the post-war period. When implemented in the different countries, adjustments were made on the basis of socio-cultural and climatological conditions, but the worldwide spread of ideas resulted in a generation of new towns and urban extensions with the same language of form and characteristics (Crimson, 2017) (see Figure 2.9).

2.2.3. Hybrid Modernism in Latin America

> "Modernism - or the effect of modernization on art, culture or sensibilities - developed and took form in many cultural movements and styles that proliferated throughout Latin America in the 20th Century. In the end because of the unevenness and speed with which modernization and modernity were implemented or acquired, the result was an inchoate integration into the fabric of the everyday traditional, cultural and physical environment." (Carranza, 2014:1).

Architecture from this period generally paid attention to local traditions, mixed with the new expressions of modernism. From a Western point of view it was often considered that new towns could be built and planned from a tabula rasa in the Latin American context, however, local traditions, culture and customs were also reflected in modern urban planning in Latin America. The elements of the Modern Movement, such as segregation of functions, high-rise buildings in public space, and mass production were applied, but, in many cases, included a mix of cultural and local influences and traditions.

Illustrative examples can be found in Mexico in which local art and heritage were often integrated into modern architecture and urbanism, fuelled by the political changes, particularly the Mexican revolution. The facade of the library of the University of Mexico, Universidad Nacional Autonoma de Mexico

Figure 2.15. Central Library of the UNAM in Mexico City, 1954, with mosaics by the Mexican artist Juan O'Gorman. (Source: Fraser, 2000: plate 6)

(UNAM), from 1952 (see Figure 2.15) is one of the most visible examples of this trend. Decorated by the Mexican artist Juan O'Gorman, it aimed to show Mexican culture within the modern experiment of urbanisation, of which the university campus was seen as an international example (Carranza, 2014).

An illustrative example of modernistic urban planning is Cidade dos Motores, designed in 1943 by TPA, the office of Jose Luis Sert and Paul Wiener, for a city around an aircraft factory in Brazil. In addition to the four elements of the functional city (living, working, transport, and recreation), the plan for the new town considered a fifth function, "the heart of the city: the civic centre", following the Latin American urban tradition of a central square. The heart of the city is organised around a public space that is considered the social nucleus of the community (Carranza, 2014: 119). Sert also made a connection with the patio that is often used in Latin America as part of the home. He regarded the patio as a universal typology, as a connecting urban element with a link to the squares, the urban heart, of the colonial Hispanic-American towns (Barrios, 2013). His ideas about the importance of a city heart led to

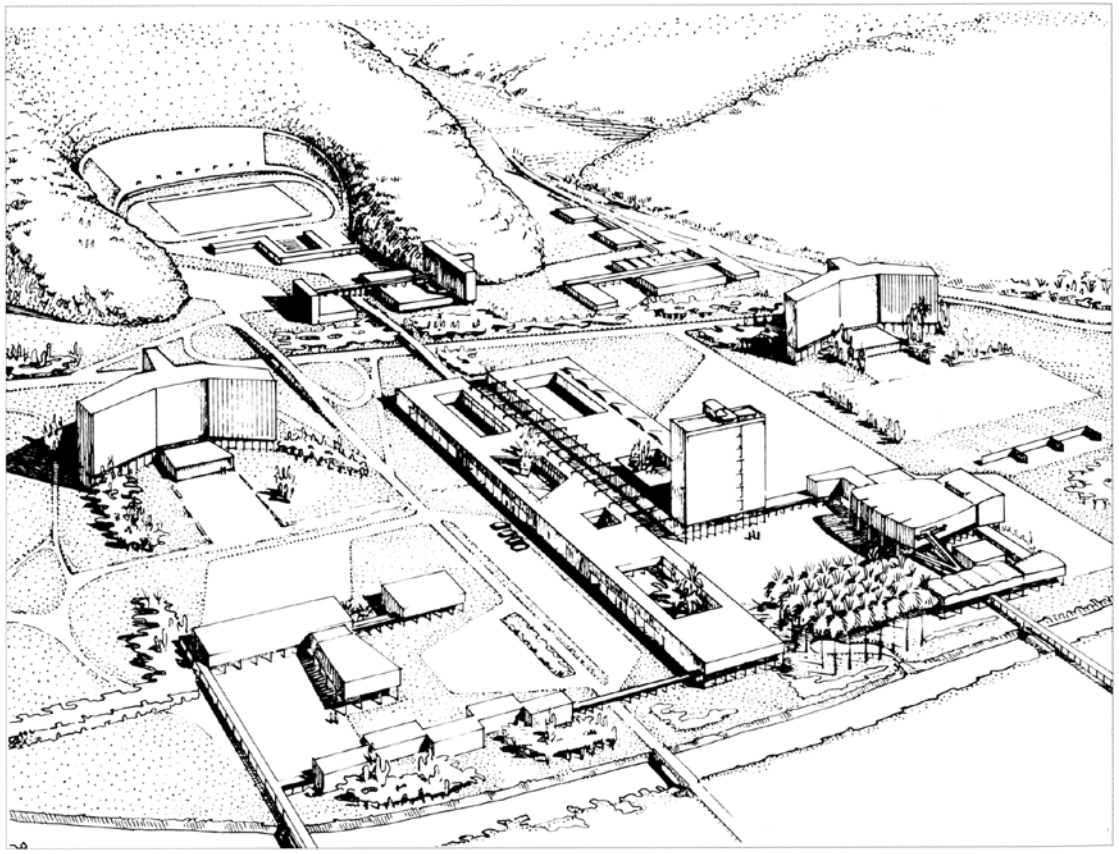


Figure 2.16. Civic Centre of Cidade dos Motores (Source: Mumford & Harkis, 2008: 78)

the CIAM congress “Heart of the City” in 1951. Cidade des Motores was the beginning of TPA’s involvement in Latin America (see Figure 2.16).

Another significant Mexican example is the modernist new town, Unidad Independencia (1960), built in Mexico City under the concept of Neighbourhood Unit, and whose architecture and urbanism is strongly interwoven with local Mexican traditions and history. The facades of the housing blocks and the centrally-located theatre refer to centuries-old Mexican traditions with embossed typical pre-Columbian iconography. To give space to Mexican local customs, the design of the houses paid close attention to the incorporation of outdoor spaces. All the dwellings have either a patio, a courtyard, or a balcony (Van Holstein, 2019) (see Figure 2.17). The

Figure 2.17. Facade of residential buildings in Unidad Independencia with typical Mexican iconography (Source E. Van Holstein)

masterplan included a centrally-located square, the so-called Plaza Cívica, an important addition to the modernistic urban model that emerged from Latin American urban traditions, and became a characteristic element of the Functional City application in Latin America.

2.2.4. Implementation of Modern Movement ideas in Latin America

Although economic and social development remained elusive for many Latin American countries, a number of Latin American metropolises became a showcase for modernism from the 1940s onwards. Architectural modernism was a means of displaying the success of rapid modernisation followed by economic ‘developmentalism’, in which the strengthening of the economy

was central. However, given the deep imbalance between industrialisation and urbanisation in the region, Latin American modernism often seemed incomplete and distorted.

Cooperation between national governments and design professionals influenced by the Modern Movement made university campuses, housing projects and administrative buildings of cities in Mexico, Brazil, and Venezuela among the most important examples of modernism in the world (Almandoz, 2010). Latin America was considered as the centre of attention for modern architecture in the 1950s (De Real, 2011). Although unbalanced, economic growth and technological and industrial expansion produced the development of modern architecture in the region. Major architecture magazines in the 1950s were full of modernist examples from Latin America. "The modernist architecture of Latin America was among the most progressive and original in the world" (Fabricius, 2011: 144).

Residential buildings and social housing

The influence of the Modern Movement is visible in Latin American architecture, urban design, and planning. A central influence was Le Corbusier's Unite d'Habitation, a housing complex built in several cities, in which many people could live together in a community, with housing and a level with shops and cafes and a roof garden for sports activities. The first housing complex, built in Marseille between 1947 and 1952, used rough-cast concrete and brise-soleil for sun protection, and was suspended by large pilotis. The Pedregulho housing complex in Rio de Janeiro, built between 1947 and 1955 by Alfonso Eduardo Reidy, follows the idea of the Plan Obus for Algiers by Le Corbusier (Figure 2.18). Further, this complex exhibits a Brazilian version of the brise soleil and pilotis, which make it a landmark of Brazilian modernism (Carranza, 2014) (Figure 2.19).

At the scale of the city, Nonoalco-Tlatelolco in Mexico, from 1964, designed by the Mexican architect Mario Pani, serves as an example of the influence of the Modern Movement and the characteristics of the Functional City. Despite his training at the Beaux Arts in Paris, Pani was mainly influenced by Le Corbusier's Ville Radieuse in his designs. This can be seen in his work for mass housing complexes, state-funded low rent housing projects for several families (multifamiliares). The complex of Nonoalco-Tltatelolco is the most impressive:

Figure 2.18. The Plan Obus for Algiers, Le Corbusier (Source: Mumford & Sarkis, 2008: 31)

Figure 2.19. Pedregulho residential complex in Rio de Janeiro (Source: Hitchock 1955: 128-130)

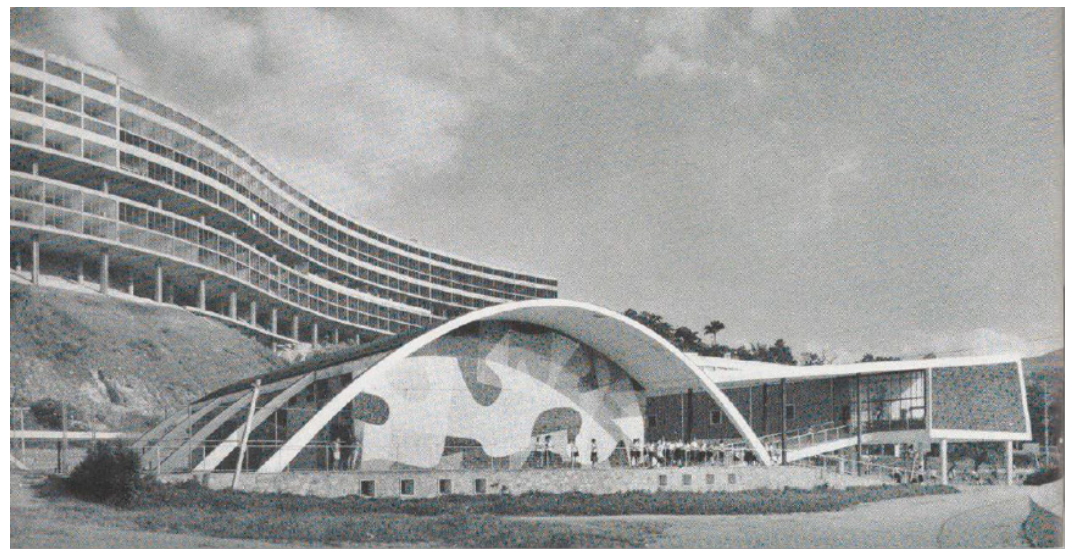


Figure 2.20. Nonoalco Tlateloco, Pani, 1964 (Source: retrieved from https://museoamparo.com/exposiciones/piezas/43/arquitectura-en-mexico-1900-2010-la-construccion-de-la-modernidad-obras-diseno-arte-y-pensamiento)

Figure 2.21. Plaza de las Tres Culturas, with pre-Columbian, colonial and modern architecture (Source: https://www.archdaily.mx/mx/772426/clasicos-de-arquitectura-conjunto-habitacional-nonoalco-tlatelolco-mario-pani?ad_medium=gallery)

11,916 apartments for 70,000 residents on 80 hectares (see Figure 2.20). Housing blocks of different heights are distributed to leave as much space as possible for pedestrians, to obtain high density with high-rise buildings, with sports facilities and commercial activities at ground level. Due to the size of the complex, many mass-produced components were used. The connection with local history, culture and politics is also very visible in this project, which is adjacent to the Plaza de las Tres Culturas (Square of the three cultures) with pre-Columbian, colonial and modern architecture (see Figure 2.21).

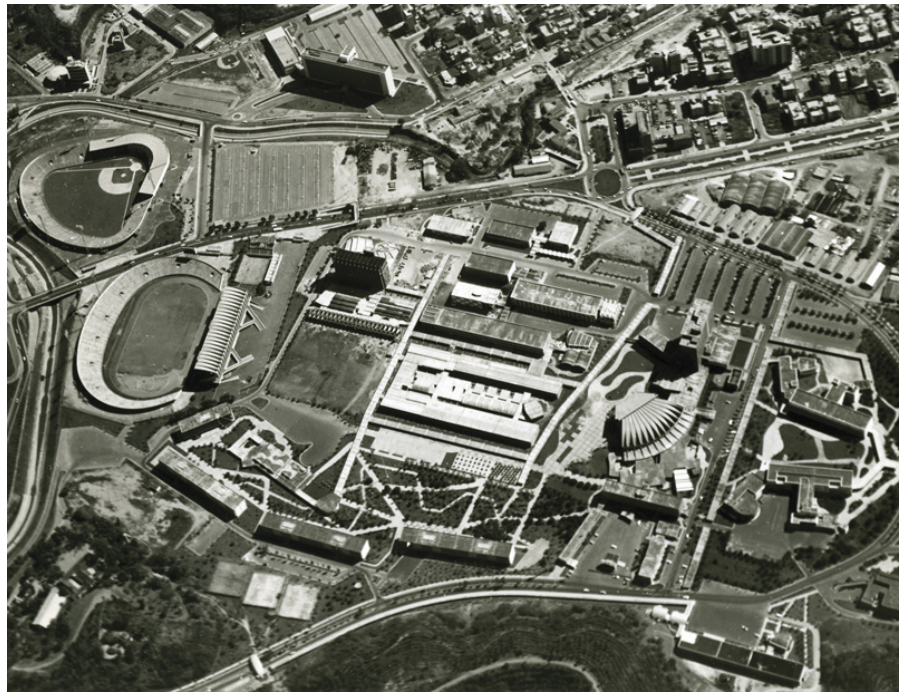
The University Campus

A typology with visible experiments in both modern architecture and urban planning in Latin America is the university campus. The buildings and campuses of the universities of Caracas and Mexico City, among others, can be seen as laboratories of the Modern Movement, experimenting with modern architecture and urbanism, and using art to realise modern, almost utopian, ideals. The Ciudad Universitaria (Figure 2.22) was built in Caracas during the regime of dictator Jimenez, who wanted to make the capital of Venezuela the most modern city in Latin America. Designed by Carlos Raul Villanueva and built between 1944 and 1950, the campus holds a total concept of architecture, urban planning and art, with a large number of buildings and functions integrated into a clear ensemble. It included highlights of modern architecture and visual arts such as the Aula Magna with Alexander Calder's "Clouds" and the Olympic Stadium. The campus is situated in a green park in the middle of the city connected by covered footpaths / corridors and a covered square (Figure 2.23), and has been considered as 'one of the most striking examples of a collaborative project' (Hitchcock, 1955: 78) due to the many contributions of Venezuelan and international artists. It was included in the UNESCO World Heritage List in 2000. (Fraser, 2000; Carranza, 2014)

Ciudad Universitaria (UNAM) in Mexico City, designed by Mario Pani, is also planned according to modern principles, with concrete skeleton construction on pilotis in a green open landscape with an architecture that includes art based on local culture and traditions (as with the aforementioned library). "The university campuses in both Mexico and Venezuela are paradigmatic of a transformation of the relationship between modern architecture and art as well as the development of modern cities" (Carranza, 2014: 162). The

Figure 2.23. Covered corridors of the Ciudad Universitaria in Caracas (2009)

Ciudad Universitaria in Caracas (2009)



Figuur 2.22. Ciudad Universitaria Caracas (Source http://www.redfundamentos.com/blog/es/obras/detalle-135/)

university complexes were “experiments in urbanism, utopias of what the city could be” expression of political will, because of their scale and ambition.

Hitchcock was lyrical about Caracas as an example for the modern city. Venezuela was considered, in the 1950s, to be the country in which “the newest area of architectural achievement in Latin America” took place (Hitchcock 1955:45). And Caracas was the city where high-rise buildings were tested and actually implemented in a very short time. “The energetic urbanism of Maurice Rotival is preparing a frame unique in Latin America for a brand-new metropolis of the third quarter of the twentieth century. It will never have the enormous size of Mexico or Buenos Aires nor the relaxed charm of Rio, but with its admirable mountain-backed site and spectacular cloudscapes it already provides a more advanced sketch of the modern city than even São Paulo“ (Hitchcock 1955: 48-49).

Brasilia as worldwide archetype of the Modern Movement

Brasilia, the capital of Brazil, planned and built in the 1950s is the icon of modernist architecture and urbanism in Latin America, based on the ideals of the Modern Movement. The president of Brazil at that time, Juscelino Kubitschek, wanted a new capital in a new central location to not only show the modernisation of the country, but also to create a new relationship between the different states of the country, a political decision to change the focus on the coastal cities and to stabilize Brazil. Brasilia was designed to lead the country into a new future. In the debate on Latin-American modernism, the new town is the iconic example of the fact that in the post-war period more was built in Latin America according to the modernist ideas (of Le Corbusier) than in Europe (Fraser, 2000).

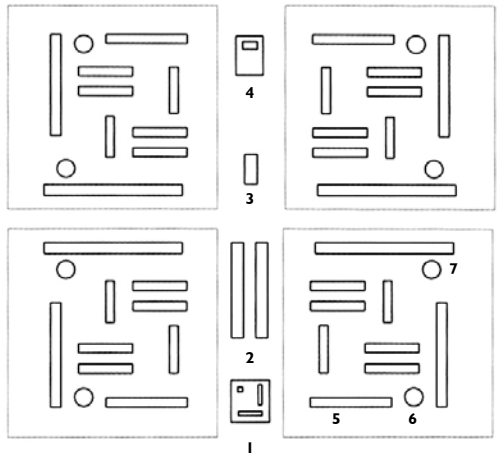
Brasilia is described as 'the largest-scale realization of Le Corbusier's theories and ideas built anywhere in the world' (Fraser, 2000:1), which indicates that it is the city in which the Functional City, as Le Corbusier wished for, has been translated and implemented in the most elaborate way. In Brasilia, all aspects of his ideals can be found, from building level to the urban scale. A 'blueprint utopia' (Holston, 1989: 31) which fully embodied the rules of CIAM. Lucio da Costa's design with an urban zoning plan in which the separation of functions has been carried out to perfection with zones in which living, working, traffic, politics, hotels (recreation), public space, and the monumental modern architecture of Oscar Niemeyer have resulted in Brasilia being considered 'a landmark in the history of town planning' (UNESCO, 2019), which justifies its status as the World Heritage Site.

Brasilia's master plan, designed by Lucio Costa, is based on a cross shape, often associated with an airplane, with two axes that cross each other and thus mark and appropriate the location (Figure 2.24). A monumental axis running from east to west houses the government buildings, the main infrastructure axis for transport and economic activity (Figure 2.25). At the eastern end of the axis, the Praca dos Tres Poderos defines the three federal powers: the presidential palace, the supreme court and the National Congress building, and on the longitudinal axis to the West, the buildings of the various ministries. The architecture of the buildings, designed by Oscar Niemeyer, is characterised by a mix of classicism and modernism, a monumental

Figure 2.24. Pilot plan of Brasilia, by Lucio Costa, 1956 (Source: Working Party New Town, IFHP, 1999: 46)

Figure 2.25. Brasilia's monumentale axis (Source: http://2.bp.blogspot.com/-sVlxQ3NkvZI/UApr7ryr63I/AAAAAAAAAYY/6ohUUWKE5F8/s1600/090701 _ Wikipedia _ Cayambe _ Brasilia _ Eixo)

Figure 2.26. Brasilia, 2013 (Source: M. Provoost)



1. Cinema, 2. Shops, 3. Church, 4. Playground,
5. Green zone, 6. Public School, 7. Kindergarten

Figure 2.27. Diagram of the supersquadras (Source: Caranza, 2014: 204)

modernism for which he developed new technical and structural systems (Carranza, 2014: 202-203) (see Figure 2.26).

Transport in Brasilia is entirely geared to the car along large infrastructural axes completely separated from pedestrian use in the residential areas. The North-South axis makes a turn because of the morphology of the location, forming the residential area of the city. Superquadras, urban blocks arranged in a quadrant around a common street where the public amenities are located (Figure 2.27), shape the residential neighbourhoods, with strict rules on the construction of the many green and commercial centres at district level (Figure 2.28.). The six-storey residential buildings are built on pilotis, therefore

Figure 2.28. Aerail view of superquadras in Brasilia (Source: Caranza, 2014: 204)

pedestrians can walk undisturbed through green public areas. In addition to the dwellings there were schools and children's facilities in the residential blocks.

Although Costa's intention was to make the superquadras accessible to all and to achieve spatial equality and classlessness, a military coup in 1964 brought an end to the idea that Brasilia would work as 'a socially distributive urban place' (Carranza, 2014: 205). Market forces became the driving force behind the development of Brasilia and with this, the working class was driven out of the city. Lower income groups ended up in satellite cities where favelas emerged.

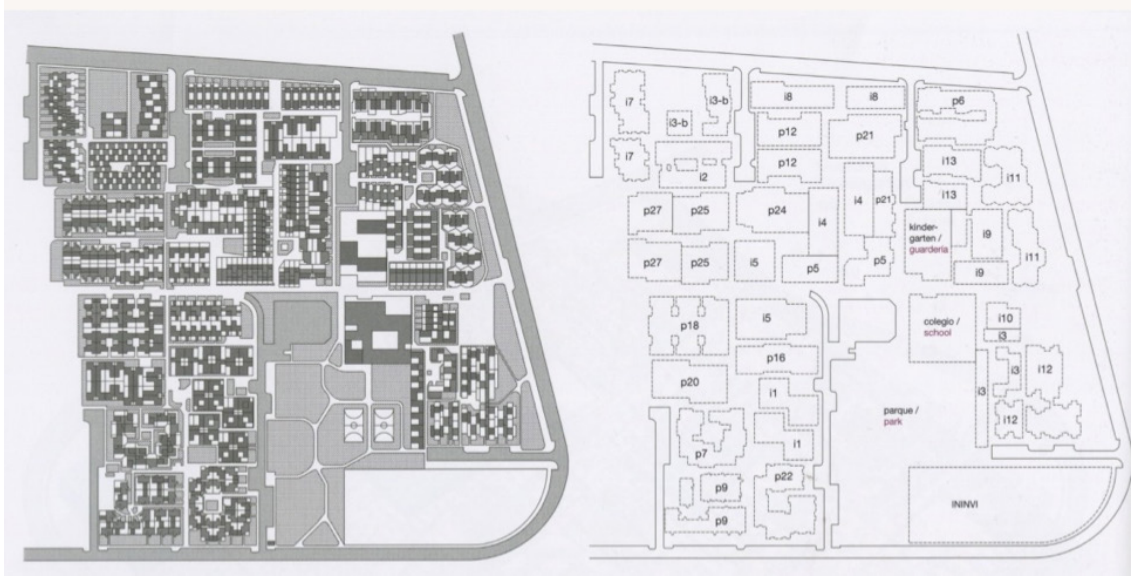


Figure 2.29. Collage of the 26 projects into Peter Land's masterplan of PREVI (Source: http://www.transfer-arch.com/reference/previ-lima-1969/)

Housing experiment PREVI

PREVI, PRoyecto Experimental de VIvienda (Experimental housing project), was an architectural design competition for the design of affordable housing started in 1968 in Lima, Peru, aiming for an international exchange of knowledge and expertise. PREVI clearly illustrates the change in thinking within modernism in the 1960s, as it was based on both modern design and planning, and the ideas of a self-organised city. The project was organised as an important response to the effects of modernisation in Latin America, based on the ideas of Team X and the late Modernists (Mateo et al, 2016).

The PREVI project was the fruit of collaboration between the Peruvian government and UN Habitat, led by Peter Land as advisor to the Banco de la Vivienda (Housing Bank), aiming to develop methods for 'low-rise, high-density housing', to solve the shortage they were facing at that time (Figure 2.29). The housing shortage was not only a challenge for Peru, but also a relevant issue for developing countries, which justified the UN funding. PREVI gathered local and internationally renowned participants such as Aldo van Eyck, (Figure 2.30) Christopher Alexander, James Stirling, and the office

Figure 2.30. Aldo van Eyck's project in PREVI (Source: PREVI architecture, politics, utopia. Lenz, J., Geuna, A. TU Berlin, 2013)

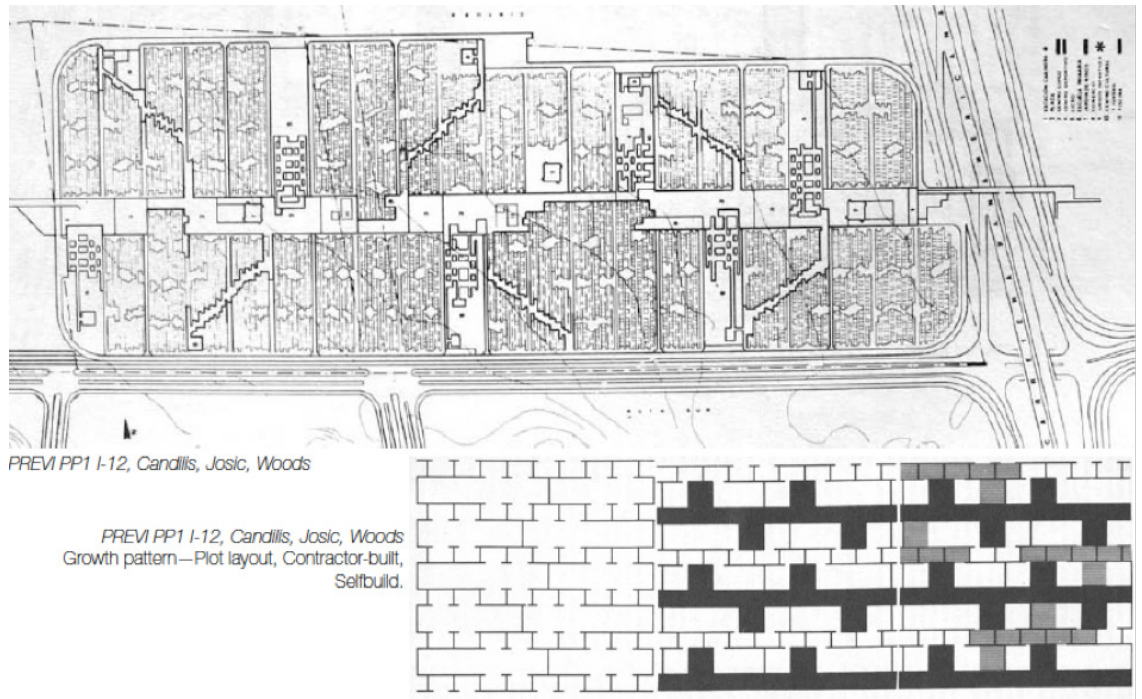


Figure 2.31. Candilis, Josic & Woods's project for PREVI, (Source: PREVI architecture, politics, utopia. Lenz, J., Geuna, A. TU Berlin, 2013)

of Candilis, Josic & Woods (Figure 2.31), who produced many new ideas in the architectural field, only some of which were implemented. PREVI has been considered as a forgotten attempt to find a middle ground between the megablock or superblock and the informal settlements, namely modernism and informality (Supersudaca, 2009). Within the contemporary discourse on the boundary between planning and urban informality, a few years ago the PREVI project was again brought to the attention of the Chilean architect Alejandro Aravena, whose housing project, Elemental, is also based on self-organisation within housing construction.

PREVI's objective was unique at that time, but also in later times: asking international expertise to design a low-rise, high-density district, focusing on affordable housing and based on local dynamics and logics, which included those of the informal city, with self-organisation as an instrument (Mateo et al., 2016). Because of the political situation in the country, in the end only part of the masterplan was implemented, which resulted in a number of interesting examples of the application of architecture in relation to this task.

2.2.5. Reflection on Modernism in Latin America

From the 1960s onwards, the Charter of Athens became synonymous with a technocratic, profit-oriented, and inhumane form of urban development, discrediting modernism and its methodological approaches and goals within urban planning. It was associated with a functionalist turning point in urban planning, holding a strict and schematic spatial separation of living, working, traffic, and recreation, often with a negative connotation of spatial segregation, mono functionality, lack of human scale, and urban vitality (Van Es et al, 2014). In such way, CIAM became a model for the promises and, even more than that, the errors of modernistic urban planning.

There are different opinions about the way in which the urban modernisation of Latin America took place and Le Corbusier's role in disseminating modernistic ideas. Although Le Corbusier's visit had a great influence, before his arrival to South America, modernisation had already begun, fed by global developments but with some local influence, something which was particularly visible in the fields of architecture and urbanism.

At the same time, the results of the Modern Movement in Latin America were very influential on an international scale, as it has become visible in the many publications and other expressions and is recognised according to Jorge Francisco Liernus. He is very outspoken about this in his foreword to the publication 'Modern Architecture in Latin America' (2014), and calls the lack of integration pathetic, as if the many results of the Modern Movement in Latin America were not part of the general global development of modern architecture. He criticises those who appropriate modern architecture and urbanism, in his view these are the European and North American publicists. Indeed, in the many publications describing modern architecture and urbanism, Latin American examples seem to be limited to the well-known examples such as Brasilia after the design of Lucio Costa, with the architecture of Oscar Niemeyer and the work of Mario Pani in Mexico. Valerie Fraser confirms this and calls it a perverse omission within the literature on modern architecture and urbanism that an image is created that Latin America has produced nothing innovative except Brasilia (Fraser, 2000). She continues, however, that this is a 'recent short-sightedness' and that especially in the 1930s to 1960s there was a great deal of international interest in modern architecture developments in Latin America and the United States.

An important landmark was the exhibition, 'Modern Architecture in Latin America since 1945', held at the MOMA in 1955. There, the influential critic, Henry-Russell Hitchcock, stated that the United States can learn a lot from Latin American modern urbanism and architecture, especially when it comes to university campuses and social housing. Hitchcock especially mentioned the abundant building production, which according to him, exceeded the building production in the United States during that period. At that moment, Brasilia did not exist and Le Corbusier had not realized much yet. Precisely during the period from 1930 to 1960, the output in publications and exhibitions about the Latin American modernist production was large. However, it ended with Brasilia, as 'this was one ambition too far' (Fraser, 2000: 2) Although Brasilia is still presented as a great example of the Modern City, there was wide criticism of the plan within the professional world, as it was considered that international experts should have also been involved in the planning of the new capital. Subsequently, Latin American modernism disappeared from view at the beginning of the 1970s.

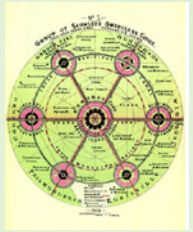
The ideas of the Modern Movement were sufficiently applied and implemented in Latin America. ‘Latin America was the place where Modernist dreams came true’ (Moore, 2015). However, the world only paid close attention to the innovative modern architecture and planning that the countries of Latin America produced from the 1930s to the 1960s (Fraser, 2000). The many publications show that those projects were considered as innovative examples, valuable for the contemporary discussion.

2.3. Conclusions

The modernist doctrine that originated in Western Europe had a major influence on the Latin American urban context in the 20th century. Based on the Garden City Model, the neighbourhood principles and the CIAM functionalist planning rules, a modern new town model emerged in the post-war period that spread worldwide and was implemented in Latin America within the challenge of a rapid urbanisation process that dominated the region from the 1920s onwards. Modern Movement ideas travelled along with designers and money flows from Europe and the United States were frequently applied in the countries that wanted to modernise relying on the economic developments that were going on (Figure 2.31). Some sites and cities could be regarded as modernist laboratories, in which modernist ideas were applied, implemented and tested, although with cultures, climate, and economic conditions that differed from the context in which the ideas originated.

Modernism in Latin America produced buildings and plans that incorporated local traditions and culture into modern plans, as the examples of universities in Venezuela and Mexico showed. Residential buildings and social housing projects show the influence of the ideas on density and high-rise buildings of the CIAM, like the examples in Brazil and Mexico. Criticized or not, in Latin America the new capital Brasilia created an icon of architecture and urban planning for the Modern Movement. The housing experiments of PREVI in Peru confirm the urban laboratory status of Latin America, because this project was a unique attempt to plan and design a low-rise and high-density district with affordable housing based on the self- building capacity of residents.

In addition to the ideologies of the Modern Movement, self-organised urbanism is also strongly linked to the urban development of Latin America. The modernist planning practice of the 1950s and 1960s, which was a reaction to the unbridled growth of cities, has subsequently regained an informal layer or addition, such as parts of Mexico City, Caracas and Rio de Janeiro (Hernandez et al, 2010). Both the application of these ideologies and informal urbanisation stem from the rapid urbanisation practice that took place on the Latin American continent in the 20th century. In response to the fact that it was almost impossible fully solve the housing shortage, people started looking for possibilities that combine modern planning and self-organisation. One of the solutions applied in Latin America is the aided self-help policy, based on the facilitation of residents’ capacities to build and organise themselves.



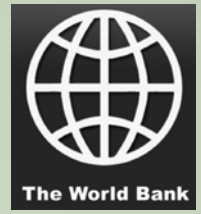
1902
Garden Cities of Tomorrow, Howard

1936 -1950's
Comings and goings to LA of European professionals

1929
Le Corbusier visits Latin America

1955 MOMA exhibition

1961-1973 Alliance for Progress



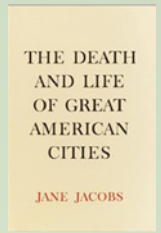
1973-1980 World Bank supports Self-help

1927 – 1959 CIAM
1933 CIAM 4 Functional City

1943 Charter of Athens

1959 Team X

1961 Jane Jacobs



1933 Ville Radieuse

1943 Cidade des Motores

1968. PREVI

Modernism

1922 Ville Contemporaine

1929 Clarence Stein, Radburn
1929 Clarence Perry

1944 - 1960 Ciudad Universitaria de Caracas

1957 Brasilia

1964 Nonoalco Tlateloco

1976 Habitat I, Vancouver

1952 - 1959 23 de Enero

1961-1966 Ciudad Guayana

Latin America

1996 Habitat 2, Istanbul

1978 UN HABITAT

1980s shift towards market housing

1960s shift in planning perspectives

Start self organised urbanisation

1948 Organisation of American States

1961 US AID, promoting self help, focus LA

Until 1950s, traditional housing by state

1959 Inter-American Development Bank

1940s onwards, rural-urban migration

1962 Cuba Crisis

1920s onwards, urbanization - sprawl

1950s - 1960s Promotion self help worldwide

1914 Discovery oil Venezuela

1900-1920 1930 1940 1950 1960 1970 1980 2000

Figure 2.31. Timeline with the most important landmarks related to Modernism in Latin America

3. Aided self-help as urban development strategy in Latin American

In the previous chapter it was shown that accelerated urbanisation that brought a rapid implementation of the Modern Movement ideas in the Latin American region after the World War II, produced an enormous demand for housing. This chapter will explain the housing issues that arose from that context and changed the accepted knowledge in the housing sector in the Latin American context, which subsequently gave rise to aided self-help policies. In response to the large housing shortage, an international housing policy was developed, promoted, and implemented on a global level. Aided self-help, a housing policy that combines government support and planning with residents' self-organisation capacities, was one of these policies that was promoted in the Latin American region.

After describing the background of the housing sector in the Latin American region, this chapter provides insight into the history and characteristics of the aided self-help policy, showing how the modern planning ideals and the self-organisation of residents were combined. Next, the chapter focuses on the possibilities of aided self-help on the larger scale of urban planning, based on the fact that the policy is rooted in housing. This chapter will therefore answer the research question: "How were the international housing policies originated, developed and implemented in the rapid urbanisation process in the Latin American context of the 1950s and 1960s?"

3.1. A new perspective on the housing sector in the Latin American region

Significant demographic and socio-economic changes are at the origin of the huge housing demand in Latin America since the mid-twentieth century. Not only did the population grow very rapidly, but also a large rural-urban migration led to rapid urbanisation during that period. Latin America is now predominantly an urban region, with 81.2 % of its population living in urban areas (United Nations, 2018). Although, in 1950, most people still lived in rural areas, some countries were urbanising quickly: "Over half of the population of Uruguay (78%), Argentina (65.3%,), Chile (58.4%) and Venezuela (53.2%) already lived in urban centres by 1950." (Almandoz, 2016:.32). Furthermore, the population increased significantly in the largest cities of the region during the post-war period. Cities as Bogotá in Colombia and Caracas in Venezuela grew by more than 6% annually. Koth et al. (1965) mentioned that between 1950 and 1960 the population growth in Latin America was the largest worldwide, resulting in the fastest urbanisation rates (see Figure 3.1 and Figure 3.2). In 1960, Latin America's average annual growth rate was 2.4%, compared to 1.5 % worldwide (Koth et al.,1965). Between 1920 and 1950, the region's total population grew by 80%, while between 1950 and 2000, it grew by 213% (United Nations, 2004).

Poverty is another important element related to the rise of the housing demand in Latin America. The above-mentioned demographic processes led to a rise in poverty throughout urban areas. The incipient industrialisation trends in the cities were not enough to provide jobs for the rural migrants, which, in turn, led to a huge housing shortage. The need for social housing was extraordinary and required effective policies with a corresponding financing plan. However, many Latin American countries lacked the financial capacity and the institutional frameworks to implement such policies and to invest sufficiently and efficiently in social housing. The lack of long-term financing with low interest rates was a major problem in mobilising funds for low-income groups, which lacked jobs in the formal sector. Despite great savings in production costs, low-income groups could not afford to buy a standard house without long-term financing (Koth et al., 1965; Almandoz, 2016). As a result, when governments wanted to develop housing policies for lower-income groups, they had to choose between subsidising the construction of a small number of low-cost homes or spreading subsidies over

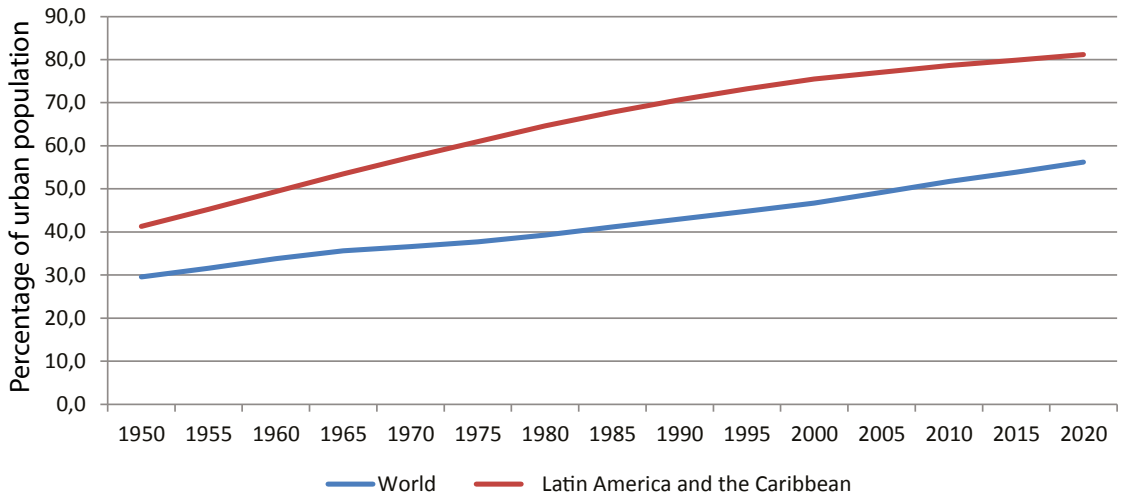


Figure 3.1. Annual average percentage of urban population in the world and in Latin America (Data source: United Nations, 2018)

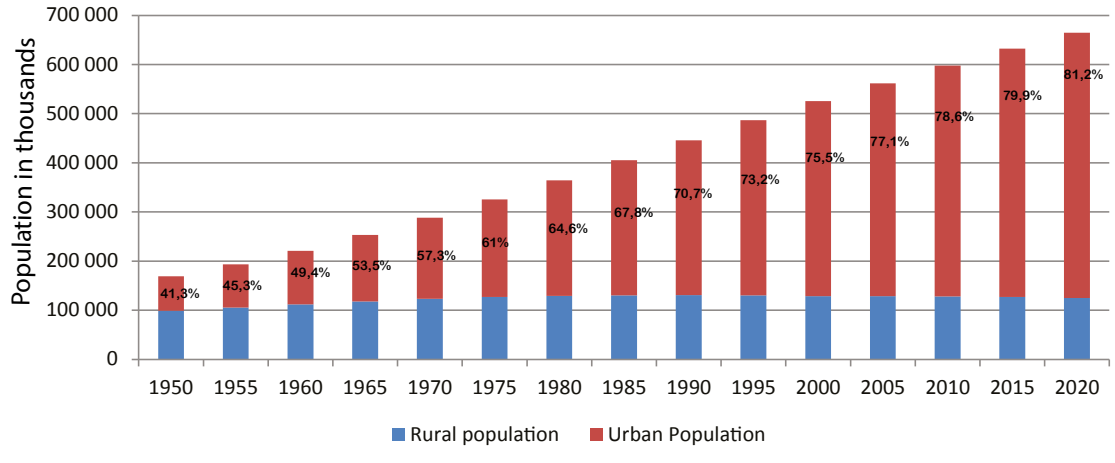


Figure 3.2. Rural - urban population growth in Latin America with the urban growth rate in % (Data source: United Nations, 2018)

larger numbers of families which made the houses unaffordable for the lowest income groups. In most cases, no choice was made, which meant that the housing shortage for the poorer groups could not be met, and what was built was for the middle-class (Peattie, 1982). These housing circumstances led to a debate in which some had the opinion that the government was responsible for supplying standard housing for everyone, while others advocated to adopt a more pragmatic attitude to tolerate self-building and self-organisation.

In practice, a pragmatic perspective was emerging to confront the housing dilemma by tackling the demand for housing from the poor. Peru's housing policy is an illustrative example of this change in perspective. Unable to provide housing for urban migrants and low-income groups, the Peruvian government realised early on that tolerating self-construction and self-organisation processes could be a pragmatic solution to tackle the housing demand. In Peru this was possible because the land surrounding the cities was not private but mostly owned by the state and this avoided a conflict with landowners. In addition, the mild climate of the coastal regions, with very little rain, allowed for houses to be built rapidly with simple materials, promoting the quick occupation of land by the urban poor (Driant, 1992). In 1961 the Peruvian government formulated a pragmatic policy to legalise the self-built neighbourhoods, which was a the first of its kind in Latin America.

Invited to work in Peruvian informal settlements during the late 1950s, the British architect John Turner, became familiar with this progressive way of housing for the poor. This was a period "of vigorous national debate about housing policy, community development and aided self-help" (Bromley, 2003), that inspired Turner to write a series of academic publications about progressive development (Turner, 1968; 1972). He advocated that squatter settlements should not be considered as the 'problem', but as a 'solution' (Turner, 1968), trying to change the dominant view of informal urban areas as 'rings of misery', or 'creeping cancers', but rather as developing communities with their own organisation (Peattie, 1982: 132). Lisa Peattie also shared this view. In 'A View from the Barrio' (1968), she provided a different perspective on planning in developing countries, in which self-organisation is a central element (Ward, 2012). She explains how this observation subsequently led to a foundation for housing policy for low-income groups:

> "The shanties were not housing in deterioration; they were housing in process of improvement. In particular, the piecemeal system of building afforded great advantages to those who, like most of the poor in developing societies, have great variations in income from month to month. 'Rather than being demoralised and parasitic, the residents of the shanty towns were seen as active, organised and self-mobilising, and their housing substandard only if looked at, at one point in time. In a larger context it was a stock in progress in progress, on the way to becoming adequate through continuous investment by the individual household. What could be more natural than for policy-makers to seize upon this new vision, and to try to translate it into public policy?" (Peattie, 1982: 133).

3.2. Influence of international agencies on Latin American housing policies

The knowledge and finance flows from international agencies, many of which were sponsored by the US, had a strong and clear influence on the national housing policies of the Latin American countries in the 1950s and 1960s. These flows brought different approaches to urban planning and development, which enriched the international discourse on urbanisation.

3.2.1. Influence of the United States-related agencies

Besides being an economic and social problem, the housing issue became a political issue during the Cold War period, which subsequently received the attention of the United States. The roots of the Inter-American relationship lie in the 19th century after the independence of Latin American countries. The United States became an important partner for Latin American countries in the post-war period. In 1948, at the 9th edition of the International Conference of American States, the 'Charter for the Organisation of American States' was adopted, establishing the relationship between the countries in the region, for which the 'Organisation of American States' (OAS) was created. Especially in the 1960s, the United States worked hard on this Inter-American relationship because of the Cold War, which came very close

to the USA with the Cuban crisis. At that time, a policy was pursued that focused not only on trade but also on the financing of housing as a spearhead initiative, because it was considered that home ownership, especially for lower income groups, was an important element for the political stability of a country.

Until 1960, the problems related to urbanisation and housing in Latin America were not, or only sporadically, included in the financial agenda for aid to Latin America. However, they were an important item in the political agenda of the countries concerned, while the great significance of housing was constantly mentioned by the various international organisations. Accordingly, as early as 1951, the OAS established the Inter-American Housing and Planning Center (Centro Interamericano de Vivienda, CINVA), as a regional centre for training and advice on low-cost housing construction, intended for architects, engineers, social workers, etc.[4] The establishment of CINVA shows the important position of housing for lower income groups within the Inter-American relationship from the 1950s onwards.

The Washington economists in charge of foreign aid had not seen the issue of urbanisation as an important social or political problem (Abrams, 1964: 99). However, around 1960 this attitude changed with the rise of communism in Cuba. The Act of Bogotá, which Latin America and the United States signed in 1960, outlined a broad program of cooperation in the field of social improvement and economic development. At that time, it was acknowledged that there was a relationship between housing and the social and political instability of a country (Gyger, 2013). This paved the way for OAS to support for the Alliance for Progress. The Alliance for Progress was signed by the United States and all Latin American countries in the Conference of Punta del Este in August 1961, under the Kennedy administration. The Alliance was a new version of the Marshall Plan, this time for Latin America. Aimed at accelerating the economic development of Latin American countries, its main purpose was to avoid the expansion of communist ideology in the region. In exchange for United States aid, Latin American countries agreed to several

4 CINVA was as an institute important for implementing the policy of aided self-help. The institute would later develop the manuals for aided self-help housing.

requirements, among which the establishment of national planning agencies, and the promotion of democratic governments, more equitable income distribution, and land reform (Fernandez-Maldonado, 2019).

The United States agreed to provide technical and financial assistance to four key fields of activities: land settlement and improved land use; communal water supply and sanitation facilities; education and training; and low income housing (Gyger, 2013: 183). On housing and low-income facilities, the Charter signed in Punta del Este mentions:

> "..one of the objectives of the American Republics during the present decade is: To increase the construction of low-cost houses for low-income families in order to replace inadequate and deficient housing and to reduce housing shortages; and to provide necessary public services to both urban and rural centers of population." (Charter of Punta del Este, 1961).

To realise this, the Alliance for progress offered $20 billion of aid distributed over a 10-year period to ensure that money was put towards housing faster than ever before. Financing was provided through both the Inter-American Development Bank (IADB), the OAS' lending bank established in 1959, and the United States Agency for International Development (AID). In the early 1960s, these institutions provided long-term credit loans to various housing-related institutions such as governments, savings, and credit banks or cooperatives. In 1963, seed capital loans were granted to various countries in order to have an initial capital that could be used to set up the financing mechanism for housing, so that long-term loans could be made for housing. Venezuela, for example, received 10 million dollars for this purpose. Housing loans were also granted so that more direct investments were made in housing itself (Koth et al., 1965).

Policies which emphasised the granting of long-term loans were pursued, such as the establishment of national housing policies with a focus on the housing needs of the lower income groups. It was considered that external funding would not be sufficient to solve the housing problem, so countries had to establish their own policies regulating housing for all strata of the population (Koth et al., 1965). Some countries started setting up national housing plans as

early as 1962. In several countries even (aided) self-help played an important role, but it was only reflected in specific projects and not yet in national policies (Koth et al., 1965).

It soon became apparent that the institutional framework in these, often nascent democracies, was not (yet) capable of designing and implementing long-term sustainable policies. The IADB considered the large influence of the private sector and its potential as a major source of capital. To stimulate the private sector, the IADB lent money to private contractors instead of the government. In practice, only a number of projects were actually realised. This failure was also attributed to the chaotic nature of the loans from both IDB and the AID, which were sometimes lent to the same agencies (Abrams, 1964). The idea was that the ready-made remedies such as housing cooperatives, savings and loan associations, and the self-help model could be applied to all countries. Housing cooperatives run by residents and cooperating with a non-profit organisation were seen as a good opportunity to mobilise both work and savings (Koth et al., 1965).

The escalating activities of the United States in 1961 and 1962 with regard to emerging communism in Cuba made many Latin American leaders sceptical about the United States intentions and Kennedy's claim that the United States was working in Latin America without self-interest.

> "The program was not a success. Latin American countries did not experience economic development because of U.S. aid, and the program did not strengthen democratic governance. Perhaps the most important reason the Alliance for Progress failed was an inherent conflict between lofty humanitarian goals and a desire to fight the Cold War. While U.S. policymakers had a sincere commitment to nation building, political considerations proved far more important in developing aid priorities. Rather than committing money to the most worthy humanitarian projects, the United States funnelled its money to explicitly political projects." (Taffet, 2007: 5)

However, the AID and the IADB did not stop financing housing programmes in Latin America. Until this day, both financing institutions are still working

in housing related matters in Latin American countries. In addition, there were a number of other United States players involved in the economic development of Latin America in the 1960s, involved in topics related to urbanisation and housing. Among the most important were the Institute of Inter-American Affairs (IIAA); the Housing and Home Finance Agency; the Foundation for Cooperative Housing; and the American Institute for Free Labor Development. Furthermore, the Rockefeller Foundation, Nelson Rockefeller's International Basic Economy Corporation (IBEC) (Gyger, 2013), and the Ford Foundation have been internationally active since 1950 with the ideal of achieving world peace which has indirectly contributed to (research on) the housing question.

> "Prestigious universities such as Harvard and MIT were working in close relation to both the Ford Foundation and the US foreign office. They contributed mostly in terms of research and advice, and thereby assisted the Ford Foundation to effectively direct its grants. Research at these centres, for instance the Harvard/MIT Joint Center for Urban Studies, received millions of dollars in sponsorship from the Ford Foundation" (Provoost, 2006: 3).

Within this context, the Greek planner Constantinos Doxiadis, who worked for the Ford Foundation on a worldwide scale should also be mentioned. He is famous for the development of "an extremely hermetic and theoretical system of design and engineering called "Ekistics", the science of human settlements"(Provoost 2006). Doxiadis was closely connected to Jacob Crane and familiar with aided self-help, which he promoted and implemented, in the reconstruction of the post-war villages in Greece for example.

3.2.2. Influence of the World Bank and United Nations' agencies

The World Bank, established in 1944 as the UN International Bank for Reconstruction and Development, is another influential agency which provides loans to developing countries, with a strong emphasis on infrastructure such as dams, electricity, irrigation systems, and roads. From 1956 the Bank was able to lend to private parties and financial institutions in developing countries and from 1960, when the International Development

Association was established, the focus was on the poorest countries (Mayo and Angel, 1993). Its official goal then became poverty alleviation, but all projects must be accompanied by a commitment to improving international investment and trade. Housing was not a driving force in the 1950s and 1960s, but was seen as promoting the national economies, and laying the foundations of 'housing industries' (Abrams, 1964).

A turning point in housing policy approaches occurred in the 1970s, after the World Bank embraced a policy change from total public housing supply into a policy of government assistance in private housing construction by means of aided self-help. Sites & services and slum upgrading became the new policy tools to implement such a shift in policy approaches. The new schemes were seen as demonstration projects intended to meet three criteria: the provision of low-cost housing units, the elimination of public subsidies; and the replicability of such projects by the private sector (Mayo and Angel, 1993).

> "Between 1972 and 1990, the Bank was involved in 116 sites-and-services and slum upgrading projects in 55 countries. The average size of these projects was US$26 million (US$42 million if land acquisition costs are added). Sites-and-services projects, including slum upgrading, formed 30 percent of all urban projects and amounted to 28 percent of total urban lending (45 percent if land acquisition is counted), and 1.8 percent of total Bank lending during this period (2.9 percent if land acquisition costs are added). These projects yielded economic returns' of between 19 and 22 percent and demonstrated the feasibility of producing affordable and adequate housing for the poor." (Mayo and Angel, 1993: 54).

The United Nations (UN) is another important player in the international field of housing policy. When the UN was founded in 1945, urbanisation and its impact were less present on the agenda because two thirds of the humanity lived in a rural environment. When the effects of urbanisation became increasingly clear in the 1950s, the UN supported various studies and missions in the fields of housing, financing, and planning through the Housing, Building and Planning branch of the UN Economic and Social Council. The financing was intended to support hiring experts and the exchange of knowledge,

Figure 3.3. The first land and utility municipal housing project in Ponce, Puerto Rico, 1941 (Source: Delano, 1941)

but the resulting pilot projects were only sporadically funded (Koth et al., 1965). The research and special projects were addressed by the Economic Commission for Latin America (ECLAC), the regional committee of the UN Economic and Social Council for Latin America (Koth et al., 1965; Abrams, 1964). ECLAC was set up in 1948 to promote Latin American economic development and the improvement of the standard of living for people.[5]

The first Habitat conference, entitled 'Human Settlements', in 1976, marked a turning point for the UN's involvement in the global housing challenge. Concerns about housing problems had increased among the national

5 Until now, ECLAC is an important source for analysis and debate within the Latin American policy field.

governments due to the growing urban problems in the 1950s, 1960s and 1970s. The effects, which became increasingly apparent in the developing world, led to an urgent demand for solutions. At the same time, there was a low level of knowledge regarding the problem at an international level. In the run-up to the conference, many studies and evaluations of housing issues emerged at the global level, addressing the issue of aided self-help that was sought to be used as a remedy. Habitat 1976 was the culmination of the findings and experiences from the 1960s and early 1970s. UN Habitat, the United Nations Human Settlements Program, was established in 1978, following the Habitat I Conference. The main funder of UN-Habitat is the United Nations Development Program (UNDP), whose goal is to eradicate poverty and reduce inequalities through the sustainable development of nations.

3.3. The Rise of aided self-help

This section analyses the aided self-help policy from the origin of the idea to the revaluation of the conventional housing policy towards the end of the 20th century, with a focus on Latin America.

3.3.1. Origins of the idea

Although the aided self-help policy is generally associated with rapid urbanisation issues in developing countries in the post-war period, the policy was already applied in the early 20th century in the Soviet Union and a number of European countries. Harris (1999) even states that Sweden was, in 1904, the first country to offer an aided self-help program in the form of the national `Own Homes' Loan Fund. The origins can also be traced back to Ebenezer Howard's Garden Cities model in which the community played a major role; and to Patrick Geddes, who added self-construction by residents to planning theory, away from mass production to 'the world of craftsmanship' (Hall, 2002). Geddes brought these ideas to Indore in India in 1918 and became a great inspiration for the future theory and practice of aided self-help (Harris, 1997; Gyger, 2014). An important instrument within the later implemented aided self-help policy, the sites & services, was originally a rural scheme used under the denominator 'land and utilities', which

was later applied to urban environments in the post-war period (Harris, 1997; Robinson, 1976).

Figure 3.3 shows the first project of 'land and utility' housing, carried out in the 1940s in Ponce, Puerto Rico. The initiator was Jacob Crane, who worked for the United States Public Housing Administration, and who coined the term 'aided-self-help housing' to describe housing policies based on government-supported owner-occupiers developing their homes through self-construction (Harris, 1997). Crane introduced the sites & services planning scheme for the construction of nearly 10,000 owner-built homes in the frame of the city of Ponce's housing policy in 1939 (Ward, 2012).

From 1947 to 1953, Crane headed the International Housing Office of the Housing and Home Finance Agency (HHFA) in Washington DC, which was the first internationally operating body to outline the housing problem on a global scale, and which subsequently promoted aided self-help worldwide (Harris, 1997). Gradually, it was becoming clear that the housing problem was larger than the construction industry could cope with, as only half of the global demand for housing could be met (Crane and Paxton, 1951). Crane considered that reducing the construction costs of the homes could be a solution for this, which was 'the root to the problem', not only in the Global South. According to him, and many after him (Abrams, 1964; Turner, 1976; Peattie, 1982; Roy, 2005), the only ones who could solve this problem were those who build their houses. At the beginning of the 1950s, however, self-construction was not seen by policymakers as a conceivable solution (Crane and Paxton, 1951).

Despite the reduction of costs through self-construction, it was clear that the implementation of aided self-help in the context of the Global South required technical and financial support. Crane was of the opinion that, through international cooperation, a flow of technical assistance for building skills and money for building materials, but also for the education of people had to be set in motion. International loans could be provided for countries with reasonable institutional frameworks. He pleaded for the availability of adequate housing for everyone and not only for the 'fortunate few'. The work done by the potential homeowners themselves was seen as an economic source for housing (Crane and Paxton, 1951:41).

3.3.2. Early application in Latin America

In the context of population growth in the post-war period, the housing problem increased in the 1950s and 1960s as predicted by Crane. Aided self-help schemes were promoted as a solution to this problem in various countries in the Global South, such as India, several African countries, and Latin America (Robinson, 1976; Offner, 2012). In Latin America, the application of the aided self-help policy had become an important part of the international housing policy, strongly influenced by the relationship between the United States and the Latin American countries. From the beginning of the 1950s, this relationship was substantively focused on housing issues in the region, one of the reasons for the establishment of CINVA (Harris, 1997). In the late 1950s, several countries had acknowledged the importance of self-help schemes, and by 1964 almost every country in Latin America had included elements of aided self-help in their housing policies (Harris, 2003).

For the implementation of the aided self-help model in the Latin American region, John Turner's work and ideas about progressive development were essential. Through the combination of his work in Peru and his international academic publications, Turner ensured that aided self-help and the role and commitment of the inhabitants to urban development was on the international agenda from the 1960s onwards. He reversed generally accepted prejudices and showed that informal urbanisation could be seen as a source of inspiration and as an urban dynamic that needs to be supported and developed further. This enabled him to reach not only the academic planners but also planning and design practitioners (Potter, 1985).

During his work in Peru, Turner was supported by William Mangin, an American anthropologist and also advocate of self-help housing, who in his publication Latin American Squatter Settlements: A problem and A Solution (Mangin, 1967) claimed that informal settlements are, in many cases, based on collective self-organisation. Turner's book 'Housing by People' (1976), in which he explains his ideas, was published in the same year as the Habitat Conference in 1976 and thus had a major influence on the agenda of this first Habitat Conference of the United Nations.

3.3.3. Evolution after 1960s

After Habitat I in 1976, aided self-help was promoted by the United Nations as the most important housing policy, and actively supported by the World Bank, and would be later followed in almost 100 countries (Potter, 1985; Laquian, 1983). The application of the aided self-help model was then connected with the reduction and alleviation of urban poverty (Wakely, 2014). The importance of Habitat I can be seen from the many studies, overviews, and reports that have been made in the follow-up to the conference and which highlight the promotion of the aided self-help policy with the sites & services scheme, as in 'Aided self-help housing: its history and potential' (1976) by the United States Department of Housing and Urban Development. Habitat I has been considered a turning point in the housing sector, due to the promotion of the technical and financial possibilities of aided self-help at a global level, which changed the view on urbanisation (Ward, 1982).

The sites & services scheme, which is used as a planning tool within the implementation of the aided self-help policy, is often mentioned in the same breath as the aided self-help policy because of the central position it occupies in the policy. However, it is not the same: aided self-help was applied to the existing city, by improving neighbourhoods and in urban sprawl and new neighbourhoods or cities using the sites & services scheme as an instrument (see Figure 3.5 in section 3.4.1.).

The sites & services scheme was given a broader role in urban development strategies in the 1970s and 1980s. In addition to the possibility of providing affordable housing, sites & services schemes were treated as an important component of social urbanisation and poverty alleviation. The participatory process of initiating and implementing sites & services and the upgrading of informal urbanisation (slum upgrading) became more important than the eventual housing it provided. It was seen as a foundation of good urban governance, promoting transparency and responsibilities within urban decision-making (Wakely, 2014).
However, in many cases the funding models associated with the policy turned out not to be accessible to the lowest-income groups, as the money did not reach certain target groups and the problem of 'sheltering the poor' continued to grow. These problems led to a growing criticism of aided self-help. For example, Burgess (1982) claimed that the accessibility to financial sources

was primarily an economic and political problem and argued that the housing policies should be integral part of the general development strategy rather than an isolated policy.

The World Bank abandoned the sites & services projects by halting the financing of them in the mid-1980s. The World Bank's own evaluation of the many demonstration projects mentioned the success of the first objective of the policy: the effective provision of low-cost housing units. However, the two other objectives of the policy, the elimination of public subsidies and the replicability of the projects were not considered successful (Mayo and Angel, 1993). However, the evaluations were often done on the basis of short-term interpretations of the results, while the progressive development processes, characteristic of aided-self-help, take time and need to be assessed over the long-term. At the end of the 1980s, the sites & services schemes were commonly considered unsuccessful. The new housing policies changed to emphasise the provision of housing finance by public institutions, accompanied by related policy tools to extend and rationalise housing subsidies. Unsurprisingly, this change of policies coincided with the rise of neoliberal ideas in the policy field and the political context at global level.

3.4. Aided self-help: technical, financial and community aspects

3.4.1. Features of aided self-help

Aided self-help has been described by academics and policymakers in various ways over the course of time but, in essence, it comes down to guiding and planning the self-organising capacity of inhabitants. The starting point is help with the self-organisation of residents as a basis for urbanisation and as a solution for people who cannot afford housing by the formally organised construction industry. Besides the term, 'aided self-help', alternative terms have been often used as 'organised self-help' (Wakely, 2014), 'guided self-help' (Peattie, 1982), 'assisted self-help' (Motta, 2015) or only 'self-help'. In this study, the term aided self-help was chosen because of the focus on combining the planning (facilitating and guiding) of self-help.

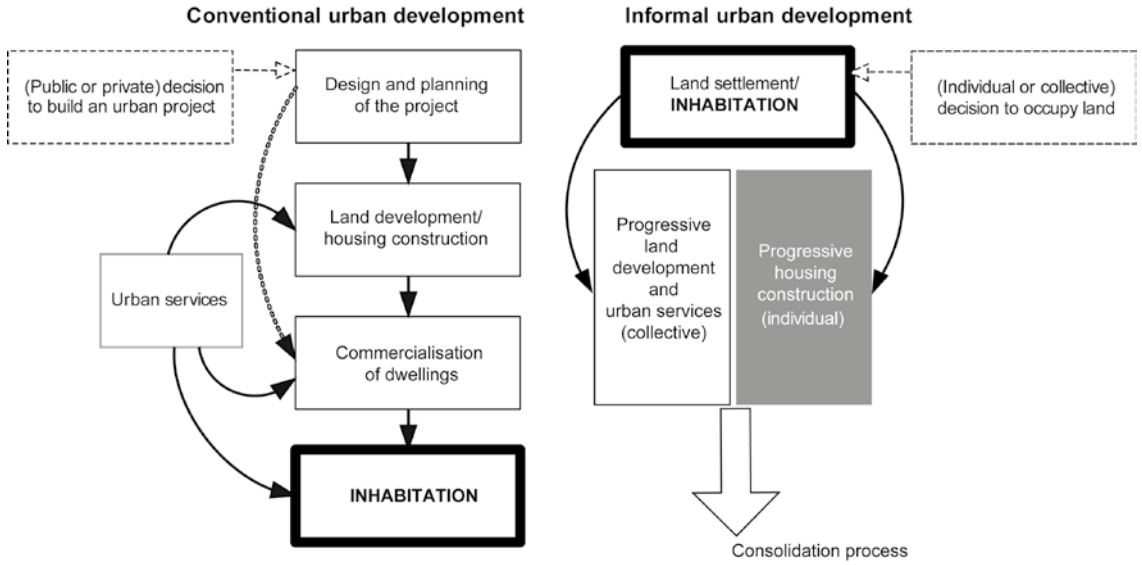


Figure 3.4. Scheme of the different processes involved in conventional and informal urban development (Source: Fernández-Maldonado, 2014)

Aided self-help is a policy in which organised aid from the government facilitates and stimulates the residents' capacity for self-organisation. The central reasoning is that the government provides for the planning of infrastructure and facilities, and that the residents themselves build their homes on the basis of progressive development (Potter, 1983; Fernandez Maldonado, 2014). The aim is to solve the housing problem by responding to the self-organisation of people, taking into account the economic possibilities of the residents. Aid ranges from financial aid for building one's own home to the creation of an urban grid with basic facilities that forms the basis for urban expansions. The government takes the decision to implement an urban development project, planning and designing the project, but the occupation of the plots and their habitation is organised by the residents themselves in a progressive way of development. This means that it will be carried out when it is feasible for residents to afford the construction works.

Aided self-help can be considered as a policy positioned between conventional urban development and informal urban development, with two essential components: planning and time. It is more flexible than conventional urban development when there is sufficient time to develop, but at the same

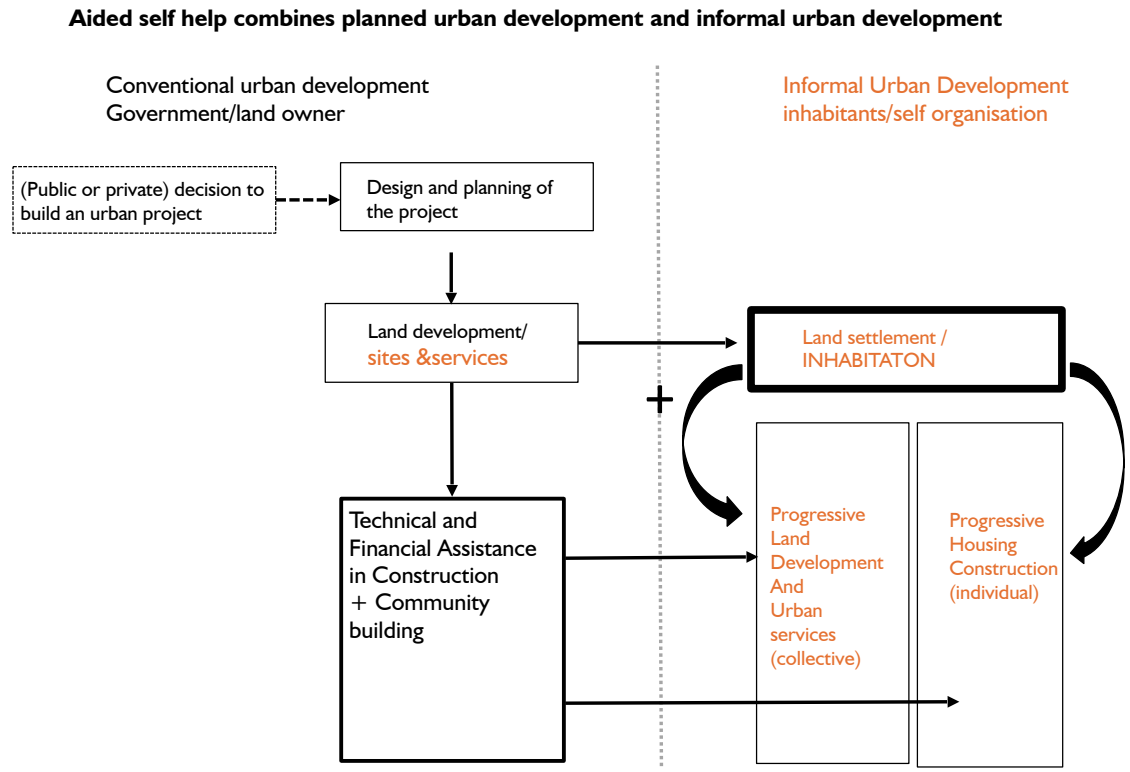


Figure 3.5. Scheme of processes involved in aided self-help, based on Figure 3.4

time, it requires planning for the direction of informal urban development. Figure 3.4 shows the main differences between conventional and informal types of urban development. In the former, the emphasis is on planning and planned implementation, and in the latter on progressive development and therefore time.

Figure 3.5 shows that aided self-help is a combination of both types of urban development processes. where the government and the people are the main stakeholders. A crossover takes place during the process of land development. Instead of a top-down planned housing development by the government or the developer, a self-organised land occupation takes place in a progressive manner: the government plans the sites & services and the individuals build their homes. Market processes may occur when (parts of) the construction is(are) commercialised. During habitation, the government

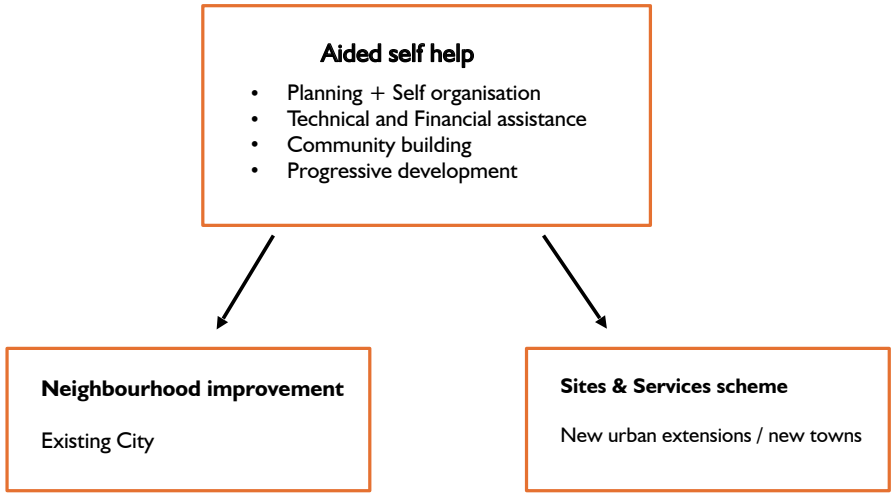


Figure 3.6. Types of aided self-help according to the location of the site

helps in a technical and financial way and supports community building. The consolidation process is progressive and concerns both the dwelling and the neighbourhood.

Two categories can be distinguished within the aided self-help policy (Figure 3.6). The first type concerns the improvement of the neighbourhood within the existing city, helping residents to build or improve their homes, providing accessibility to urban facilities and improving the quality of life through financial aid and community building. In the second type, aided self-help offers sites & services as a model for new urban extensions (new neighbourhoods or new cities) as an answer to the housing shortage. Once it has been decided to develop an area, the sites & services scheme provides a planned framework within which residents can build a house on their own plot when their (financial) situation allows it (Norwood, 1973).

Another important distinction within aided self-help is 'individual self-help', where one household builds its own house and 'mutual aid', in which the house is built with the cooperative action of a group. In an ideal mutual aid approach, several houses can be built by the group, so that the acquired skills of the builders can be used to build the various houses, avoiding the

situation in which one household needs to be able to do everything (Koth, 1965; Laquian, 1983). Communal facilities such as schools, roads, etc. should generally also be developed by mutual aid. There are examples where families would be able to help each other when (finishing) the houses and where facilities such as electricity and schools were constructed and built together. Mutual aid causes a joint feeling of 'pride' in the property and because it is linked to cooperation, it can also ensure that other necessary facilities are developed together (Robinson, 1976). In addition to the significant social factor, mutual aid offers opportunities to scale up and compact the aided self-help system. Mutual aid as a basis for the development of a community, for example, was also linked by Turner to the idea of scaling up (see section 3.5.4.) because a group of people can create greater involvement for larger urban processes (Harris, 1997; 2003; Gyger 2013).

The aided self-help policy not only consists of planning the framework, constructing the facilities, and providing technical assistance for self-construction. For the success of the policy it is essential to support the community in setting up a strong social foundation, through community assistance (training the residents) and financial assistance (facilitating loans for the financing of the homes) so that good quality homes can be built through the process of self-construction.

3.4.2. The consolidation process of progressive development

This section explains the components of the aided self-help policy, analysing this form of housing policy. The focus is on the aided self-help policy for urban expansions/new cities, in which the sites & services scheme and mutual aid are characteristic.

The essence of aided self-help is progressive urban development, in which the time factor plays a major role. Sufficient time is needed both for the implementation and execution of policies of progressive development. It is also important to take time into account for the assessment and evaluation of such projects and policies. Time is important when little money and resources are available from the main stakeholders: government and residents. Only if money and materials are available can houses be built, so accessibility to finance and material leads to processes of progressive urbanisation.

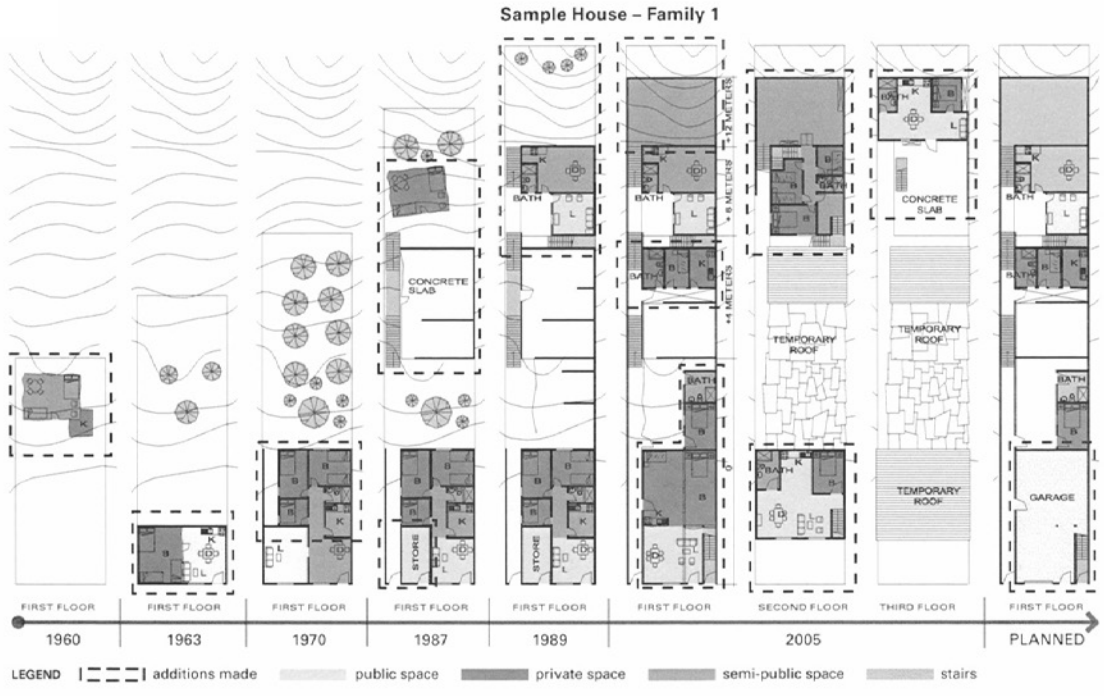


Figure 11.1
(a) Plans showing the accretive growth of a self-built home and possible future additions. *(b)* Three-dimensional rendering of home development showing expansions for adult children (*hijo*), workshop (taller), etc. *Source:* Rojas Williams 2005; courtesy of Susana M. Rojas Williams.

Figure 3.7. Progressive development on a plot in the hills of Independencia, Lima, Peru. (Source: Ward, 2012: 293, taken from Rojas Williams, 2005)

The significance of the time aspect in the progressive building of the houses is related to the fact that building depends on the possibilities the residents have in terms of finance and materials. This can take a lot of time, and it often does in the case of low-income households. Consequently, no specific period can be foreseen for the building activities and the same happens for the completion of the sites & services scheme. Several evaluations of sites & services projects have been done in the past 50 years, in which the strengthening of the physical and social structures of the neighbourhood only becomes visible over a long period of time. Although the sites & services plots are often sold quickly, it may take more than ten years before the site becomes a well-functioning district with progressive development.

The progressive implementation starts with the construction of a temporary hut on the plot, the one which is gradually replaced by a more definite house when financing and materials are available. Figure 3.7 shows an example of a process of progressive development on a plot in the hills of an informal neighbourhood in the district of Independencia, in Lima, Peru. It shows how the process developed over a period of more than 40 years, evolving from the initial hut in the middle of the plot, into a building that gradually expanded towards the hill. In the last stage the plot counts with homes for four different households. As this figure shows, the construction was extended by building upper floors in order to create more space, which may be for residential or economic uses.

Time issues are linked to the aided self-help policy in another, contradictory way. The process of urbanisation in Latin America in the 1960s due to migration to the cities proceeded so fast that it was impossible for national governments to manage it properly. The aided self-help policy was promoted to solve this problem, but it could not bring a quick solution to the housing shortage, because it takes time and therefore patience. The evaluations of the policy at several moments in the second half of the 20th century showed that the long and time-consuming process of urbanisation associated with the aided self-help policy tested the patience of policymakers and that negative conclusions were drawn too quickly (Peattie, 1982; Ward, 1982).

3.4.3. The stakeholders: government, people, and market

The aided self-help policy is based on government planning and the facilitation of self-organisation . The role of the government (or the landowner) is essential for the successful implementation of the (aided) self-help policy. It is not only about making the land available, but also about the organisation of the process, administration, technical support, and most importantly, financial guidance and supportive community building.

Due to financial considerations, the combination of planning and self-organisation can also quickly lead to a top-down approach to the construction process instead of making it progressive. The government's ability to 'shape the flow of the components themselves' (Peattie, 1982: 139), regarding housing, is important. The potential strength of government intervention in

social housing lies not so much in the flexible composition of the components needed for housing – land, work and capital – but in facilitating them in such a way that the self-organisation grows and becomes stronger.

Within the aided self-help policy, the three most important stakeholders are the government, the residents, and the market (see Figure 3.8). The government (in many cases the landowner) ensures policy-making, secures the implementation of the policy and plans the framework with facilities by means of sites & services. Because the policy is based on the self-organising capacity of the residents, their role is crucial. The role of the market varies in the application of the policy. The market has a facilitating or determining role, depending on the strength/size of the self-organisation of the residents, which, in turn, depends on the role of the government. In the most basic form of the aided self-help policy, the market does not play a role, except as a supplier of materials. The government plans and facilitates, the residents organise themselves and build when they can afford to do so.

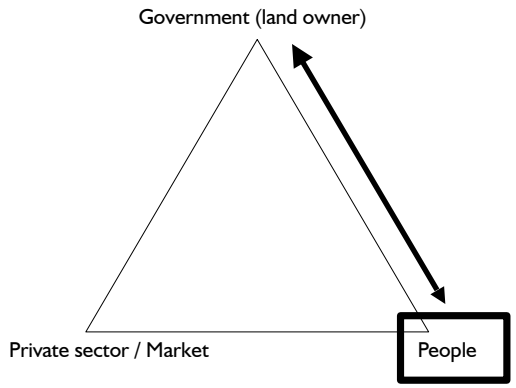


Figure 3.8. Main actors involved in aided self-help activities

In the 1950s and 1960s, the end users (the residents) were assigned an essential role in the implementation of the aided self-help policy. However, their active role changed over the course of time towards a more passive role, depending on the local application of the policy and the position of the market. In this respect, aided self-help is vulnerable and can become a commercial endeavour, as in many cases in the private sector, and will penetrate and take over some of the building activities and even the whole construction process.

3.4.4. The role of the government: planning approaches and technical and financial assistance

The importance of housing and urbanisation issues within a national policy for urban planning, with a guiding role of the government, is crucial. Such a policy requires an analysis of the situation and an investigation of the circumstances

under which an aided self-help programme may succeed. The organisation of the community and the commitment of the residents increases the chances of success. Making sure everything runs smoothly, requires a sound policy, an assessment of (financial and material) sources and a programme (United States Department, 1969). Facilitating and stimulating education and communication within the aided self-help policy is also necessary, because people do not often have the skills and experience to build and improve their own homes.

After obtaining the land, technical support for the residents is an important factor of the assistance provided by the government. From the beginning of the implementation of aided self-help in Latin America, training was given by the CINVA, which was set up especially for this purpose in 1951 to assist residents in building their homes (Koth et al., 1965). CINVA developed the CINVA-RAM machine to make bricks from local materials for building the new houses (Robinson, 1976; United States Department, 1969), which was later distributed worldwide and is still used today.

More importantly, aided self-help cannot exist without financial public support and guidance. Although aided self-help reduces the construction costs through self-construction by residents, an additional financing programme must be available, especially for the lowest income groups with, for example, lower interest loans. “No housing program, including aided self-help, can be perpetuated without a continuing source of funds for construction and long-term financing” (Robinson 1976: 12). Public financing is needed for the provision of the land, construction of the basic facilities or providing cheap building materials. However, aided self-help is not only about financing, but also about training and transferring expertise for building and improving a home (Laquian, 1983). Financial support is also important to develop the basic skills to make participation a real part of the housing challenge (Hill, 1975). Political will is needed to support ‘people-based’ planning and this includes the need to incorporate the insights and knowledge of the people for whom planning is being carried out into the process and to implement their role in the process (Potter, 1985).

Compared to upgrading an existing area through self-help activities, the sites & services scheme more often excludes low income households because it is

simply more expensive to plan, build and supervise, making repayment rates higher and still requiring a certain income (Laquian, 1983). Consequently, governments should prevent the sites & services scheme from becoming a system of "creaming off communities of the urban poor by selecting only families with adequate income" (Peattie, 1987: 134).

3.4.5. The role of the residents: self-organisation and community participation

Aided self-help is based on the notion that informal self-organised urbanisation will always be part of the process and that informal urbanised areas should be improved rather than removed (Hill, 1975). The strength of the aided self-help system lies precisely in the 'progressive development' process. In this process led by the user, very basic and vulnerable forms of shelter eventually produce sustainable homes, because the home is always attuned to the changing needs of the user's household (Reimers, 1985). From his experience working in Peruvian squatter settlements, John Turner concluded that "Urban squatters in the developing world are the best judge of their own needs and are better able than anyone else (including governments) to address them." (Harris, 2003: 4).

Furthermore, progressive development offers an important advantage over conventional approaches because housing becomes more affordable when the building activities are attuned to the financial possibilities of the household, and also to those of the community, government, and other institutions. Residents can, for example, organise themselves in 'housing cooperatives' which are considered a natural component of aided self-help housing (Robinson, 1976). Furthermore, the living environment will be adapted to the individual characteristics, needs, and demands, which will make users more satisfied (Reimers, 1985; Laquian, 1983).

A strong social structure and participation, characteristic of self-organised informal urbanisation, is the basis for successful aided self-help projects. The strong social characteristics are often based on family structures. In informal settlements, houses are constantly being expanded to accommodate new household members, or other relatives and friends who arrive in the city. In such a way, a process of densification frequently occurs in older

neighbourhoods, produced by the vertical growth and horizontal expansion of housing. Families may own several dwellings, but more frequently, there are several families living in one dwelling. Supporting extended families is, therefore, essential for the aforementioned mutual aid (Hill, 1975). The social significance of mutual self-help should be taken into consideration, as it creates a sense of participation and responsibility that cannot be found in traditional social housing projects (Robinson, 1976).

Like Turner in the 1960s, Hill (1975) highlighted the advantages of unplanned urbanisation, because, he stated, it often concerns people who have lived in the city and moved to the outskirts because this offers the possibility to build houses by themselves. He made a link between this form of urbanisation and self-help, not only in housing, but also in other aspects of social organisation such as security and politics. In his view, the inhabitants of the city should overcome their problems with self-organisation on the basis of their own initiative. Furthermore, Hill has more confidence in the sites & services scheme than in the individual self-help. Sites & services gives the residents the opportunity to organise themselves in cooperatives, and that will have more impact in the end (Robinson 1976).

3.5. The Sites & Services Scheme

> "The central concept of the sites-and-services project is a shift of focus from providing houses to providing serviced lots. The attempt is to develop a policy instrument capable of meeting the needs of families at the lower end of the income spectrum, and to harness the energies of occupants themselves in producing a low-income housing stock." (Peattie, 1982: 131).

The sites & services scheme is the planning tool used within aided self-help policies for planning and regulating urban development. Sites & services combines a planned construction of plots and public facilities, such as water, roads, sewerage, and electricity, and, within that framework, the construction of housing by self-organisation through 'progressive development'. The government develops the land with the basic infrastructure and leases

the plots, also reserving land for public facilities (Norwood, 1973; Wakely, 2014). This creates a physical framework within which residents can build their own homes as soon as their situation allows. The framework helps to distinguish public and private space. The filling in of the lots does not only concern housing, because in addition to the space that is created for communal facilities such as schools, in practice the residents also start small businesses that serve the community, such as hairdressers, shops and food, and accommodation establishments (Reimers, 1992).

The process of occupation of a sites & services scheme is actually the same as in informal urbanisation processes. The difference is that in the former, the government makes the land available instead of the 'squatter organisation' or the illegal developer. "Except for some ancillary social services, a small loan programme, or construction, things then proceed much as they would have in the informal process of the squatter settlement or illegal subdivision" (Peattie, 1982: 133).

Many applications of the sites & services scheme can be distinguished. They range from plots (sites) delimited by four pins in the ground in combination with basic services with access to public water taps, latrines and unpaved roads, to government-built starter homes within a landscaped infrastructure of streets and facilities, each containing a wet core (kitchen and bathroom) with sanitation and access to water per plot and one or two rooms (Wakely, 2014). In other words, simply laying out a street pattern and the building plots, up to and including the entire production of all the dwellings. The variation therefore lies in the extent to which they are assisted, i.e. the extent to which the government (or the market) plays a role. In this way, the scheme can provide housing for different income groups, while the different types of plots may be rented or purchased.

Figure 3.9 shows a plot within a sites & services project in Neuquén, Argentina. It is a 'core house' type, in this case a 'wet core' unit type, with a concrete slab for building future rooms, a basic toilet and bathroom and connection to electricity. Figure 3.10 shows the same project progressively developed by the owners (Ward, 2012).

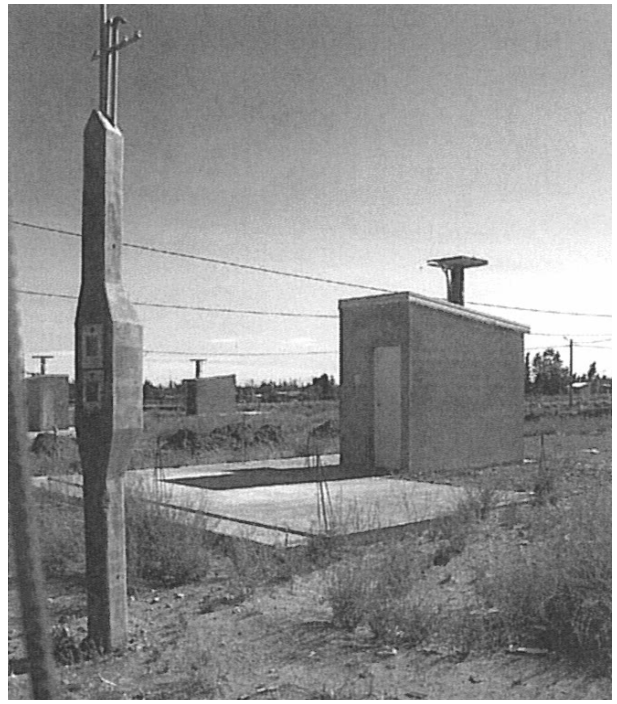


Figure 3.9. Wet-core unit sites & services project in Neuquén, Argentina. Photo: Peter Ward (Source: Ward, 2012: 298)

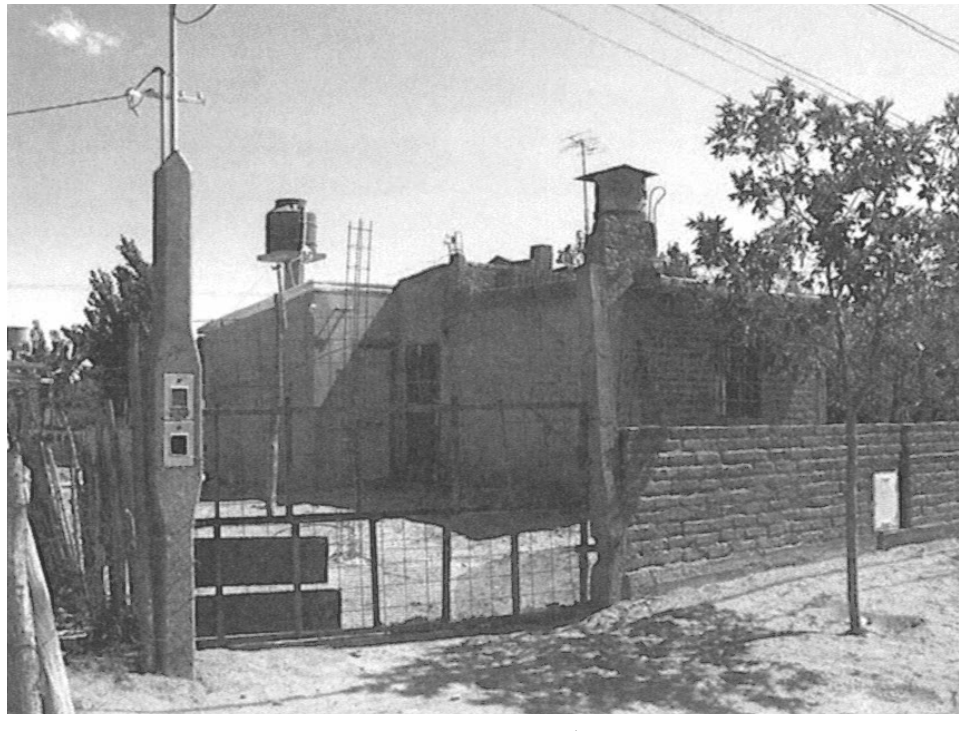


Figure 3.10. The same wet-core unit in Neuquén, after some time of occupancy. Photo: Peter Ward (Source: Ward, 2012: 299)

3.5.1. A typology of sites & services according to the role of planning

Several types of the site & services schemes can be appointed, in which the focus is not on the dwelling unit itself but on the way the plots and facilities are planned. By applying formal planning control to land distribution and providing other assistance, the aim is to use the investments of the 'low-income settlers' previously used for squatting or illegally subdividing land in this mode of urban development (Peattie, 1982: 133).

Figures 3.11 up to 3.16 show a typology of sites & services schemes, according to the role of planning and their spatial evolution in time. The diagrams show the effects of increased planning of the neighbourhood. The first diagram (0) shows how informal urbanisation develops (Fig. 3.11), then the basic model (1) shows a 'planned' version of informal urbanisation, which only provides the land parcelling for the residents to occupy the land (Fig.3.12). The subsequent variations show increasingly planned facilities, in which the degree of self-organisation decreases. There are other variations, depending on the extent to which the government is involved with the project. The more the government is involved in the development of the neighbourhood and the construction of dwellings, the more homogeneous and expensive it becomes, and the less self-organisation emerges among residents.

[0] Informal urbanisation: unplanned urbanisation in which the inhabitants take possession of land (illegally or not) and build according to their needs.

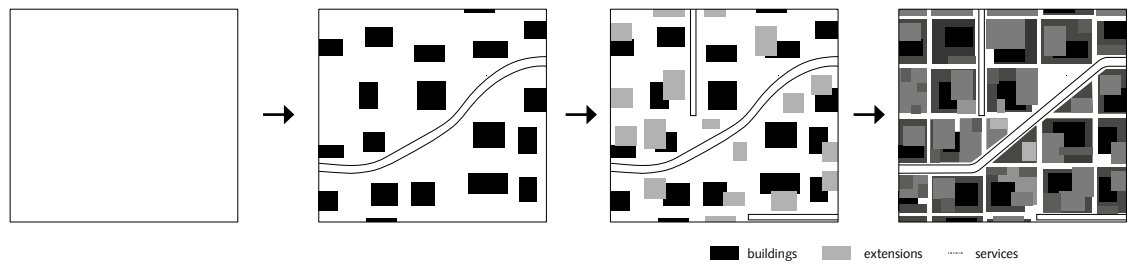


Figure 3.11. Informal urbanisation

[1] Basic model: Demarcation of public and private space and planned parcelling of land by the public agencies, which is later distributed among residents. Strongly linked to informal urbanisation.

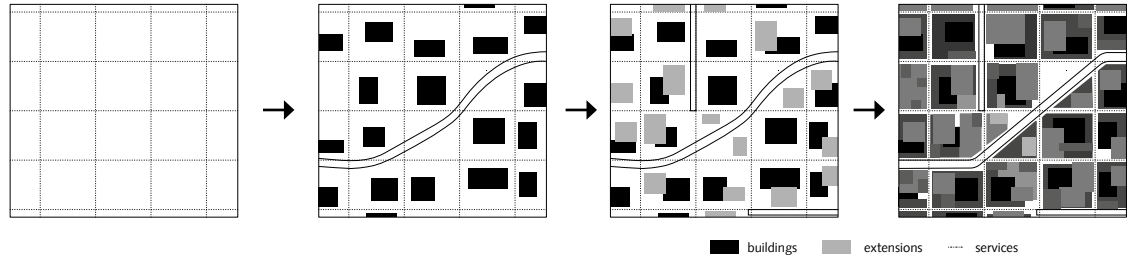


Figure 3.12. Basic model of sites & services

[2] Basic model with centrally located water points: Planned parcelling with basic water infrastructure and centrally located service points such as water taps. Plots occupied by self-organisation.

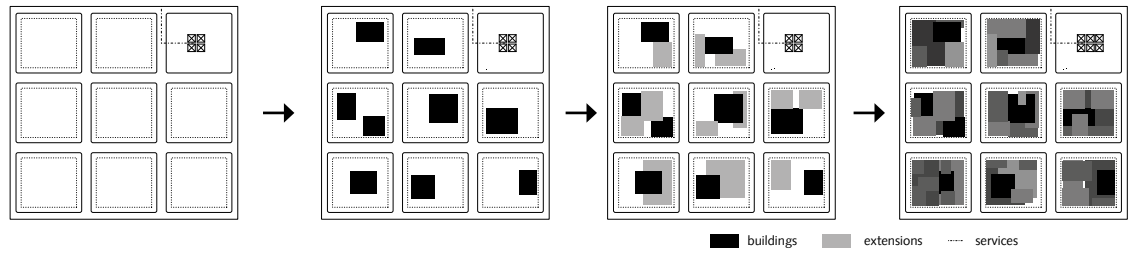


Figure 3.13. Basic model + of sites & services

[3] Basic model with infrastructures, provides road access to the plots and individual access to networks of water, sewerage, and electricity. The plots will be built in a progressive manner through self-organisation.

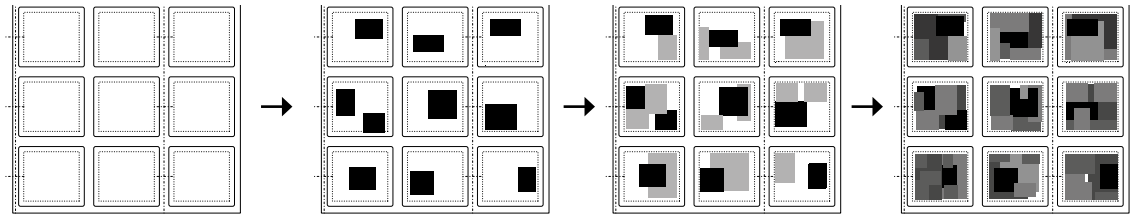


Figure 3.14. Sites & services with facilities

[4] Core-houses, the most popular type of sites & services. They are planned and built to guarantee access to urban networks (water, sewerage, electricity) and, at the same time, provide a (starting) space that residents can extend and improve at their convenience and resource availability. In this mass production the market starts to integrate, generally through commercial contractors.

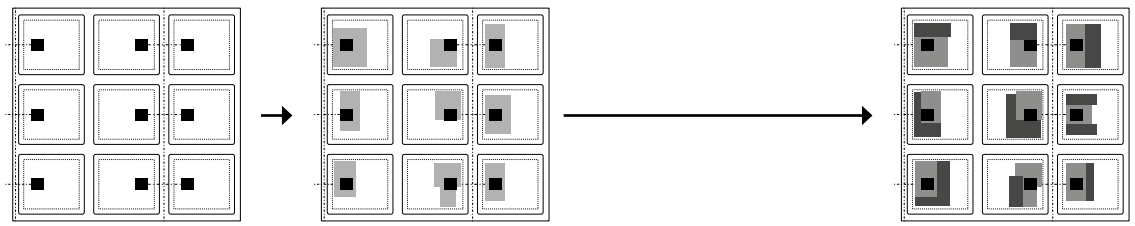


Figure 3. 15, Sites & services core-houses

[5] Entirely planned: parcelling out, infrastructure and public space with the design and construction of the dwellings. The construction sometimes may be extended with some form of self-organisation. This may result in a neighbourhood that has the appearance of a top-down planned and built homogeneous residential area or new town.

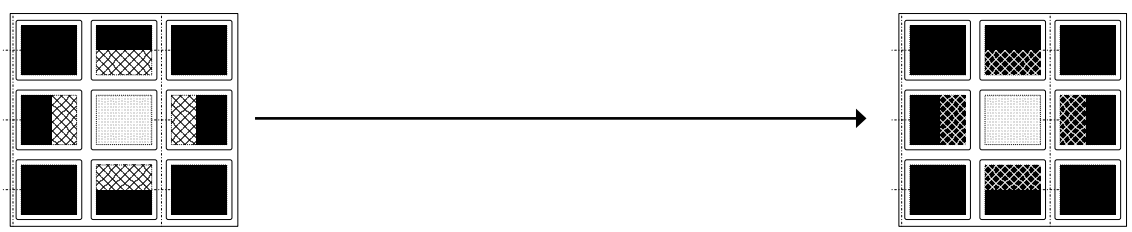


Figure 3.16. Sites & services becomes a new town

3.5.2. Roles of stakeholders within the development of sites & services schemes

Figure 3.17 shows the role of the three main stakeholders, the government, the residents, and the market, involved in the development of the different types of sites & services. It shows that the market has greater opportunities to be involved when more elements of the area development are planned in advance by the government, while the role of the residents decreases in such cases.

In informal urbanisation (0) the government does not play a role, nor does the market, the residents take possession of the land illegally and build their homes through self-organisation. The basic scheme of sites & services (1) can be called semi-informal, because of the small role of the government, which makes land available, divides the plots and distributes them (Peattie, 1982), but the emphasis is on the self-organisation of the residents. In the basic model with the water points (2), the role of the government increases because the water supply must be coordinated, regulated, and made accessible.

The infrastructure model (3) shows a greater role of the government and the possible involvement of the market, because the construction of the infrastructure can be outsourced to a contractor who carries it out on behalf of the government or an organised group of residents. In the core-houses model (4) the influence of the market increases, and its construction is usually commissioned by the government to a commercial contractor. Ideally, the layout of infrastructure and building core houses could be done by mutual aid and self-organisation, as several examples show. However, the market involvement grows when the government does not want to make a big effort to organise and supervise a process of mutual aid.

With the completely planned model (5), it is clear from the start how the houses will be executed on the distributed plots, as they will be built according to the same design. The self-organisation of the residents is limited to, for example, the extension of the house. In this model the market share becomes large and the role of the residents is minimal. In this way, the sites & services scheme resembles the plans of a new town or a district from the start, almost indistinguishable from an entirely planned new town.

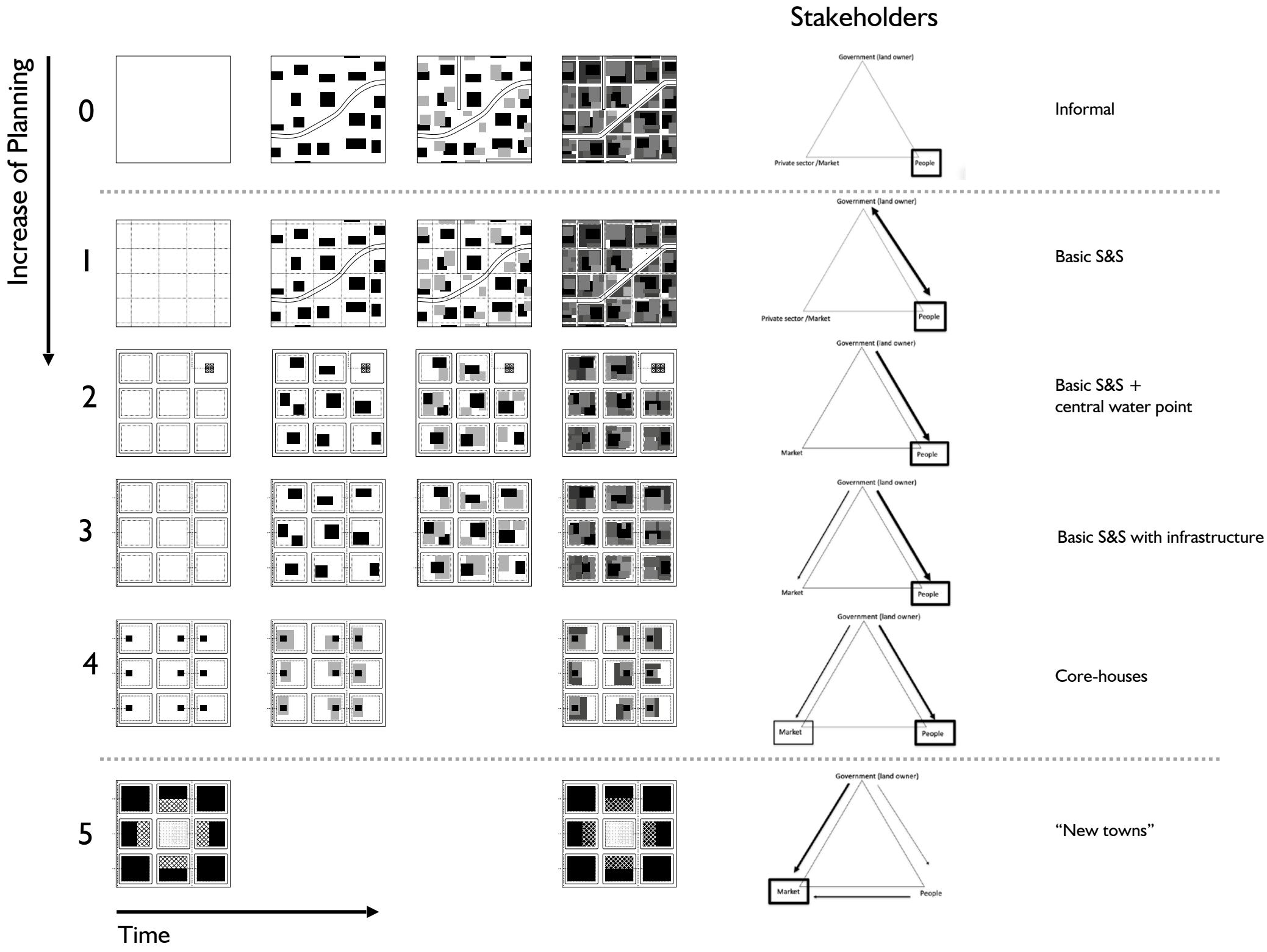


Figure 3.17. Role of stakeholders within different types of sites & services

3.5.3. Tension informal – formal construction

Within the different types of the sites & services scheme, tension may arise between the planned and the self-organised part of the development. This tension is, for example, visible in the core-housing type (4), which was developed partly to reduce time and money in self-help projects for neighbourhood improvement. In core-housing, planning goes further than just distributing the plots and laying out the infrastructure. They also provide a space for residents to improve and expand their dwelling at their own discretion (Abrams, 1964). The inclusion of the core house (4) in the sites & services scheme was the beginning of 'blurring' the dividing line with conventional housing construction.

The sites & services schemes became a successful concept, but the 'self-help' part of it became less and less present. Sites & services types, that were larger than core-houses, posed the question about their difference with a conventional planned neighbourhood. Within the basic concept of sites & services, the focus is not on the home but on the 'serviced lot' (Peattie, 1982: 133) and the extent to which services are delivered to or on the lot also determines the degree of self-construction that is needed.

Furthermore, from the end of the 1970's onwards, residents had to comply with new requirements to participate in a sites & services project. Requirements included the use of modern and durable materials; a fixed period in which the house must be completed; a minimum living standard; and emphasis on the quality of the houses' architecture (Laquian, 1983). As a result, people increasingly opted for professional contractors. The tendency to opt for mass production came from financial considerations, because craftsmanship and low-cost materials are easier to acquire by hiring professionals and with the mass production of materials (through the 'rationalisation of the building process'). Gradually, the sites & services scheme became a 'set of rules and incentives for channelling private investments' (Peattie, 1982: 133). In this way, the progressive way in which self-organisation should proceed was formalised. To keep sites & services accessible to lower-income groups, Peattie (1982) recommended comprehensive policy interventions that relate the choice of plot (size), the supply of services, and the design and financing. Otherwise self-organisation, one of the basic elements of aided self-help, would be reduced too much (Turner, 1972; Harris, 2003).

An example of this tension is Ciudad Kennedy, built in Bogota in the early 1960s, which turned into a city of one million inhabitants (see Figure 3.18). Ciudad Kennedy became one of the important projects funded by the Alliance for Progress, to promote "the ability of democratic government to promote the welfare of its people" (Offner, 2012). Ciudad Kennedy was partially built applying an aided self-help programme: of the more than 10,000 homes initially planned, 7,000 were built through self-construction or "under the progressive development modality - housing designed to grow in stages, whose initial phase is a basic module of services". (Goossens & Gomez Meneses, 2015: 122). However, Ciudad Kennedy was largely inaccessible to the '(very) poor'. The minimum income requirements for mortgage loans excluded at least half of all Bogotanos, which made Ciudad Kennedy a neighbourhood for government employees looking for rental housing (Offner, 2012).

The first part of Ciudad Kennedy, originally called Ciudad Techo, started in the early 1960s, six kilometres from the city. Almost nothing is left of the first houses that were based on self-construction.

> "The design of dwelling in Ciudad Kennedy fails completely in the recognition of the limitations of self-help. Conventional brick-walled and asbestos cement-roofed houses are much too complicated for unskilled self-help labour, and the result has been that only 25% of the total labour was done by self-help. To speed up the construction, the ICT had to contract professional builders to do the rest of the work, in total negation of the original purpose; and in spite of that, a house takes an average of 28 weeks to be completed." (Arboleda, 1965: 13)

Although an attempt has been made to develop a district on the basis of self-organisation, due to a lack of time and of financial and technical assistance from the government, the construction was taken over by the market. As a result of these developments, Ciudad Kennedy can be more appropriately regarded as a planned new town than as a city based on self-organisation (Figure 3.19).

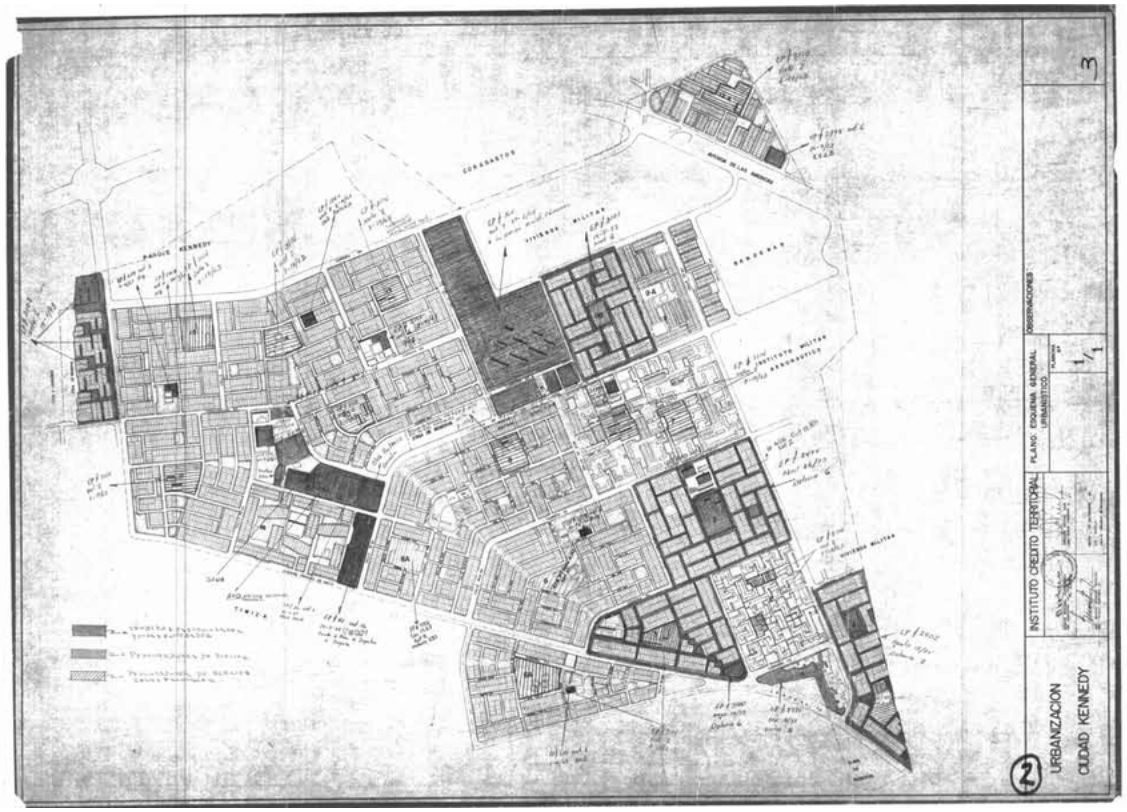
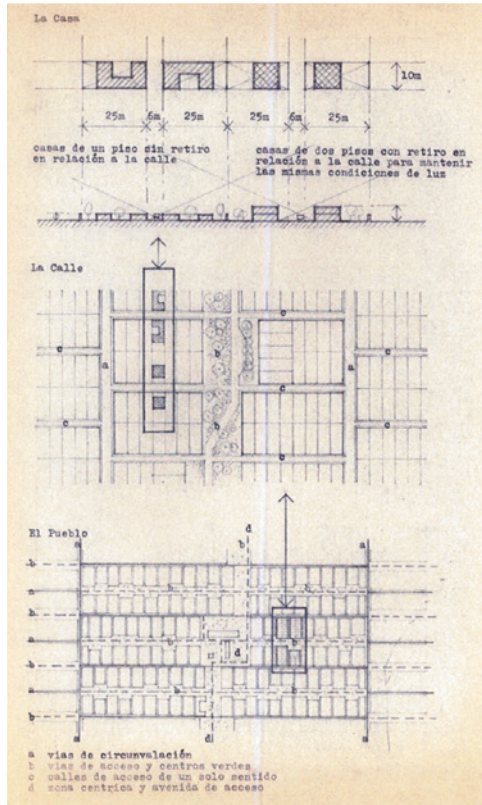


Figure 3.18. Plan of Ciudad Kennedy (Source: Goossens & Gomez, 2015: 131)

Figure 3.19. Ciudad Kennedy in 1964 (Source: Orduz, in Sociedad Colombiana de Arquitectos, 2000)



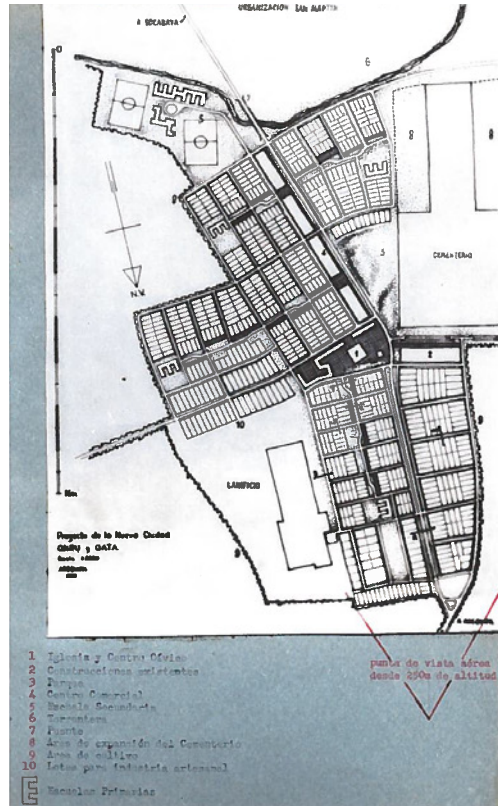


Figure 3.20. Turner's schemes for a new town near Arequipa. (Source: Gyger, 2013: 357-358)

3.5.4. Scaling up the sites & services scheme

With the thin demarcation that exists between a completed sites & services scheme and a top-down planned new town (Figure 3.16), it becomes useful to investigate whether the upscaling of the sites & services scheme would possibly lead to a self-sufficient town or city. For example, Turner's ideas for a satellite city near Arequipa show the possibilities for a large urban expansion based on sites & services schemes. Unlike Crane, who saw the self-help concept as a method for the short and medium term, Turner also saw it as the basis for a new model of urbanisation for the Global South (Harris, 2003). Looking for a large-scale and long-term application of aided self-help, Turner proposed a large-scale, systematic programme based on the sites & services scheme, starting at the scale of the dwelling and ending at the scale of a district.

Figure 3.20 (left) shows Turner's schemes for the dwelling, the street, and the town. Figure 3.20 (right) shows the masterplan of the district with the location of urban facilities. In such cases, the government only had to acquire the necessary land, which made habitation possible with an absolute minimum of facilities, and as soon as the users were well-enough established, this could be repeated (Gyger, 2013). Turner argued that 'the state's role should be precisely this, to direct and co-ordinate existing forces and resources and not to abandon them to create havoc or attempt to replace them' (Gyger, 2013: 146). Gyger (2013) states that such a set-up, in which the government carefully creates conditions for organised self-builders, is, in theory, a workable scheme but in practice it means that the government must do more than usual and must implement it quickly, comprehensibly, and on a large scale.

Examples of upscaling sites & services scheme show the vulnerability of facilitating self-construction and self-organisation and the importance of continued government support. Reducing construction costs by involving residents in the works may increase costs, due to the need of supervision and the slow pace of construction activities. Construction is then usually outsourced to contractors and as a result, the whole idea of combining planning and self-organisation and the idea of a city for different income groups disappears, because the lowest-income groups cannot participate in such developments and are excluded (Peattie, 1982). Upscaling requires government agencies to maintain a leading role and ensure that residents continue to have the space and basic resources to develop their own homes. There are some few examples of this, in which the original site was so successful that it was expanded following the same sites & services scheme. One of these good practice examples has been further investigated in the context of the new town, Ciudad Guayana (see Chapter 6).

Another scholar that has studied the upscaling of the sites & services scheme is Norwood (1973), who also sees its opportunities as the basis for a self-sustaining community, where business and employment are created. From a planning point of view, the sites & services scheme can be the basis of a new town, because the subdivision of the land in individual plots makes an important distinction between private and public ownership. Subsequently, it is a requirement that the government (or the official landowner) appropriate a serious role in the implementation of the policy, which should not be limited

to providing land tenure. Facilitating funding models for each income group, educating residents, and supporting community building can ensure that self-organisation can be maintained, as the basic principle of sites & services. Technical, administrative and social support are indispensable, otherwise it becomes (or remains) a utopia (Gyger, 2013).

Mutual aid can be very useful within the concept of upscaling the sites & services scheme. Ideally, mutual aid may be used for house construction, so that several houses can be built by a group of residents. This has the advantage that their specialisms and skills can be shared and used for the construction of all dwellings (Koth, 1965; Laquian, 1983). Communal facilities such as schools, roads etc. could also be developed by mutual aid. Guidance is, however, essential, not only in technical and financial aspects, but also in community building, because the vulnerability of mutual aid lies in need of a continuous presence of a common drive within the group (Abrams, 1964). Mutual aid as a basis for the development of a community was also linked by Turner to the idea of upscaling, because he stated that a group of people can create greater involvement for larger urban processes (Harris 1997; 2001; Gyger, 2013).

3.6. Conclusions

This chapter focuses on the origin and evolution of the aided self-help policy and its sites & services scheme in Latin America.

At the end of the 1940s, the economic and policy links between the United States and the Latin American countries increased with the establishment of the OAS. Within this context, Jacob Crane started promoting the aided-self-help policy as early as the 1940s in Puerto Rico and the Latin American region. In the 1950 – 1970 period, the rapid urbanisation of the region and the housing problem became an issue of great attention within this relationship. Decent affordable housing was recognised as an important carrier of a healthy economy. This was the basis for the implementation of international housing policies by which the United States sent money and expertise. It also led to the establishment of CINVA, the Inter-American knowledge and training institute for low-cost housing in the region. In 1961, the Alliance for Progress

Aided self-help

1904
First aided self help policy Sweden

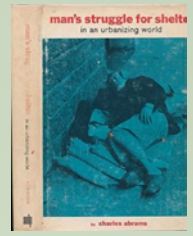
1939-1947
Jacob Crane, head International Housing Office

1918 Geddes, Indore

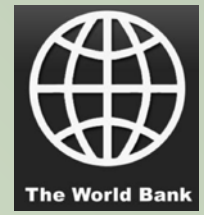
1951 CINVA

1951 World Wide Housing . J. Crane

1961-1973 Alliance for Progress

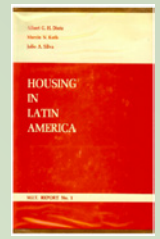


1964 Abrams, Man's struggle for shelter



1973-1980 World Bank supports Self-help

1957-1965 John Turner, Peru



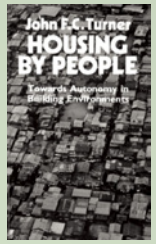
1965 Housing in Latin America

1976 Habitat I, Vancouver

1939 Ponce Puerto Rico, early version S&S

1957 Arequipa, Peru, Turner

1961 Ciudad Kennedy, Colombia



1976 Turner, Housing by people

1952 - 1959 23 de Enero

1961-1966 Ciudad Guayana

Latin America

1996 Habitat 2, Istanbul

1978 UN HABITAT

1980s shift towards market in housing

1960s shift in planning perspectives

1961 US AID, promoting self help, focus LA

1959 Inter-American Development Bank

1962 Cuba Crisis

1948 Organisation of American States

Until 1950s, traditional housing by state

1940s onwards, rural-urban migration

1920s onwards, urbanization - sprawl

1914 discovery oil Venezuela

Start self organised urbanisation

1950s - 1960s Promotion self help worldwide

1900-1920 1930 1940 1950 1960 1970 1980 2000

Figure 3.21. Timeline of aided self-help in the Latin American context

supported the implementation of national housing policies and programmes in most countries of the region. In Figure 3.21 the most important landmarks related to aided self-help policies in the Latin American region are shown, to give insight into the connection (timewise) between projects, policies, and the discourse.

In addition to financing, the international exchange with the United States brought an exchange of knowledge, which provided research and experiments in the search for answers to the housing problem in the region. John Turner's academic publications advocating progressive development contributed to the international dissemination of progressive development ideas. The aided self-help policy and the sites & services scheme received wider attention and were increasingly promoted as a housing solution. In the 1970s, aided self-help was strongly recommended and funded by the World Bank in countries throughout the Global South. The first United Nations Habitat Conference (1976), established aided self-help as the most important housing alternative for low-income groups, and recommended it to be implemented as a housing policy in all countries of the Global South. In the 1980s, during the rise of neoliberal polices and market ideas, there was a gradual limiting of the role of the aided self-help policy. The new housing policies emphasised public housing finance and housing subsidies and the legalisation of land titles.

In the following chapters, two examples of urban development in Venezuela in the 1950s and 1960s will be examined, showing two different attempts of the Venezuelan national government to face rapid urbanisation and the growing housing shortage.

Part 3. Empirical analysis

4. 23 de Enero, Caracas' modernistic landmark

The previous chapters, which form the conceptual framework of this research, describe how modernism gained a foothold in Latin America, and how, in the 1950s and 1960s, it developed in a rapidly urbanising society. It also reviewed how housing policy responded to the growing housing shortage during this same period and, influenced by international policies, produced models that combined modernist planning and self-organisation.

This chapter analyses, on the basis of the case study 23 de Enero in Caracas, Venezuela, how a modernistic CIAM new town, as a symbol of modernisation, originated and developed in the context of rapid urbanisation and what the consequences were in a country that wanted to modernise quickly and was confronted with self-organisation processes. To answer this question, different research methods were used: literature research, archival research at the Villanueva Foundation, in Caracas, Venezuela and at MIT and Harvard University, Cambridge, USA. Fieldwork in Caracas included interviews with experts and residents. The literature research consisted of an analysis of literature on modernist architecture and planning in Venezuela from the 1950s until the 21st century. The original plan and the history of the development of 23 de Enero from the 1950s to the early 1960s were analysed on the basis of literature studies and archival research. This was complemented with fieldwork which took place in 2009 and (informal) interviews with residents and experts. For the former, various neighbourhoods and superblocks of 23 de Enero were visited with a community leader of the area. For the later, an informal interview was held with with Paulina Villanueva, daughter of Carlos Raul Villanueva, the architect of 23 de Enero, during a visit to the archives of the Villanueva Foundation. Alfredo Brillembourg and Hubert Klumpner of the Urban Think Tank in Caracas were crucial for the accessibility of 23 de Enero and its inhabitants.

The chapter consists of four sections and the conclusions. It starts with describing the modernisation process of Caracas, with the role of modernist architecture and planning, of Banco Obrero as an engine of urban renewal in Venezuela, and the design of superblocks as main elements in new town development. The second part analyses the planning and construction of 23 de Enero, and its significance as an icon of modernist city planning and design in Venezuela and even Latin America. Next, the 1958 revolution and the rapid and informal occupation of 23 de Enero are described, and how this led to the abrupt end of the Venezuelan modernist urban renewal policy. The fourth part describes the evaluation and recommendations of CINVA, which had a major impact on housing policy.

4.1. The state-driven modernisation of Caracas

Architecture and urban design played an important role in Venezuela's rapid modernisation process, which peaked in the 1950s. This produced unique examples of the application of Modern Movement ideas in Latin America. This essay describes the driving force behind modernising the country, the influence of the Modern Movement on the planning and design of Caracas, the role of Banco Obrero, and of its Taller de Arquitectura (TABO), in the design of superblocks that formed the basis of the 23 de Enero project.

4.1.1. Oil as the motor of modernisation of Venezuela

In the 1920s, Caracas was one of the poorest capitals in Latin America (UTT, 2005). From 1925 onwards, the discovery of oil in the Maracaibo region in Eastern Venezuela led to the transition from a rural, agricultural society Venezuelan society into a highly urbanized one. The international interest in oil stocks immediately led to major growth in the economy. Cities grew very rapidly, particularly Caracas. The population grew from 92,000 in 1920 to 1.1 million inhabitants in 1961 (Gonzalez Casas, 2010). The period between 1926 and 1961 is seen as "Venezuela's great urban revolution" (Friedman, 1966: 41). Caracas grew and modernised so rapidly that, by the end of the 1950s, it had become the most prosperous city in Latin America, endowed with the most modern infrastructure (Brillembourg et al. ,2005).

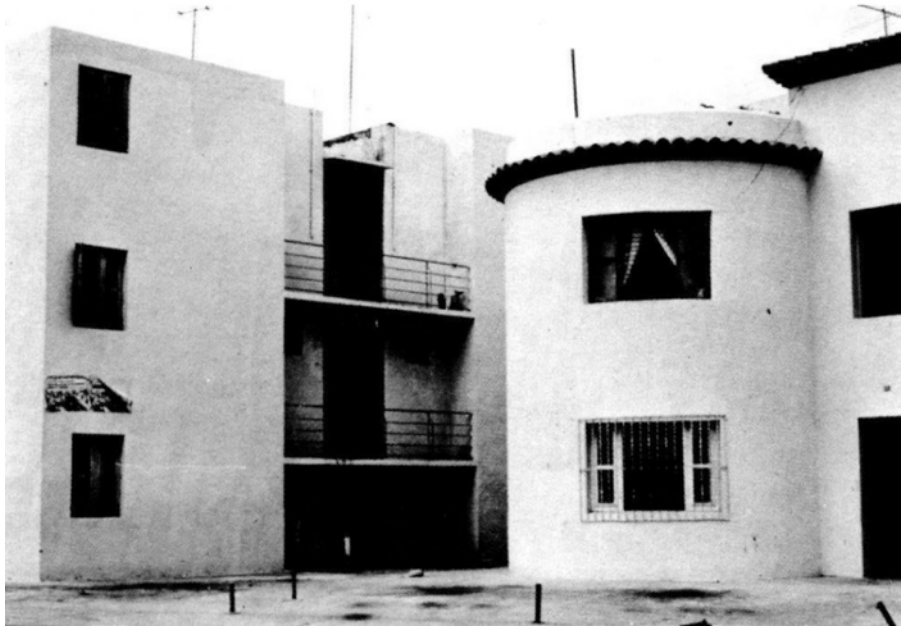


Figure 4.1 Bella Vista Project in Caracas 1938. (Source: https://fundaayc.wordpress.com/2013/09/14/1937%E2%80%A2-urbanizacion-bella-vista/)

At the beginning of the 20th century, other Latin American countries experimented with modernism in the field of architecture and urbanism (Fraser, 2000). Venezuela, however, had a conservative president, Juan Vicente Gomez, who governed intermittently from 1908 until his death in 1935. Gomez emphasised the colonialist history of the country and encouraged the revaluation of Spanish culture. He inhibited the technical modernisation of the country and even closed the universities from 1912 to 1922. Gomez mainly improved the accessibility of certain parts of the country, and focused on Maracay, located 100 kilometres from Caracas (Gonzalez Casas, 2010).

A gradual shift towards the modernisation of Venezuelan urban and societal issues did not take place until the end of the 1930s (Fraser, 2000). With oil revenues, the Venezuelan economy flourished, and modernisation gradually became embedded in urban development processes. Caracas became a laboratory and breeding ground for modern trends in architecture and art (Fraser 2000). A project that shows this development is Bella Vista (6 km from Caracas), an innovative housing project built in 1937 with a variety of building systems, including prefabrication. The project was comprised of detached and terraced houses, and the very first multi-unit apartment buildings in Venezuela. The latter consisted of three residential buildings with two to three floors and 22 apartments (Figure 4.1).

Despite soaring economic growth, not all people of Venezuela enjoyed the rewards of this process. Unemployment was still high in sectors other than oil, while the oil trade was reserved for a small part of the population. Cities could not cope with the level of migration and rapid pace of modernisation, while poverty and inequality started to shape urbanisation processes.
The growing housing demand led to the informal expansion of cities and accessibility became increasingly problematic. It soon became clear that due to a lack of local knowledge in urban planning and design, expertise needed to be imported to be able to cope with the new urban problems (Fraser, 2000).

4.1.2. Modernistic planning and design in Caracas

To regulate urban development and solve the fundamental problems of Caracas, the Municipal Urbanism Committee (CMU) was established in 1937. Shortly thereafter, the federal government of Caracas district launched the Direccion de Urbanismo (DU, Management of Town Planning). President Lopez Contreras (1935-1941) dreamed of making Caracas 'the Paris of the new world' (Fraser, 2000: 102) and instructed the DU to produce a masterplan for Caracas in collaboration with a group of foreign advisors, under the supervision of the CMU (Gonzáles-Casas, 2010). Maurice Rotival, a French urbanist, became the most important foreign urban adviser during this period (Gonzales-Casas, 2010; Hein, 2002a).

The development of the Plan Monumental de Caracas, also called the Plan Rotival, started in 1938. This was the first urban plan in which Caracas is perceived as a whole and presented on a large scale (Figure 4.2). The vision of Caracas prepared by the French / Venezuelan team, led by Rotival and Carlos Raul Villanueva, followed the principles of the Beaux Arts approach. A multifunctional nucleus would be developed along broad infrastructural corridors with a central monumental axis that would precede a future expansion to the East (Gonzáles-Casas, 2010).

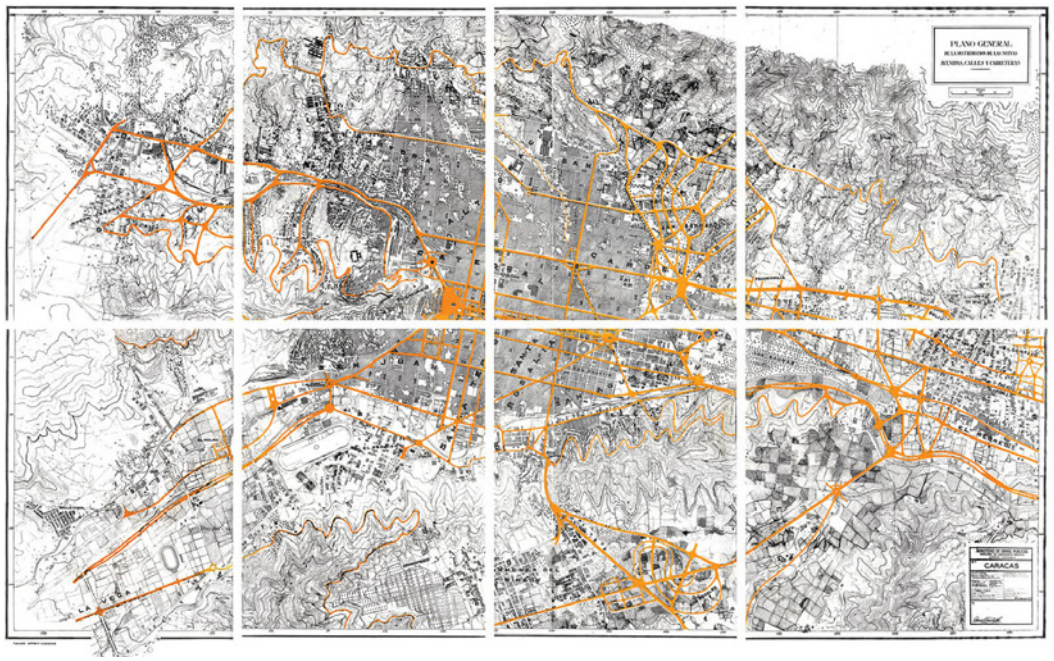


Figure 4.2. Plan Rotival de Caracas, 1938. New avenues, streets and highways plan (Source: CCS, 2019 http://guiaccs.com/en/planos/the-rotival-plan/)

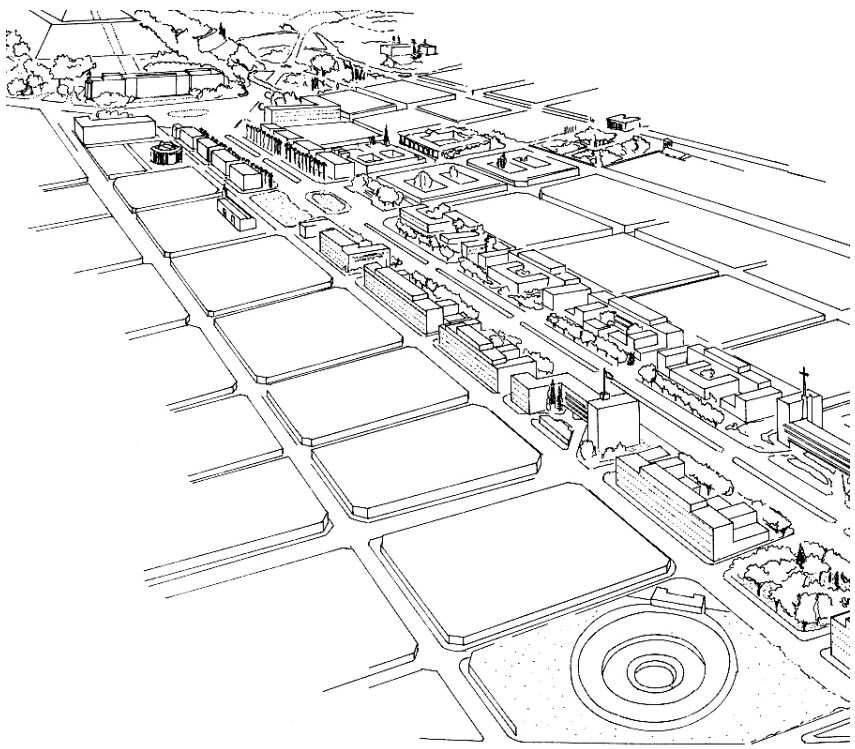


Figure 4.3. Plan Monumental de Caracas: the new monumental axis (Source: CCS, 2019: http://guiaccs.com/en/planos/the-rotival-plan/)

Figure 4.4. Avenida Bolivar and the Simon Bolivar Centre in 1953 (Source: CCS, 2019: http://guiaccs.com/en/zone-1/)

The Rotival Plan was highly influential and significant for urban planning in Caracas, producing a crucial shift in the perception of the city and urbanisation in Venezuela (Fraser, 2000; Gonzales-Casas, 2010; Hein, 2002a). More importantly, the proposed monumental axis, Avenida Bolivar, became the central axis in the development of Caracas and transformed the structure of the city. Although the plan was not entirely implemented due to a change in government in 1941, the Rotival plan's central axis produced such a profound transformation in the city that all later plans continued to refer and to connect to it (Figure 4.3).

In the central square of the Plan Rotival, the beginning of Avenida Bolivar, the Simon Bolivar Centre was built in the late 1940s. This important project clearly reflected the increasing modernisation of the city, in which the influence of CIAM and Le Corbusier could be clearly recognised. The Centre is an impressive modernist complex with two 25-storey towers that serve as the physical and governmental centre of the city and have become important landmarks on the beginning of Avenida Bolivar (Figure 4.4). In addition to government services and dwellings, the complex accommodates shopping

Figure 4.5. El Silencio, 2009

facilities at different levels, and a mobility node. The ‘twin towers’ of the Bolivar Centre still determine the image of the city and form Caracas’ urban centre.

Another important milestone in the modernisation of Caracas was the regeneration of a slum in the centre of Caracas named El Silencio in 1942. The project was designed by Carlos Raul Villanueva and developed on the original location of the Centro Civico of the Rotival Plan. Villanueva succeeded in establishing a link with the historic colonial pattern of the city’s grid with clearly defined neighbourhood units (the ‘unidad vecinal’) of modernism. He did this by combining the functional plan with the traditional neighbourhood atmosphere with green outdoor spaces and a form of densification by adding seven floors with modern amenities designed in a modernist style on top of the colonial arcades (Fraser, 2000; Velasco, 2015) (Figure 4.5).

El Silencio, 2009

Box 1: Carlos Raul Villanueva

Carlos Raul Villanueva became the most important architect and city planner in Venezuela in the 1940s and 1950s. He is included among the eight Latin American masters who initiated and put into practice cultural and architectural innovations during the period between 1929-1960 (Brillembourg, 2004). The year 1929 refers to the year when Le Corbusier first came to Latin America to give lectures in Buenos Aires, Montevideo, and Rio de Janeiro. Architects and planners - including Villanueva - were strongly influenced by his ideas and visions and the Modern ideas of the Functional city gained a foothold in South America (see Chapter 3).

Villanueva's influence was not only shaping the built environment, he also worked as a teacher, he initiated and published innovative ideas about social housing and the reciprocal relationship between contemporary art and architecture. His theory, called the 'Architectural Solution', states that planning and architectural design are not different professions, but they reinforce each other. He claimed that in urban planning, high-quality architecture is more important than theories about density and communication; that no democratic process was needed to design, the architect should decide (Moholy Nagy, 1964). Aesthetics was of paramount importance in his thinking, reflecting his focus on the importance of integrating art into architecture as a joint aesthetic expression. Villanueva thought that architecture could, at best, be an instrument for social improvement, cultural renovation, and urban transformation (Brillembourg, 2004: 73).

Figure 4.6. Ciudad Universitaria, 2009

When it comes to modern architecture and urban planning in Venezuela, the Universidad Central de Venezuela (UCV) in Caracas designed by Carlos Raul Villanueva is considered the most important achievement (Fraser 2000; Carranza 2014). Built between 1944 and 1967, UCV is centrally located in Caracas, connected to Avenida Bolívar by its Botanical Garden. In this project, Villanueva applied his ideas about integrating art and architecture on a large scale, which led to commissioning artists such as Alexander Calder, Fernand Leger, and Jean Arp to work on the project (Byard and Klein, 2005). In UCV, Villanueva's main ideas came together: in the planning of the campus; in the architecture of the university buildings; and in the reciprocal relationship between art and the build environment (Figure 4.6). UCV was declared a world heritage site by UNESCO in 2000, citing: 'The university integrates a

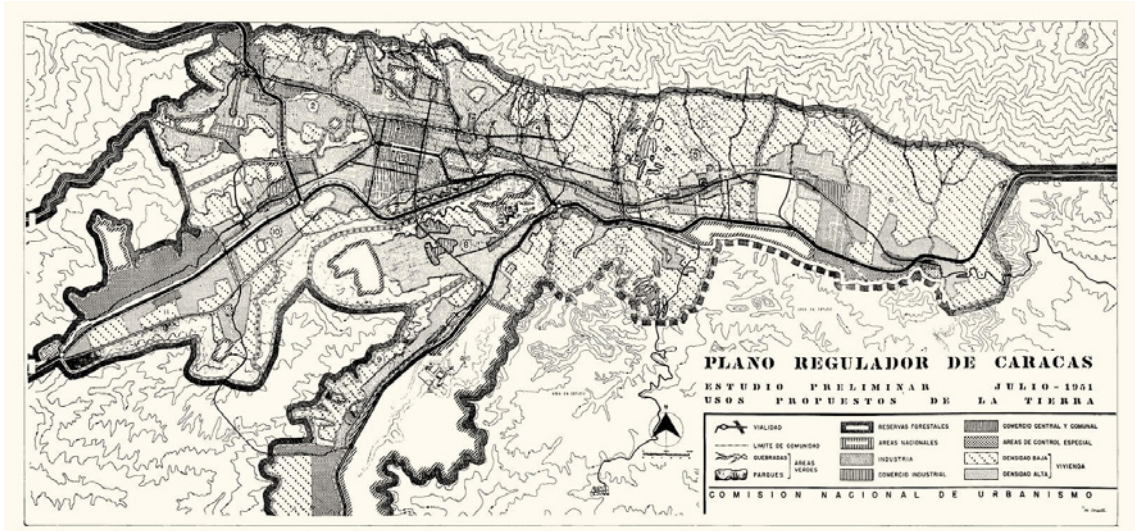


Figure 4.7. Plan Regulador of Caracas, preliminary land use study, 1951, with the location of the 12 sub-municipalities (Source: CCS, 2019; http://guiaccs.com/en/planos/the-zoned-city/)

large number of buildings, art and nature into a clearly articulated ensemble, creating an open and dynamic space, where the art forms become an essential part of the inhabited place. The forms and structures express the spirit and technological development of their time in the use of reinforced concrete' (UNESCO, 2019: 1).

In 1946, the Comission Nacional de Urbanismo (CNU, Town Planning National Commission) was established with the purpose to update the existing Plan Rotival. Maurice Rotival was, again, invited as an advisor along with other well-known North American and international planners influenced by the ideas of the Modern Movement such as Francis Violich, Jose Luis Sert, and Robert Moses. The new master plan, the Plan Regulador, was presented in 1952, to accommodate a predicted growth of 1.7 million inhabitants (over a period of 60 years). Despite Rotival's French beaux-arts approach (Hein, 2002), under the influence of the other planners on the team, this plan adopted the main ideas of CIAM's Functional City. This led to a functional separation of housing, work, and industry, prioritising zoning over the previously dominant formal and aesthetic considerations. The plan

also attempted to steer the suburban growth of the city creating a network of highways as the backbone of a complex circulation system with the Avenida Bolivar as the main artery for the new centres of Caracas. This process of decentralisation was supported by CIAM's 'neighbourhood unit' idea as a matrix of residential urban expansion (Barrios, 2012). Accordingly, 'the city was subdivided into 12 sub-municipalities ('communities'), each based on a number of residential areas' (Gonzáles Casas, 2010: 237) (Figure 4.7).

4.1.3. Banco Obrero as an instrument for modernist urban development

In 1942, the Banco Obrero asked Villanueva to make a plan for the redevelopment of the residential area of El Silencio, one of the largest slums in Caracas, near the city centre. Villanueva was faced with the singular task to restructure a highly dense inner-city area with no comparable projects to refer to. This endeavour meant a substantial change in the role of Banco Obrero. The bank not only financed, but also developed and built the housing project. Never before had such a large-scale building project been financed with public money: El Silencio was the first large-scale urban regeneration project in Venezuela and Latin America (Moholy-Nagy, 1964).

El Silencio heralded the Banco Obrero's policy to demolish existing slums and replace them with social housing. The demolition of old neighbourhoods was considered an important step in the modernisation of the city and was used as an important publicity tool by President Isaias Medina. Following the development role that the bank was assuming, Banco Obrero fell under the Ministry of Public Works from 1949, establishing a more direct relationship with the operational organisations. As a development bank dealing with social housing, which enjoyed a relative autonomy, Banco Obrero survived the politics of several regimes with different political orientations and different agendas in the 1940s and 1950s (Klein, 2005).

Box 2: Banco Obrero (Worker's bank)

Banco Obrero (Worker's bank) was founded in 1928 by President Juan Vicente Gomez as an independent government institution with the original task of financing the purchase of homes by (poor) workers who were affected by a growing housing shortage. After the death of Gomez in 1935, the bank became a major player in the urban renewal and urban development of Venezuela. From 1951, the Banco Obrero, through his Taller de Arquitectura (Architecture Studio) (TABO), was responsible for the planning, design, and construction of homes for the middle and working class of the country. Carlos Raul Villanueva was appointed as the chief architect and consultant of Banco Obrero. The bank became the most important government instrument for urban development and urban regeneration in Venezuela, at a moment when modernist architecture and urban planning were at their peak in the country. Between 1951 and 1958, the bank built 28,000 homes in 21 cities, while three-quarters of these were in Caracas (Meza, 2011). Banco Obrero was a unique case in Latin America, as no other national government provided housing financing to workers at that time (Fraser, 2000).

In building practice, the climax of modernist ideas was realised during the regime of dictator Marcos Perez-Jimenez (1952-1958). Perez-Jimenez wanted to make Venezuela the superpower of Latin America by rapidly modernising the country. Revenues from the oil industry were used to realise this transformation. He called his policy El Nuevo Ideal Nacional (The New National Ideal), in which 'the physical transformation of the city was linked to the material, moral, and intellectual improvement of the inhabitants of the country' (Velasco, 2015: 36).

During this period, the national policy for physical transformation followed the Functional City approach. Perez-Jimenez had strengthened ties with the USA, which caused a shift in the approach of city modernisation; from the European (French)-centric model of its predecessors to a North American-centric model. This meant a shift to a more functionalist, efficient, and technological model. An important icon of the new approach was the superblock. The implementation of superblocks made it possible to rapidly develop and build large-scale housing projects with modernist high-rise buildings. These developments also provided an economic stimulus by creating more jobs, expanding the construction industry, and removing the 'ranchos', a Venezuelan term for unwanted informal urbanisation or self-built slums.

4.1.4. TABO and the design of the superblock

In 1951, a separate studio was created within Banco Obrero, the 'Taller de Arquitectura (Architectural Atelier) del Banco Obrero' (TABO), with Villanueva as chief architect leading a group of progressive professionals and students. The creation of TABO was inspired by the 'Atelier des Batisseurs', the CIAM research centre that brought together designers, engineers, and other technicians in the 1950s. Within TABO, ideas and research were exchanged, presented, and discussed in exhibitions, conferences, and publications (Klein, 2007).

TABO's main aim was to find a solution for the growing urbanisation and housing demand affecting Venezuela (Fraser, 2000; Velasco, 2015), but also to renovate the contemporary Venezuelan 'concept of habitat', especially in the field of social housing (D'Auria, 2013). The main focus of TABO's designs was the city of Caracas, of which the number of inhabitants had doubled

Figure 4.8. Superblock in Cerro Grande, approximately 1954 (Source: Castillo Melo, 2015)

between 1937 to 1950, from 400,000 to 800,000 (Fraser, 2000). Under the influence of the functionalist principles of CIAM and Le Corbusier, and the generally felt urgency to find a large-scale alternative to informal urbanisation, the group studied the possibilities of vertical housing blocks, to obtain higher densities (Carlson, 1960; Fraser,2000; D 'Auria 2013). A large-scale approach to the housing problem was drawn up by the TABO in the Plan Nacional de la Vivienda (National Housing Plan 1951-1955), which provided more than 12,000 homes in 15 different cities (D'Auria, 2013).

In accordance with the guidelines of the National Housing Plan regarding high-rise buildings, the TABO team designed the Venezuelan superblock. The first superblock studies were presented on 8 November 1951, on the International Day of Urbanism, which was held that year in Caracas. It is obvious that Le Corbusier's l'Unité d'Habitation was the inspiration for the superblock, but the TABO team adapted the design and the implementation of the blocks to the local topographical and cultural conditions (such as the warm climate) which is expressed in the attention to ventilation and the inclusion of more outdoor spaces. Unlike the l'Unite d'Habitation, however, the Caracas superblocks do not have communal facilities such as shops or meeting places, they only have apartments.

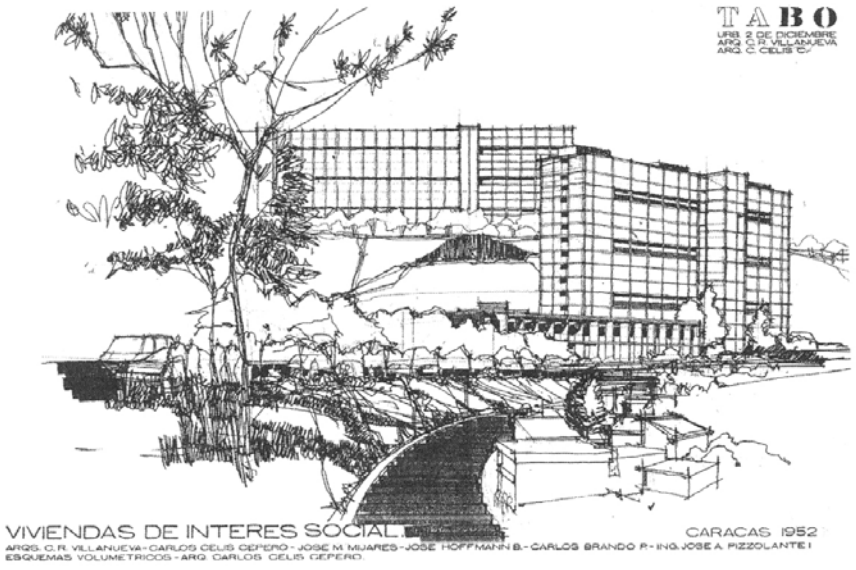
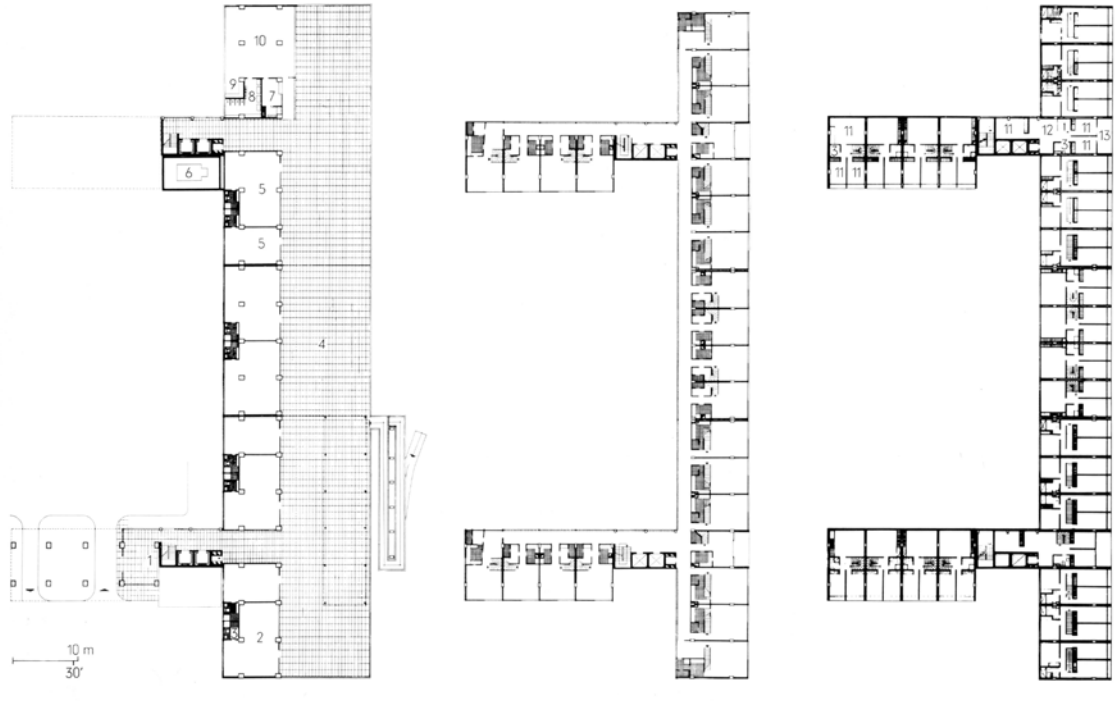


Figure 4.9. Main facade and distribution plan of El Paraíso in Caracas (Source: Real, Gyger, 2013: 120 and Villanueva, 2013: 158)

1. Information, 2. Restaurant, 3. Bathroom, 4. Communal terrace, 5. Commercial, 6. Incinerator, 7. Administration, 8. Lavatories, 9. Kitchen, 10. Day nuresery, 11. Bedroom, 12. Small living room, 13. Terrace



Initially, three prototypes were made: for El Paraíso and Cerro Grande, designed by architect Guido Bermúdez, and for Quinta Crespo, designed by Villanueva and Carlos Celis, (not executed) (Villanueva, 2013). The superblock built in 1954 in Cerro Grande in the south of Caracas was a carefully-designed building with duplex apartments (D'Auria, 2013; Velasco, 2015; Carlson, 1960) (see Figure 4.8). El Paraiso (Figure 4.9), built between 1952 and 1954, was in its design a more ambitious project but was never completed and, in the end, only comprised of one superblock, 'oriented towards the best views of Caracas', and two low-rise blocks (Villanueva, 2013: 61).

On the hills of Caracas, many social housing projects were commissioned by Banco Obrero and designed by Villanueva and his co-architects. The superblocks are the most important carriers of new neighbourhoods or entire districts and are part of an ensemble of buildings consisting of 4 storey, low-rise residential blocks without a lift,. Superblocks stand alone or in small groups of three, in larger groups of eight to 13 and in one large group of 38, the group that forms 23 the Enero.

A Venezuelan superblock is a 15-storey residential block with one stairwell and 150 apartments. With this high-rise design, several superblocks could be built on a relatively small area (Velasco, 2015). The number of residents in a superblock varied between 1100 and 1500. This allowed for the realisation of large-scale urban renewal projects through the distribution of 97 superblocks throughout the city of Caracas (85 superblocks on 12 different locations and 12 in La Guaira, next to the airport), which accommodated nearly 180,000 people (Carlson, 1960). This was the largest investment ever made in social housing in Venezuela, and it made Venezuela the largest investor in social housing in the whole of Latin America in 1959, with the exception of Puerto Rico (Carlson, 1960).

In practice, the superblocks were executed in different versions, with different dimensions, which can be distinguished from each other by the number of external stairwells they have. In addition to the conventional superblock with one external stairwell that gives access to all the apartments, larger superblocks were built with two and three stairwells. Merging individual superblocks created buildings for 300, 450 and even 520 apartments (Velasco, 2015).

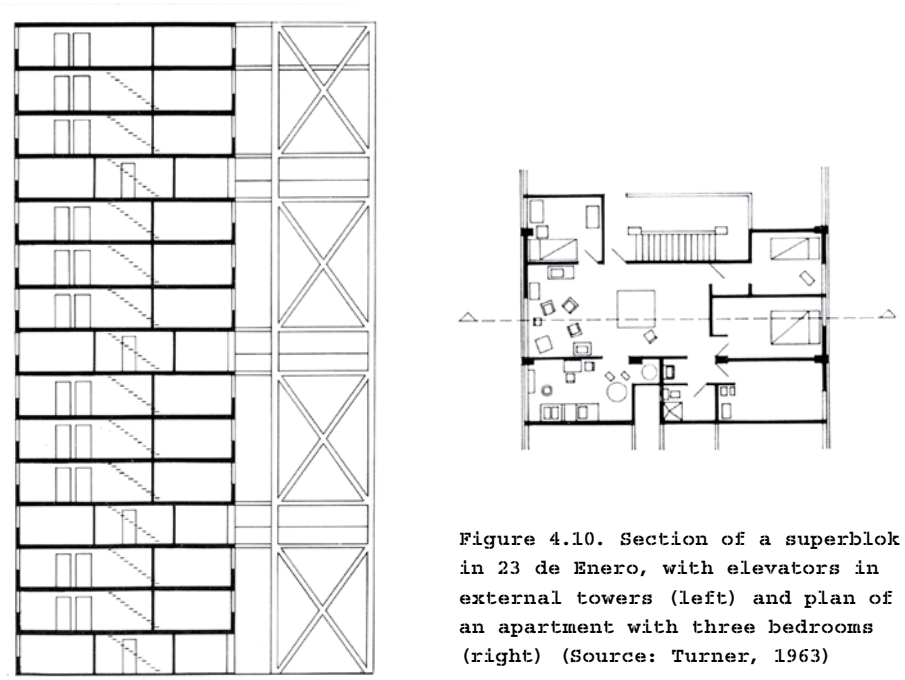
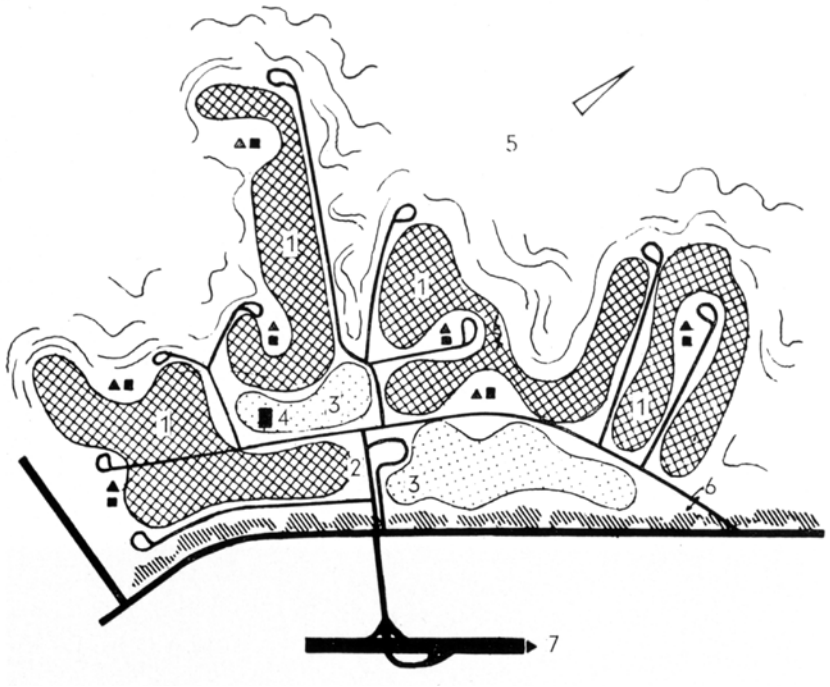


Figure 4.10. Section of a superblok in 23 de Enero, with elevators in external towers (left) and plan of an apartment with three bedrooms (right) (Source: Turner, 1963)

Once the El Paraíso and Cerro Grande projects were finished, TABO developed a new type of superblock. This was more simplified, more economical, could be built faster, and was used in several projects which transformed Western Caracas: Lomas de Pro-Patria, Diego de Losada, Lomas de Urdaneta and North Atlantic; and the Altos residential units of Cútira, Cotiza, Artigas and La Vega (Villanueva, 2013). The superblock developed for the Diego Losada housing project in 1953, the so-called 'DL-Modificado-1955' block, turned out to be the most economical and, structurally, the strongest. This version of the superblock had a reinforced concrete skeleton and consisted of a rigid frame with a terracotta filling (Meza, 2008; Byard and Klein 2005). The superblock consisted of 15 floors with 10 apartments on each floor, which had two, three, or four bedrooms. Two elevators were placed in an external tower, with stops at the fourth, eighth and 12th floors, which had open galleries connected to internal stairwells to access all the other floors (Carlson, 1960) (Figure 4.10).

The grouping of the blocks was problematic because of their location on the slopes around Caracas. The hills only allowed terraced formations in one direction, which determined the orientation of the superblocks to the



1. Residential buildings
2. Administration
3. Civic and commercial centre
4. Church
5. Hills to reforest
6. Protected green areas
7. Highway to Caracas

Figure 4.11. Basic scheme of a project with superblocks (Source: Moholy Nagy, 1964: 218)

Northwest. In most cases, the lower blocks were placed perpendicular to the superblocks and thus formed inner areas where the communal facilities were located. Banco Obrero developed a basic scheme for the new urban developments that was used for the various extensions of the superblocks. The basic diagram in Figure 4.11 shows the relationship of the superblocks to the hills that surround Caracas, the infrastructure and the space between the residential and public areas, based on the accessibility to the central infrastructural axis that connects the area to the centre of Caracas. According to the principles of the Functional City, the blocks are placed in a spacious public zone, with separate infrastructure and facilities in centrally-located places.

The earlier built superblocks (1955 and 1956) have external stairwells, loggias and balconies and are monochrome white. They contain more elements and details focused on comfort, such as 'rooftop walkways and greeneries, cross-ventilation, and communal and commercial services at both the roof

Figure 4.12. General Marcos Perez-Jimenez inaugurates superblocks on 2 December 1955, the birthday of the General (Source: Velasco, 2015: 37)

level and on the ground floor, including day care centres and laundry facilities.' (Velasco 2015: 38). But later, the government pressed TABO to produce faster, following the Programa Presidencial, Erradicar la Vivienda Insalubre en Venezuela (Presidential Programme for the Eradication of Insalubrious Housing) (D'Auria, 2013). The result was an increase in production and a decrease in quality. Eventually a 15-storey residential block could be built in 42 days.

In the period from 1954 to 1958, 85 superblocks and 68 four-storey blocks were built in Caracas at several locations, but mainly on the North and West side of the city. In 1959, the newly built blocks consisted of 17,399 apartments for 160,000 inhabitants, representing 12% of the city's population (Turner, 1963). In smaller cities across Venezuela, such as Maracay, Valencia and Ciudad Bolivar, the social housing projects by Villanueva and his co-architects were built on a smaller scale.

At the end of the 1950s, the Venezuelan superblocks and the work of TABO were acknowledged internationally, and even acclaimed in various publications (D'Auria, 2013). For the Venezuelan government, the praise of its modernist approach represented a confirmation of the policy stated in 'El Nuevo Ideal Nacional'. Figure 4.12. shows the inauguration of a new neighbourhood with superblocks by Perez-Jimenez in December 1955.

4.2. Planning and building 23 de Enero

Of the various locations in Caracas where the superblocks were built, 23 the Enero formed the largest ensemble with 38 superblocks. The project is the most impressive exponent of the zest for construction that defined this period. The image of the superblocks is considered monumental, while 23 the Enero was called a 'mega structure' because of its characteristics, size, and facilities (Turner, 1963).

4.2.1. 23 de Enero: a modernistic new town in Caracas

From 1954 on, Villanueva and the TABO worked on the design of the large urban expansion 2 Diciembre, later called 23 de Enero. The project was 'the perfect setting for testing the ideal urban process of CIAM' (Brillembourg, 2000: 146). This was a very prosperous period in the economy of Venezuela, and Villanueva took advantage of the government's eagerness to create a modern image for the country. The underlying motive for the government was to hide the problem of the slums, which did not fit into the image sketched in the New National Ideal policy. Housing shortage was still a pressing issue for which a solution had to be found. (Brillembourg, 2000: 146). The design and building of superblocks was a way for the government to tackle the problem.

The original plan of 23 de Enero included 38 superblocks and 42 low-rise (four-floor) and medium-rise (eight-floor) blocks with a total of 9,156 apartments intended for 60,000 inhabitants (Villanueva and Pinto, 2000). Because of their location in the hills and their height, 23 de Enero's superblocks rise high above Caracas. It was designed as a self-sufficient city expansion. The plan included everything an inhabitant needed so it

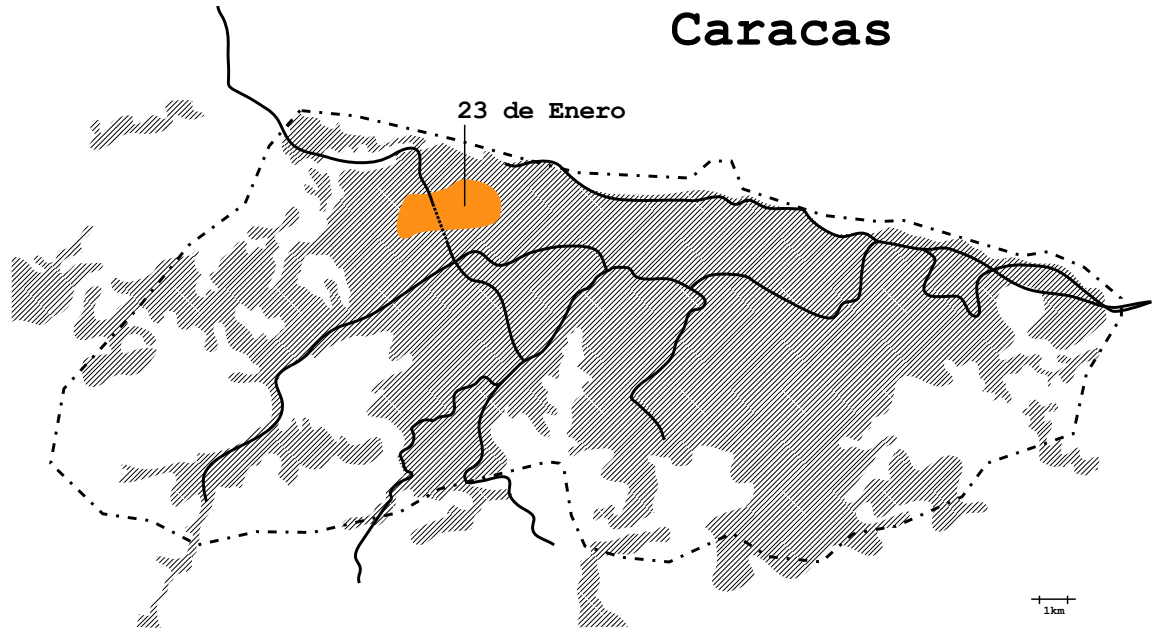


Figure 4.13. Location 23 de Enero in Caracas

was not necessary to come down from the high-lying new town. (Meza, 2008). Following the ideal of the Functional City, the basic scheme consists of several superblocks forming a neighbourhood with lower blocks and centrally located facilities such as schools, shops, markets, and a church. Smaller neighbourhood centres with parking facilities are distributed over the neighbourhoods.

The construction of 23 de Enero took place at a fast pace between 1955 and 1958 in three different phases, corresponding to the three sectors (East, Central and West), each one with four to seven neighbourhoods (Figure 4.14). The sectors are located next to each other separated by a green buffer, the valley between the East and Central Sectors, and an infrastructure zone which is now the Caracas-La Guaira highway. A perimeter vehicular system interconnects the three sectors and gives access to the city's motorways system. The accessibility within the sectors is served by a pedestrian circulation system that also interconnects the three sectors. Public transportation was provided through a bus system.

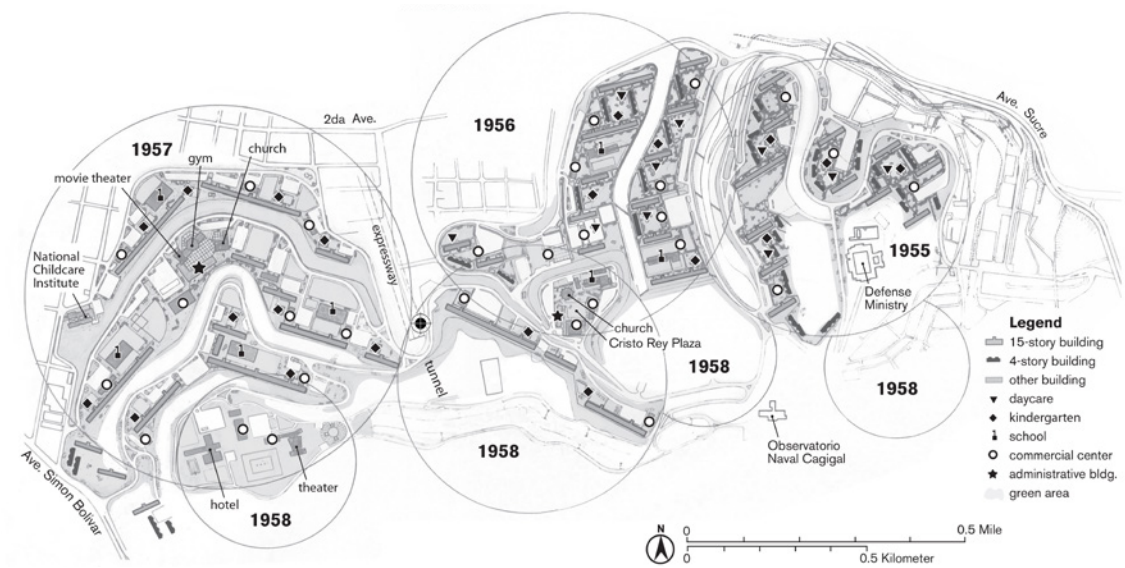


Figure 4.14. Plan for 23 de Enero from 1954, with the three phases (1955-1956-1957) of development (Source: Velasco 2015: 40-41)

The planning and design of the sectors was partly determined by the geographical location on the steep hills (Figure 4.15). In the East and Central sectors, neighbourhoods are formed by superblocks and low-rise blocks grouped around centrally located facilities. In the West sector, however, the spatial set-up is constrained by the difficult topography, on the steeper side of the hills. Superblocks are larger and placed parallel to the slopes and to the facilities.

The whole project had to be delivered quickly because of the publicity campaign of Perez-Jimenez. The first sector to be delivered was the East sector, in 1955. Soon after completion, these superblocks were rented out by the Banco Obrero to inhabitants coming from the ranchos in surrounding areas. The East sector has 13 superblocks, one of which is 50% larger than the basic superblock with two stairwells instead of one. Furthermore, this sector contains 26 four-storey blocks, four kindergartens, four childcare locations and 11 buildings for commercial facilities. All this led to 2,366 apartments and associated facilities for around 15,000 people (Villanueva and Pinto, 2000).

Figure 4.15. The West Sector of 23 de Enero (Source: https://nl.pinterest.com/pin/432627107952709545/visual-search/)

The second phase, delivered in 1956, concerned the Central sector with 13 superblocks, and three double blocks with two stairwells. Furthermore, this phase also included nine eight-floor blocks, two primary schools, six kindergartens, four childcare locations, 11 commercial buildings, a market, a community centre with a church, a cinema, and an administration building. This meant 2,668 apartments for approximately 20,000 residents (Villanueva and Pinto, 2000).

The third phase (1957) was the West sector, which also had 13 superblocks, five of which were super-superblocks with as many as three stairwells and three with two stairwells. This sector also includes seven low-rise blocks, three primary schools, seven kindergartens, 10 commercial buildings, a

market and a civic centre for 25,000 residents in 4,122 apartments (Villanueva and Pinto, 2000). The West sector is the part of 23 de Enero that is furthest away from the centre of Caracas and is less accessible by public transport.

4.2.2. 23 de Enero as icon of modernistic urban planning and design

The rather rigorous urban regeneration process carried out by the TABO under the direction of Carlos Raul Villanueva was celebrated internationally within the urban design and housing debates of that period. Until then, the modernistic urban landscape, realised in Caracas in a few years time in the 1950s, merely existed in the concepts of Le Corbusier and CIAM (Fraser, 2000). The debates made a link with the Plan Voisin (1925) for the centre of Paris, in which Le Corbusier argued for the demolition of dilapidated and densely built parts of the city and their replacement with high-rise buildings, plenty of public space and wide avenues for cars. The realisation of these concepts was difficult to achieve in Europe, but due to a combination of circumstances, such a major urban intervention was possible in Caracas. The superblock can be seen as the spatial realisation of the democratic ideals of the Functional City theory. It should have led into an improvement of the standard of living of a large group of poor citizens, promoting a political change. A prestigious CIAM planner, Jose Luis Sert, said that 'this new type of urban development proposed by the CIAM would encourage new, more democratic forms of civic interaction, put theory into practice' (Fraser 2000: 115).

Within the Latin American urban debate, such radical urban transformations were seen as necessary to solve the problem of informal urbanisation (Fraser, 2000). High-rise housing was considered the best physical alternative to the ranchos; the answer to the basic proposition that the living conditions of the poor population in the late 19th and early 20th centuries were unacceptable, without enough light, air, and hygiene. Under the egalitarian social principles underlying the 23 de Enero project, every household was neatly placed one above the other in apartments lifted from the ground in the fresh air with essential sanitary facilities. This modern alternative to the barrios was an indication of the coming together of progressive social policy and centralised political power aiming to change existing socio-economic conditions (Byard and Klein, 2005: 61).

Figure 4.16. East sector of 23 de Enero in 1958 (Source: Moholy Nagy, 1964: 145)

Because 23 the Enero is located on a hilly terrain, its urban design was based on terraces, alternating ensembles with squares and densely planted avenues, bringing about a human, more horizontal dimension to the buildings, 'a pleasure for children to stay in' (Moholy Nagy, 1964: 146). This human scale was an important starting point for Villanueva's designs, according to Paulina Villanueva and Sibyl Moholy Nagy (Villanueva and Pinto, 2000), but perhaps that was precisely the struggle within the concept of the new urban form, in which the superblock is central (Figure 4.16). Hitchcock (1955) was impressed by the rapid implementation of mass production, but also by the setting of the blocks on the hills of Caracas, and the splendid views it produced, 'the scale and pace of the operation, justify on the whole, the lack of finish in

execution' (Hitchcock, 1955: 137). He mentioned that rapid urbanisation in Caracas takes place under the eyes of the visitor and ensures modernisation and construction production 'unequalled elsewhere in the Western World' (Hitchcock 1955: 11). Carlson (1960) also considered the appearance of the superblocks spectacular, due to their multi-coloured facades, placed in groups on the hills, and with less than 20% of land use.[6]

4.3. From modernistic high-rise to informal occupancy

> 'Squatted upon inauguration, Carlos Raul Villanueva's 15 story blocks rise like castles from the sea of barrios, evolving over time in response to global and local forces' (Brillembourg & Klumpner, 2013: 109).

4.3.1. The revolution of 1958

Despite the praise and enthusiasm about the modernisation of Caracas and the surprisingly fast production of the superblocks, they could not meet the growing demand for housing caused by the rapid urbanisation process. The dissatisfaction of people who were homeless became larger. Eventually, on 23 January 1958, the dream of large-scale urban renewal through the CIAM-inspired superblocks came to an end in Caracas due to the revolution that took place overthrowing the Perez-Jimenez regime. A new period of democratisation started in Venezuela and the construction of superblocks was forever stopped.

A promotional film about Caracas at the end of the 1950s shows images of a modern Caracas that is ready for the future: the newly built 23 de Enero; the construction of the Aula Magna designed by Villanueva in the UCV; and new bridges and promising infrastructure. After the revolution at the start of

6 The modern qualities of the superblocks are also praised in today's discourse. In the investigation into the possible status of 23 de Enero as a World Heritage site in 2005, Paul Byard and Leslie Klein (2005), refer to 23 de Enero as a monumental work of modern architecture, the modern alternative of the 'urban slum'.

Figure 4.17. The revolution against Perez Jimenez in 1958, with 23 de Enero in the background (Source: Velasco, 2015: 50)

1958, that image was not valid anymore. The housing project 23 de Enero, previously known as 2 de Diciembre[7], was occupied and squatted by lower income people and migrants from the countryside who were eagerly looking for a home. Vacant flats were immediately occupied, and the entire area, including the public space, was occupied in the largest squat action ever in Latin America (Supersudaca, 2010) (Figure 4.17).

7 23 de Enero was first called 2 de Dicembre after the moment President Perez Jimenez came to power. Immediately after the revolution the name of the district changed.

Figure 4.18. 23 de Enero in 2009

Immediately after the completion of the first phase of the 23 de Enero project in 1956, it was rented out by Banco Obrero to lower-income households from the surrounding areas, while the second and third phases were still being built. The dwellings of these last two phases were still vacant when the dictatorship came to an end in 1958. This was because Perez Jimenez had deliberately requested that Banco Obrero not to rent them before the date of his birthday so that they could be inaugurated on that date (Bauchner, 2009). Due to this, 17,000 people (Brillembourg & Klumpner 2013), some from the surrounding areas and others coming directly from the countryside, were able to squat in the dwellings. The doors and windows were broken open and trucks full of furniture were driven up the slopes. In a few days, people occupied 4,000 of the more than 9,000 newly built homes in the apartment buildings. The rest of the apartments were occupied after this first raid. A few days after, well-functioning facilities such as bakers, grocery shops and laundries were set up in the existing buildings (Brillembourg & Klumpner, 2013).

On January 24, 1958, a final attempt was made by the local government to regulate the disorder that had arisen through the squatting, by registering people who were urgently looking for a home, but to no avail. When home seekers who were registered in the (eighty) books of the housing association eventually obtained a key to a home, they found new residents in their home who were not planning to leave or pay the rent (and who occupy the apartments to this day) (Brillembourg & Klumpner, 2013).

The inhabitants had taken matters into their own hands and the government no longer had control over the situation. The social, technical, and economic conditions of the project were under pressure. After taking over the superblocks, the whole area was occupied by self-built ranchos that quickly overran the available public open space around the superblocks and facilities. People started building and stacking houses on every piece of available land (Figure 4.18) and the spatial, but also the social structure, changed completely due to this densification of the area.

The revolution of 1958 caused a major change in the modernisation process of the city. Within a year, the status of the superblock changed from an icon of modernisation to the cause of the city's largest social and economic problems. The living conditions in 23 the Enero were described as the worst

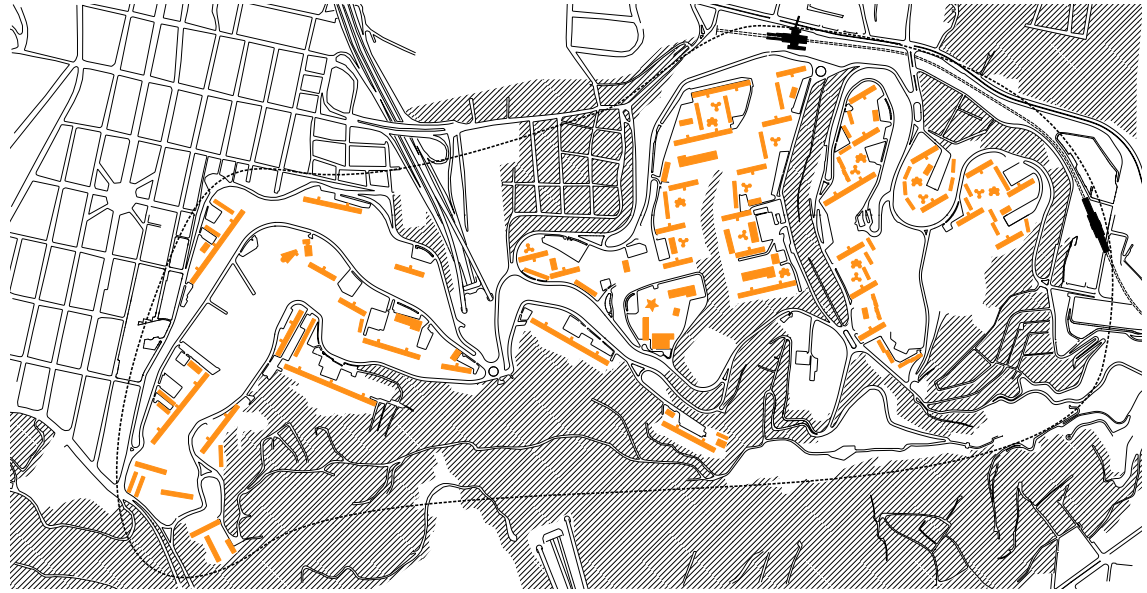


Figure 4.19. Planned and unplanned areas of 23 de Enero

200 m

of any residential block in Caracas. Only a short time earlier the Venezuelan modernist approach to housing in Caracas was heralded as an example for the United States (Hitchcock, 1955), but after the revolution this effort was labelled as naive and ill-considered (Fraser, 2000: 124). Due to illegal occupation, a big financial problem immediately arose for Banco Obrero, which lost hundreds of thousands of dollars every month in unpaid rents (Carlson, 1960).

The occupation of public space continued in the area, increasing the density to very high levels. Figure 4.19 shows the location of superblocks (orange) and the informal areas (shaded grey) in 23 de Enero in 2004. Due to the densification of open spaces surrounding the superblocks, the total population of the area has risen to hundreds of thousands. Ciccariello-Maher (2013) even mentions a number of 500,000.

4.3.2. The superblock as symbol of the failure of modernistic planning in Venezuela

The downfall of 23 de Enero and the superblocks in Venezuela is similar to the demolition of the Pruitt-Igoe complex in the American city of St. Louis in 1972. This event became a symbol of the failure of modernist urban renewal in America, which architecture historian Charles Jencks described as “the day when modern architecture died” (Jencks, 1977). The failure of 23 de Enero made clear that the ambitious attempts to implement CIAM principles in practice with modernist urban design and superblocks was not the universal remedy for urban problems.

Several causes have been mentioned for the failure of the superblocks in Caracas. With Le Corbusier’s modernism as the ideal, the aim of the superblocks was that architecture would modernise society and educate people. The area did indeed look very modernist and the dwellings were an evident improvement compared to the ranchos, but the use of high-rise buildings to solve the housing problems was a purely architectural solution, whose utopian urbanism and modernist principles did not take into account the real needs and conditions of the poor occupants. The homes were eventually occupied by lower income groups. Their first occupants were migrants who often came directly from the countryside and were not used to living in high-rise buildings. Since the difference between the rural and urban way of life was very large, the new residents lived in their apartments as if they were living in their rural ranchos (Klein, 2007).

Moreover, the necessary infrastructure and facilities were missing in 23 de Enero. This was partly due to pressure from the government that demanded rapid and visible results which greatly restricted the possibility of research into the social circumstances that was necessary to determine which facilities were needed (Fraser, 2000; Carlson, 1960). ”The huge modern blocks served their purpose: from a distance they were a great improvement on the ramshackle disorder of the ranchos presenting foreign visitors and Venezuela’s own middle class with an image of a modern city, sweeping the poor out of sight and out of mind” (Fraser, 2000: 122).

4.4. CINVA’s evaluation of and recommendations for high-rise housing in Caracas

4.4.1. CINVA’s evaluation of high-rise-housing in Caracas

To understand the consequences of the squatting of 23 de Enero during the revolution of 1958, Banco Obrero commissioned the Centro Interamericano de Vivienda (the Interamerican Housing and Planning Centre, CINVA) to carry out an evaluation in 1959. The CINVA was founded in 1951 by the Organisation of American States (OAS) as a Latin American centre for training and advice on low-cost housing for architects, engineers, social workers, etc.. Its evaluation focused on the social, economic, technical, and administrative aspects of the 23 de Enero project. The research and advisory team, led by Eric Carlson, director of CINVA, gathered a number of professional authorities in the field of housing from Latin America, the United States and Europe (Carlson, 1960).

After a general consideration of Venezuela’s housing policy and a characterisation of the superblocks, the evaluation made a distinction between the technical and design aspects, the common facilities and social issues, and the administrative aspects. The evaluation compared superblocks within the 23 de Enero project and the Simon Rodriguez project, a housing complex of 10.000 residents in Caracas. 23 the Enero was seen as the worst example with many social and economic problems that needed to be addressed (Carlson, 1960). The team sketched a situation of overpopulated residential areas, without governmental control. The superblocks were inhabited illegally; the schools were only half-used; the facilities were squatted, inhabited, and revolutionary organizations had taken control.

The main inadequacies in 23 de Enero included a lack in quality and quantity of neighbourhood facilities. In many cases, the facilities had not yet been completed or fully implemented, were not used according to the original programme or becoming insufficient for the many new inhabitants of the area. The topographical inaccessibility also meant that residents were cut off from community services such as social work and education.

The superblocks in 23 de Enero had been planned in an over-simplified standardised way to provide ‘decent, safe and sanitary dwellings’ for residents

who were seen as ‘faceless statistical categories of slum dwellers’ (Carlson, 1960: 208-209). ‘Considerations of spatial monumentality had had a higher priority than a social consideration of the general needs and requirements of the inhabitants wrote Francis Violich of government housing projects in Venezuela contrasting their sterility with the dynamism and diversity of the ranchos in Caracas’. (Fraser 2000: 121)

The social problems that arose from the squatting of 23 de Enero led to an urban situation that was difficult to control, where living conditions deteriorated and informality prevailed. Furthermore, the public agency in charge of the management of the area, Banco Obrero, was unpopular among the residents. Many of the families living in the superblocks had been forced to relocate there after the demolition of their ranchos on the hills of Caracas, under the ‘bulldozer law’ of dictator Perez-Jimenez. These families turned against Banco Obrero, which they considered responsible for their displacement (Carlson, 1960). In the first instance, both Carlson (1960) and Turner (1963) did not see the superblock’s urban design model as the cause of the failure of 23 de Enero but considered government authorities and institutions the culprits of both the failure of the financial management and the social programme.

4.4.2. CINVA’s recommendations

The evaluation concluded that the social and economic problems of 23 de Enero were so deep and acute, that in addition to a long-term approach, short-term measures had to be taken, focused on administrative, social and educational activities and a broad public relations campaign.

The main recommendations of the evaluation were, on the one hand, to elaborate a long-term programme with well-planned and well-designed dwellings including all necessary facilities and specifically targeted at low-income households, and on the other hand, to improve contact and communication with the residents and take into account their most important needs and wishes. The study explicitly stated that the improvement of the concerned areas should be focussed on the social and economic aspects and not on the architectural and technical aspects of the blocks.

The physical and social recommendations of CINVA can be placed within the aided self-help [8] principles that were promoted by CINVA at the time, which focuses on the progressive upgrading of living conditions by the occupants. The physical deficiencies of the superblocks were considered less important than management and social problems. The development of a social programme and ensuring the presence and accessibility of the necessary facilities were seen as main priorities. All facilities had to be available to the whole population and not only to the residents of the superblocks. This included a welcome of the democratically elected residents’ organisations, to stimulate pride and responsibility.

More detailed recommendations included the assessment of the real market value of the superblocks, so that the families who paid rent on a regular basis could be offered the opportunity to buy property. CINVA also advised to decentralise the rental organisation, closer to the local residents, and to set up a special office, under the direct responsibility of Banco Obrero, dedicated to solving the problems caused by the squatting of the buildings. CINVA did carry out research into the improvement of the dwellings, in terms of logistics, use and materials, and into the functionality of specific parts of the dwellings, such as the indoor stairwells and balconies. It also recommended to develop a model apartment in each neighbourhood.

Regarding the design of public space and the human scale of design, CINVA recommended the creation of green spaces and to pay specific attention to details such as benches, playgrounds, elevation differences, etc. Reserving free space for future facilities was also considered important for the success of renewed social programming.

In addition, CINVA stated that the government should take responsibility. From an administrative point of view, it strongly recommended the reorganisation of Banco Obrero and the assignment of responsibilities to the corresponding sectoral institutions (such as the responsibility for school buildings, recreation and health care to the Ministries of Education and

8 The term aided self-help housing, popularised by architect John Turner in the 1960s, refers to the residents’ capacity to build their own dwellings through self-organisation, and ‘aided’ by public institutions. This policy was promoted internationally by Jacob Crane through the CINVA from the 1940s onwards, see Chapter 3.

Healthcare, respectively). The implementation of these measures had to become decentralised to municipal and regional levels, while social work and community development agencies had to be more present in the field. These recommendations were considered a prelude to a new national housing policy and the creation of a national institute for housing construction.

CINVA concluded that the government should suspend the construction of superblocks until a new national housing policy was formulated. In fact, the evaluation of the experience of the superblocks led to a change of perspective on Venezuelan national policy, not only regarding housing, but also economic issues. It was considered important to design other types of housing programmes with a focus on regional diversification and housing construction in smaller cities so as to retain the population in rural areas and to promote agriculture. The CINVA evaluation and recommendations strongly contributed to the elaboration of a new regional policy and the planning of several new cities in regions that had not yet been developed. The objective was to relieve the demographic pressure on Caracas, but also to create new economic opportunities for the country (Carlson, 1960).

4.4.3. Self-organisation in the superblocks and 23 de Enero

Several measures recommended by CINVA's study were implemented shortly after the publication of the report in April 1960. They were implemented on two pilot sites, in the two areas that were studied in the evaluation: (part of) 23 de Enero and Simon Rodriguez. The sites received a neighbourhood improvement programme with a special focus on community development (Turner, 1963). This included a special provisional office in each location, aimed at increasing communication, contact, activation of the cultural programme, technical improvement of the housing environment, and better management of rental costs. At the same time, Banco Obrero was reorganised and its staff retrained to deal with this new situation.

Architect John Turner (1963), the best-known promoter of self-organisation, stated that the modified approach applied in the Simon Rodriguez neighbourhood succeeded because of the great attention provided to the social and economic aspects of the process. It resulted in a well-managed and clean neighbourhood, with residents who appeared to be proud of their

community. Considering the fact that the residents came from a rural living environment, he considered the transformation to be 'extraordinary'. Turner (1963) noted a big difference with other neighbourhoods, especially in terms of participation and the sense of responsibility residents had for their own home and communal facilities.[9]

Many of the squatted or illegally occupied flats in Simone Rodriquez were 'legalised' during the process. It became clear that the residents wanted to buy the houses they occupied so numerous possibilities were offered to them. The rental and purchase opportunities were picked up by them and new schools and other community facilities were built. There was a lot of hope during that time. Unfortunately, it was not possible to reserve free space for future facilities because the need for housing remained unsolved and the ranchos filled up every available space.

The experience of 23 de Enero shows that a new town built on the basis of a masterplan that does not seem flexible and adaptive can still accommodate an organic growth that literally nestles into and pushes the boundaries of the original plan. 23 de Enero was squatted, but at the same time it offered a structure – in this case the superblocks – onto which self-organisation could develop. Superblocks provided the physical framework and the infrastructure – electricity, sewerage, and water - for the squatters to start to build their own ranchos.

At the same time, a social integration of the superblocks and the ranchos occurred because extended families lived in both (Byard and Klein 2005). There was no difference in status between living in a vertical barrio (the superblock) or in the horizontal barrio in the ranchos. Unintentionally, the superblocks themselves became a self-help project because its framework and facilities were taken over by the residents through self-organisation. Walking through the 23 de Enero area 50 years after the revolution you notice how well organised the different sectors are, each with its own hierarchical social structure. Each sector takes care of itself and was independently

9 A few years later, Turner (1968) criticised the CIAM-style housing developments. He stated that both the governments and the designers were on the wrong track: governments took up the fight against rapid urbanisation with the wrong planning tools and the architects were only concerned with utopian modernist dreams.

Figure 4.20. Public Space in 23 de Enero with community facilities, 2009

organised. The public space and the blocks are well-maintained, the streets are clean, many communal facilities are present and cultural civil society organisations are established. Within the sectors, each barrio and each block has its own cooperative (type of owner association) to which service costs are paid by the residents for communal facilities and cleaning. The chairmen of the associations meet regularly to discuss and arrange the common issues. Social control is high and ensures a quiet streetscape. Politics play a major role and determine the balance of power (Figure 4.20).

La Piedrita, a neighbourhood of 23 de Enero in the Eastern sector, is an interesting example. It is a self-organised community with militias, a military force generated by the inhabitants, which provide security and hierarchy. The militias have driven the drug trade out of the area, but also the police. The autonomy of the community is underlined by a large sign at the entrance to the area that says: 'La Piedrita gives orders here and the government obeys them' (Ciccariello-Maher 2013: 3) Although part of 23 de Enero is part of

Catia, a large informal district with high levels of criminality and violence, the presence of militias in 23 de Enero makes it much safer than the surrounding areas, even safer than some of the more affluent parts of the city (Ciccariello-Maher, 2013).

The embedded social structures in the 23 de Enero neighbourhoods reveal an almost ideal image of a self-organising society. However, reality also has a different side: the area is considered by many to be dangerous, where crime sets the tone. Crime and drug trafficking, although combated by the militias, remain present in some parts, especially in the Western sector. Furthermore, almost every revolutionary political action in Caracas has originated in 23 de Enero. At the same time 23 de Enero has been described as 'one of the most criminal, but also cheerful and solidary locations' (Brillembourg et al., 2005).

4.5. Conclusions

23 de Enero clearly tells the story of 'Latin American urbanisation characterised by the tension between its modern planned formal and informal dimensions' (Hernandez & Kellett, 2010: 1). Due to their high-rise modernistic architecture, the superblocks in Venezuela became an international symbol for the country's important position in the modern world in the 1950s, particularly for the image of Caracas as a modern city (D'Auria, 2013; Velasco, 2015). 23 de Enero was unique in the field of housing as an early example of the implementation of a top-down new town implemented by modernist urban planning and architecture ideas. The modernist residential areas built with the superblocks were a major attempt of a rich Latin American country to solve the large housing demand of a period of rapid urbanisation. However, the squatting of the area and its subsequent densification indicated that the amount of homes offered were absolutely not enough to meet the demand, which remained an unsolved issue.

The Venezuelan process of urban renewal during the Perez-Jimenez government eradicated the ranchos on the hills of Caracas to rehouse their inhabitants in modern high-rise apartments. However, due to the socio-political circumstances of the country, the modernist new town became, itself, part of an informal urban dynamic. This dynamic between self-organisation

and top-down planning has determined the identity of the area and is representative of the alternating trends within the international urban discourse in the second half of the 20th century between top-down planning on the one hand and attention and space for the human scale on the other. The importance of the recognition of the ability of the inhabitants to organise themselves within urban development is also a necessity for the current urban development practice.

The experience of 23 de Enero played a central role in the research and discourse on urban development in Latin America in the late 1950s and early 1960s. It actually played a double role. On the one hand, it revealed the limits of the modernist approach to housing in developing countries and contributed to the transition into a practice of aided self-help geared to the needs of inhabitants. On the other hand, the lessons learned from this experience played a significant role in Venezuela's transition from a centralist national development policy based on an oil economy towards a policy of regional development and economic diversification. This change of perspective led to the decision to plan and develop a new industrial capital in the east of the country, Ciudad Guayana.

23 de Enero in 2009

23 de Enero in 2009

23 de Enero in 2009

23 de Enero in 2009

23 de Enero in 2009

Ciudad Guayana in 2009

5. Planning Ciudad Guayana, an industrial new town in oil-rich Venezuela[10]

The previous chapter showed the results and consequences of urban modernisation at the end of the 1950s in Venezuela and the announcement of a shift towards regionalism. It became clear that the pressure on the urban growth in Caracas had to be diminished and within the context of import substitution, new natural resources had to be exploited. Guayana, a region in the East of Venezuela, provided such natural resources and Ciudad Guayana was born as an industrial new town in the early 1960s, planned and built as an ambitious national effort to stimulate the regional development of Venezuela.

In the history of Latin American urban planning, Ciudad Guayana stands as one of the most visible examples of a new town built by means of centralised planning approaches (Angotti, 2001). Ciudad Guyana's planning process was especially unique because it was the result of a collaboration between prestigious academic planners from the United States – from Harvard University and the Massachusetts Institute of Technology (MIT) – and local professionals working for the Venezuelan government, who shared the assumption that rational and comprehensive planning approaches could provide solutions to the social and economic problems experienced by cities of developing countries. This singular collaboration occurred during an particularly intense period of economic growth for the Latin American

10 This chapter was previously published as an article in the journal International Planning Studies Volume 24, 2019 - Issue 3-4: Visionary Cities or Spaces of Uncertainty? Satellite Cities and New Towns in Emerging Economies. The article was co-authored by Ana Maria Fernandez Maldonado. Small changes were made to integrate article in the structure and flow and argumentation of this thesis.

region, which was a consequence of the process of industrialisation by import substitutions, producing rapid urbanisation. Venezuela's oil-driven economy provided its national government with sufficient means to hire first-class North American academics to give shape to and realise its ambitious regional development plans. In the same way as the production and export of crude oil had rapidly modernised Caracas, it was expected that Ciudad Guayana, would become the next episode in Venezuela's road to progress and modernity (Irazábal, 2004: 29).

In such a context, Ciudad Guayana can be considered as an urban laboratory that would test the main ideas of international planning during the early 1960s. This was accomplished alongside the dynamics of developing a new town in Venezuela, whose government had both the intention and the resources to realise the plans.

The main objective of this chapter is to identify the planning approaches followed by the planners and professional teams involved in the origins of Ciudad Guayana, as well as the dilemmas that they had to deal with during the planning and implementation processes of this new town. The main data sources for this analysis were the archives of the Joint Center of Urban Studies at MIT and Harvard and the numerous publications that have appeared on the planning and development of Ciudad Guayana. Interviews with members of both the Joint Center and the CVG team were held to understand the motives behind the planning approaches and visits to the site were made in 2009 and 2011.

The chapter is divided in six sections. The first section explains the urban planning and development ideas in the early 1960s at the international and Latin American level, explaining the context in which the local and American planners worked in Venezuela. The second section presents the origins of Ciudad Guayana as a product of ideas about regional planning in that period. The several dilemmas and debates during the planning process of Ciudad Guayana – based on very different views about social inclusiveness and welfare principles – are analysed in the third section. The next section presents the main features of the master plan, followed by a discussion about the main lessons and findings. The last section presents the conclusions. This chapter will therefore answer the research question: "Which planning approaches and dilemmas were experienced during the planning and implementation process of an industrial new town in Venezuela?"

5.1. Urban planning and development ideas in the early 1960s

Latin American society was thoroughly transformed during the 20th century, due to two important processes: the demographic transition and the process of industrialisation by import substitutions. These combined processes induced the rapid transformation of the region, from a rural to an urban society. In the case of Venezuela, this was heightened by the revenues from the oil extraction – discovered in the 1920s – which accelerated the rapid urbanisation of the country and turned it into the most urbanised country of Latin America in few decades.

At a global level, the early 1960s was a period of great economic dynamics and change, as cities were growing fast due to a baby boom in the countries of the North and to rapid urbanisation in developing countries. It was precisely during this period, when urban planning theory experienced a major shift which moved it from an urban design exercise, into a more social science-oriented discipline (Taylor, 1999), in an effort to become more effective by paying attention to social, economic and cultural processes. This new approach also implied a consideration for different scale levels and timeframes, namely the strategic long-term and local short-term. Urban settlements were seen as part of a system of inter-related activities, which included the social, cultural and economic aspects of city life. Planning became more comprehensive and complex, for which multidisciplinary teams of experts were considered necessary.

This new planning paradigm was fully embraced by the North American academics of the Joint Center for Urban Studies, established in 1959 by Harvard University and MIT to study social, economic and demographic changes with effect on urban life. World renowned academics and professionals like Lisa Peattie, Donald Appleyard, John Friedman, Anthony Penfold, Kevin Lynch, Charles Abrahams, John Turner, and William Porter became part of the team that worked and assessed the plans for Ciudad Guayana.

Since its origins, urban planning was more a design-oriented exercise, represented in visionary 'blueprints' plans, focused on the physical-spatial aspects of cities and urban areas. Architects and engineers worked out the plans, which generally had a vision of city beautification, enforced through land-use controls, and the opening of broad avenues, streets, and parks. Gradually, the architectural and urban planning ideas of the Modern Movement – publicised through the CIAM congresses and Le Corbusier writings –became dominant. The modernist planning doctrine established zoning, or the organisation of cities in separated areas for the main urban functions as a key aspect of planning, which would determine 'both the internal order and overall shape of the CIAM city' (Holston, 1989: 32).

The CIAM doctrine also had an important political component, more specifically through its strong welfare orientation and egalitarian recommendations. According to CIAM, the uncontrolled power of the private sector in the urban field, with the exclusive interest of accumulation of wealth, was the main cause of the urban crises (Holston, 1989). Furthermore, private property was considered 'the primary impediment to comprehensive planning' (1989: 43). The Charter of Athens, one of the most famous publications regarding the CIAM ideas on urban planning, even recommends mobilising private property as a fundamental condition for effective planning.

In Latin America, the modernist urban ideas were dominant almost since the beginnings of urban planning in the region, something that was enhanced during the 1940s thanks to the visits of CIAM personalities, who in many cases were hired as advisers of the new planning institutions (Almandoz, 2010). CIAM's urban ideas were still very dominant in the early 1960s, as Holston (1989) has explained, defining the plan for Brasilia as a 'blueprint utopia' that fully embodied the dictates of the CIAM manifestos. However, if for (Brazilian) architects and planners, the revolutionary aspects of the modernist ideas were present, for most others, the development of modern architecture and planning in Latin America was framed within ideas about the modernisation and progress of the respective countries. This was related to the collective belief in industrialisation, rationalisation, and technique as a way to modernisation, progress, and development, characteristic of the 1960s.

During that period, modernist architecture had a significant role to play in the nation building processes of many Third World nations, and was closely related to state patronage (Lu, 2011). The strong connection between architectural modernism and modernisation was sought for by Latin American national governments. The former was considered an effective way of demonstrating the accomplishments of rapid modernisation to the general public, as a product of their governments' economic 'developmentalism' approaches (Almandoz, 2010). The United States also embarked on important efforts to 'modernise' Latin American countries by means of modern architecture. More specifically, the State Department sponsored the visits of several CIAM leading figures to Latin America, to encourage the use of modern architecture and planning for modernisation goals (Kahatt, 2011). The assumption behind modernisation theory was that traditional societies would achieve economic and social development ('modernisation') through stages, if they incorporate similar social and economic systems as the ones in advanced economies; something which implied an adherence to American values and the American way of life (Holston, 1989; Irazábal, 2004).

Modernisation ideas, which included the practice of national planning, were also exported through the links between national governments in Latin America and the US. In the context of the Cold War, these links were tightened through the provision of funds and knowledge to improve social and economic conditions of the Latin American region. Rapid urbanisation was producing massive illegal land occupations in Latin American cities, considered by the United States as a possible focus of communist insurgence. National economic planning and the provision of affordable housing for low-income residents were considered key to improving the existing social and economic conditions. In 1961 these links were consolidated in the Conference of Punta del Este, the birth of the Alliance for Progress. The latter conditioned the provision of United States funds to the preparation of comprehensive plans for national development; produced a remarkable surge of housing loans in most countries of the Latin American region; and consolidated United States dominance on policy matters. Processes of national economic growth were considered closely intertwined with North American technological expertise (Angotti, 2001).

5.2. Regional planning and the origins of Ciudad Guayana

The oil-driven 'great urban revolution of Venezuela' (Friedman, 1966) rapidly transformed Caracas in a few decades, attracting new residents. The modernisation of the capital was most visible during the Pérez-Jiménez period (1952-1958). Caracas used to be considered an unimportant Latin American capital during the first decades of the twentieth century. But the huge revenues coming from oil trade produced an intense urban growth that completely transformed the city's built environment, providing it with a new and modern face, crossed by wide motorways without comparison in Latin America (Almandoz, 2012).

But while most Latin American capitals prospered during this period of economic growth, the interior regions did not follow the same development path. Consequently, during the 1950s and 1960s, most countries made efforts to stimulate the development of their regions, still suffering from poverty, high unemployment, low levels of education, and scarcity of services and infrastructure. The most important mechanisms for a more balanced spatial distribution of development implemented in Latin America were: (1) regionalisation processes, or the division of the country into geo-economic regions; (2) creation of autonomous regional agencies; (3) establishment of transfer mechanisms; (4) creation of growth poles; and (5) creation of metropolitan agencies (Neyra, 1974).

Regional development ideas were closely related to the ideas of industrial development and economic developmentalism embraced by the governments of the time. Industrialisation through regional planning was part of modernisation theory, which included growth poles as a way to realise such objectives. The concept of growth poles assumed that a national and regional spatial equilibrium required concentrated investments to promote industrialisation processes in less developed places (Irazábal, 2004). The concept became very popular during the late 1950s, claiming that such poles could modify their regional environment and, if they were powerful enough, they could transform the whole national economy. Important examples in Latin America include Monterrey in Mexico, Concepción in Chile, Recóncavo Baiano in Brazil and Ciudad Guayana in Venezuela (Neyra, 1974). Friedman (1966) published about the topic with Venezuela as case-study.

Among the European and North American CIAM academics that frequently travelled to Latin America, regional planning was becoming increasingly important too. Regional planning was viewed as a new technique, capable of promoting much-needed economic development. This widening of the territorial scope of the planning profession, from cities into regions, produced a change in the urban terminology. The term 'urbanismo' – with an emphasis on physical planning and mostly relying on urban design – was gradually replaced by the term planificación (planning) – with an emphasis on planning procedures and mostly considering social, economic, and cultural aspects. This transition from urbanismo into planificación coincided with the transition from a mostly European cultural and technological influence to the dominant views imported by the United States (Almandoz, 2010).

Such planning ideas circulated in Venezuela in the 1940s and especially the 1950s, influenced by Jose Luis Sert, Robert Moses, Francis Violich and Maurice Rotival, who became advisers of the National Planning Commission, established during the Pérez-Jiménez administration (Almandoz, 2010). In this context, President Betancourt, elected in 1959, initiated a national economic development plan to decentralise Venezuela and to strengthen its economy, to make it less dependent on the oil trade, whose price began to decrease at that time. Regional planning became an important tool for the development of the Guayana, a region rich in natural resources, which would provide an important economic impulse to national development, encouraging 'urban development in the south and reliev(ing) growth pressures in the North' (Angotti, 2001: 333). Guayana's privileged location at the confluence of the Orinoco and Caroní rivers, provided good transportation facilities for export (see Figure 5.1). The Guayana area also was remarkably rich in resources which potentially could support many different new industries within the area (Snyder, 1963).

In 1960, the Venezuelan government created two mechanisms to promote the development of the Guayana region: an autonomous regional agency, the Corporación Venezolana de Guayana (CVG) with ample powers and funds; and Ciudad Guayana, as a new town and growth pole that would stimulate industrial development. The new town was supposed to become the industrial capital of the country, and a comparison was easily made with the recently-built Brasilia (Almandoz, 2016). As a strategic element in the

Figure 5.1. Location of Ciudad Guayana in Venezuela

scheme of national economic development through import substitution industrialisation, Ciudad Guayana would lay the foundation for a more diverse economy in Venezuela. These ideas and assumptions were features of the developmentalist agenda of the post-war period, in which Latin America governments played a leading role in nation building, taking advantage of the benefits of economic growth and social progress (Angotti, 2001). For the national government, Ciudad Guayana was essentially an economic endeavour (Peattie, 1987; Angotti, 2001; Irazábal, 2004), which brought about high expectations: the new city would have a pivotal role in the compositional and geographical restructuring of the Venezuelan economy.

Responsible for the development of Ciudad Guyana, the CVG bought large extensions of land around the future new town, from private owners and by transfer from other government agencies (Angotti, 2001). The CVG would also build important infrastructural projects: a steel plant of considerable

dimensions in Mantanzas; two hydroelectric plants that would be able to meet the energy needs of half the country—the Macagua hydroelectric dam to be built on the Caroní falls and the Guri Dam, built a few kilometres further on the Caroní river – and an aluminium plant (Neyra, 1974).

5.3. The planning process: planning dilemmas of an urban laboratory

An urban planner (Snyder, 1963) writing about Ciudad Guayana during its planning process mentioned that it could be considered as a laboratory where different planning approaches would be tested during implementation. Its comprehensive orientation, both at the city and regional level, would create a singular opportunity to document the experiences and experiments stemming from the planning and implementation processes. These could be later evaluated to draw lessons to tackle similar situations in other parts of the Latin American region and even of the developing world.

Indeed, the collaboration between the CVG with the Joint Center, created a situation where expertise and knowledge about urban planning and urban development could be exchanged, examined, tested and applied. Its laboratory status was enhanced by the knowledge and experience of the international network of experts involved in the planning and development of Ciudad Guayana. Specialists in economics, urban planning and design, housing, and anthropology from the network of the Joint Center were requested to share their thoughts, findings, criticism and recommendations, what led to large discussions and debate, and contributed to the planning process. In the archives of MIT and Harvard, extensive correspondence can be found from these experts, such as housing experts Charles Abrams and Rafael Corrada, and urbanist Kevin Lynch. Their observations and findings reflect the search and sometimes struggle to find a suitable planning and design approach for a fast-growing new town like Ciudad Guayana.

The following subsections illustrate the debates related to four important challenges of planning Ciudad Guayana: (1) how to properly accommodate the technical staff and the poor rural migrants in the new town; (2) how to deal with welfare issues in such a segregated society; (3) how to effectively adapt

Meeting with Anthony Penfold, Mrs. Ridgemonte, Victor Artis, Caracas 2009

the plans to the actual urban circumstances of a developing country; and (4) how to deal with the pressures of short-term urgent matters.

5.3.1. Inclusive versus segregated design concepts

The great differences between the CVG and the Joint Center can be clearly illustrated by the different visions held by the teams' leaders. Lloyd Rodwin, who led the Joint Center, endorsed the role of the planner as a social reformer, which considered it essential to address social and economic aspects in the planning process (Peattie, 1987). On the other hand, Alfonso Ravard was a military general appointed by the national government to lead the CVG, who clearly held a technocratic planning approach to promote the economic growth of the Guayana region, expressing the views of the Venezuelan political elite at that time (Irazábal, 2004).

Rodwin emphasied the necessity of a multidisciplinary team to be able to deal with all aspects of planning and design for an inclusive form of development. According to him, Ravard's main target was merely 'fostering the economic growth of the region and especially encouraging enterprises that could compete in international markets' (Rodwin, 1969a: 473), a vision which he considered inadequate for inclusive urban development (Peattie, 1987). Such differences in visions and goals led to a difficult relationship between the team members of the Joint Center and of the CVG, although opinions were always respected and dialogue sought to find solutions (Rodwin, 1969a).

A concrete planning challenge for Ciudad Guayana was to accommodate two very distinct groups: the technical elite – necessary to lead and operate the extensive variety of manufacturing industries – and the poor and unskilled population groups – who inevitably would migrate from poor rural areas. To be able to perform its role in regional and national development, the CVG emphasised a blue-print technical planning approach to attract the elite of engineers and technical staff to secure the industrial development of the city (Porter, 2011). For this goal, Ciudad Guayana had to physically represent the ideas of progress and modernity linked to the American way of life.

The Joint Center planners, on the other hand, emphasised an inclusive city by encouraging a mix of income groups throughout the city. Its proposal for

urban design was directed to improve liveability and generate a sense of community in the local context of economic competition and class conflict (Peattie, 1987). But their desires to promote some social class mixture could not be met, and they eventually gave in to the goals of the CVG to shape the image of Ciudad Guayana as a modern city, which would be able to attract the desired capital and type of people through the collaborating with the segregation of low-income people in the city (Irazábal, 2004).

5.3.2. Economic versus social goals

Another important challenge was the different view on the idea of modernisation and progress held by the engineers and economists of the CVG and the foreign planners. Consequently, the CVG and the Joint Center planners held very different approaches towards welfare aspects of Ciudad Guayana. The former were seriously committed to develop the region through the implementation of large technical projects, such as the Guri Dam, and believed that the social ideas of the planners were unrealistic and unpractical. (Irazábal, 2004).

This clash between economic and social goals can be illustrated with the example of housing. The Joint Center considered access to affordable housing an essential welfare aspect for Ciudad Guayana residents. An inclusive housing policy was considered necessary, so the team elaborated a housing program for all income groups (Corrada, 1965). The housing programme integrated a community and a financial programme, seeking to make housing affordable, to stimulate the community, and to make the necessary financial provisions. A 'settlement strategy' was developed, with 'demonstration projects' that were conducted for all income groups as prototypes for future residential areas. Corrada (1965) stated that 'the first housing program that Ciudad Guayana required was one of reception, progressive urban development and rehabilitation' (1965: 9). For the very poor households, Abrams (1964) pragmatically recommended to allocate a specific area and support them in building their homes, under the understanding that this was not the ideal solution but that such planned slums would produce better housing than unplanned ones.

The CVG understood the importance of housing but regarded it as its responsibility only if it benefited the higher goal of economic growth. Despite the high housing demand, they did not want to get directly involved in the housing sector, hoping private developers or other public agencies would take over the task, although they were willing to facilitate and assist it. The CVG supported the housing programme by providing land to build housing projects and facilitating other related housing matters. But it was ambiguous about integrating different income groups, especially in the new developments in the Western part of the city, where the industries were located.

However, some interesting housing experiments were successful in achieving some level of inclusiveness at the neighbourhood level, as a demonstration, El Roble Pilot Project prepared to tackle this growing housing demand. The programme followed an aided self-help strategy, with a 'sites & services' model combining governmental support with self-organisation and progressive development. A layout of plots (sites) that provided space for services was offered to lower-income families to build their own houses in a progressive way. Further, the urbanisation process was planned and monitored, using a planning model based on progressive urbanisation principles. In contrast to many failed outcomes, this pilot programme was rather successful, and its lessons were included in the comprehensive planning of the city. From the 1000 programmed lots for this progressive urban development scheme, 886 were realised in 1964.

5.3.3. Planning on-site versus off-site

The workplace of the teams was another point of discussion. Most of the Joint Center team considered that besides planning and design knowledge and expertise, understanding the location and taking into account the needs and desires of its (future) inhabitants was essential for planning the city. Kevin Lynch (1964) recommended that the design of Ciudad Guayana had to be site-specific, which could be best achieved by working on the site; and that planning had to be flexible for constant adjustments, to facilitate planning implementation. Lynch's recommendations emphasised 'on-site design', 'continuous design', 'long-run future form' and 'near-future form'. On the other hand, Von Moltke (1969), head of urban design of the Joint Center, believed that for the development of a masterplan and a long-term strategy,

it was necessary to be removed from the location. But once this process was completed, the design-team would have to move to the location, so the plans and projects could be matched with the needs and wishes of the inhabitants and with the reality of daily life.

Nevertheless, the Guayana programme was part of the central government and therefore the CVG was located in Caracas. Although the Joint Center did not agree with this situation, its members stayed in Caracas, because of poor communication and poor facilities on the site during the initial period. At a later stage, however, it proved difficult to move to the site. Anthropologist Lisa Peattie was one of the few members of the Joint Center team that lived on the site from the start. Her role has been essential to explain and understand the planning and design process of Ciudad Guayana, as well as the role of the different stakeholders. From the start, she emphasised the importance of considering the needs and desires of the population, specifically the lower-income groups, emphasising the need of planning on-site. And from the start one was aware of the fact that in addition to housing, the technical elite and the lower classes needed to be accommodated, but the rapid pace of urbanisation apparently surprised the Joint Center.

Peattie's view deeply clashed with those of the Joint Center in Caracas, and in particular of the CVG, which stated that the lower-income groups were a problem and they simply needed appropriate housing. Such a perspective on housing was dominant within policy circles, media and public opinion during that time. It considered the precarious neighbourhoods that rapidly grew in cities of the developing world as misery belts, places of delinquency, and social breakdown (Hall, 2002). However, Peattie (1987) was promoting a more flexible and pro-active view on housing and urbanisation, more centred on the needs of lower-income groups, and very much in line with innovative views about how to deal with (rapid) urbanisation in developing countries.

At that time, new insights into the dynamics of informal urbanisation were emerging in academic circles, following the pioneering work of Charles Abrams and especially of John Turner, based on his experience with barriadas in Peru. In his academic publications, Turner heavily criticised the conventional way of housing provision of existing policies, based on the 'minimum modern standard'. He claimed that it was not suitable for low-income households

Stills from a film made during the interview with Victor Artis, Gustavo Ferrero Tamayo and Oscar Tenreiro, Caracas 20 May 2009, in cooperation with Urban Think Tank

living in 'modernising countries' as it required too high costs, not only for them, but also for their respective governments. Instead of jeopardising informal urbanisation activities Turner advocated to support them (Turner, 1967: 1968). Such a shift required a new type of design and planning approach, much more pro-active and able to accommodate progressive housing and urbanisation processes.

5.3.4. Short-term versus long-term planning concerns

Perhaps one of the most important challenges of planning practice in developing countries is the pressure of short-term urgent matters versus the need to elaborate a comprehensive long-term planning strategy through a thoughtful diagnosis, something which demands time and resources which are hardly available. Ciudad Guayana was provided with sufficient resources for such a planning strategy, but not with enough time. Consequently, the pressures of urgent matters began to complicate the planning process. One of the most urgent matters was the provision of housing. The housing demand has different origins. On the one hand, it was coming from people displaced from an area that would be flooded by the construction of the Guri Dam, and on the other, from employees coming to work in the new industries. Furthermore, at that moment, there were 5.000 ranchos (precarious homes) which lacked services, and were dangerously constructed and overcrowded. The prognosis was that if no adequate housing was built, 12.000 ranchos would cover the area, or an average of 2.000 new ones per year. To tackle this, a pilot project was hastily prepared in El Roble for an estimated demand of 3.500 dwellings, which began in 1962 (Corrada, 1962). The total population in Ciudad Guayana grew fast. In 1950 only 4.000 inhabitants lived in the area and when the CVG and Joint Center started in 1961, it had grown to 42.000. The estimation was that the population would double in 1966 and this proved to be true. In 1998, Ciudad Guayana consisted of 641,998 inhabitants, which grew to 877, 547 inhabitants in 2016 (UNData, 2017)

From the beginning it was evident that the multidisciplinary team in charge of planning Ciudad Guayana would embrace a planning strategy consistent with the rational comprehensive planning approach. This meant a coherent planning system framework and rules for measures to achieve both short and long-term objectives. However, as the growing local population demanded

basic facilities such as infrastructure, sanitation, water, and schools in the short-term, the corresponding projects had to begin immediately after the establishment of the planning process. Members of the Joint Center and some of the Venezuelan team refused to begin with these projects until proper knowledge of the local economic and socio-cultural aspects was obtained, to be able to prioritise the projects and link them to the main objectives. But the CVG wanted to build right away because such analyses would delay the whole process.

Rodwin (1969a) claimed that the risk of planning through projects – what he called adaptive planning – was that it could lead to a planning type in which the daily practice would dominate and ad hoc results would be institutionalised. He therefore emphasised a planning process which could be responsive to short-term issues without neglecting planning for the long-term. However, as the external pressure to solve the short-term problems was growing, a compromise was made by the Joint Center. The result was a pragmatic planning approach that would lead to the immediate implementation of the projects. 'The most accurate answer would be a combination of comprehensive and adaptive styles' (Rodwin, 1969b: 488). Over a period of one-and-a-half years, several small-area plans were elaborated and implemented. Basic analyses were done and several experiments were initiated, which eventually would provide lessons for the planning process. After this intense period, the team was able to focus on the long-term issues, carrying out thorough studies of the local context, the physical, economic and socio-cultural aspects of the region, as a first step to elaborate a comprehensive plan for Ciudad Guayana. Due to this delay, its masterplan could only be adopted in 1964.

5.4. The planning product: the 1964 masterplan

While the first experiments were executed and studies were under way, the team of planners prepared different versions of a masterplan for Ciudad Guayana, which followed the results of the debates and discussions by the design teams. Eventually, the head of urban designers, Von Moltke, decided that the 1964 version should be regarded as the definitive 'comprehensive physical plan for Ciudad Guayana' (Von Moltke, 1969: 138). According to the

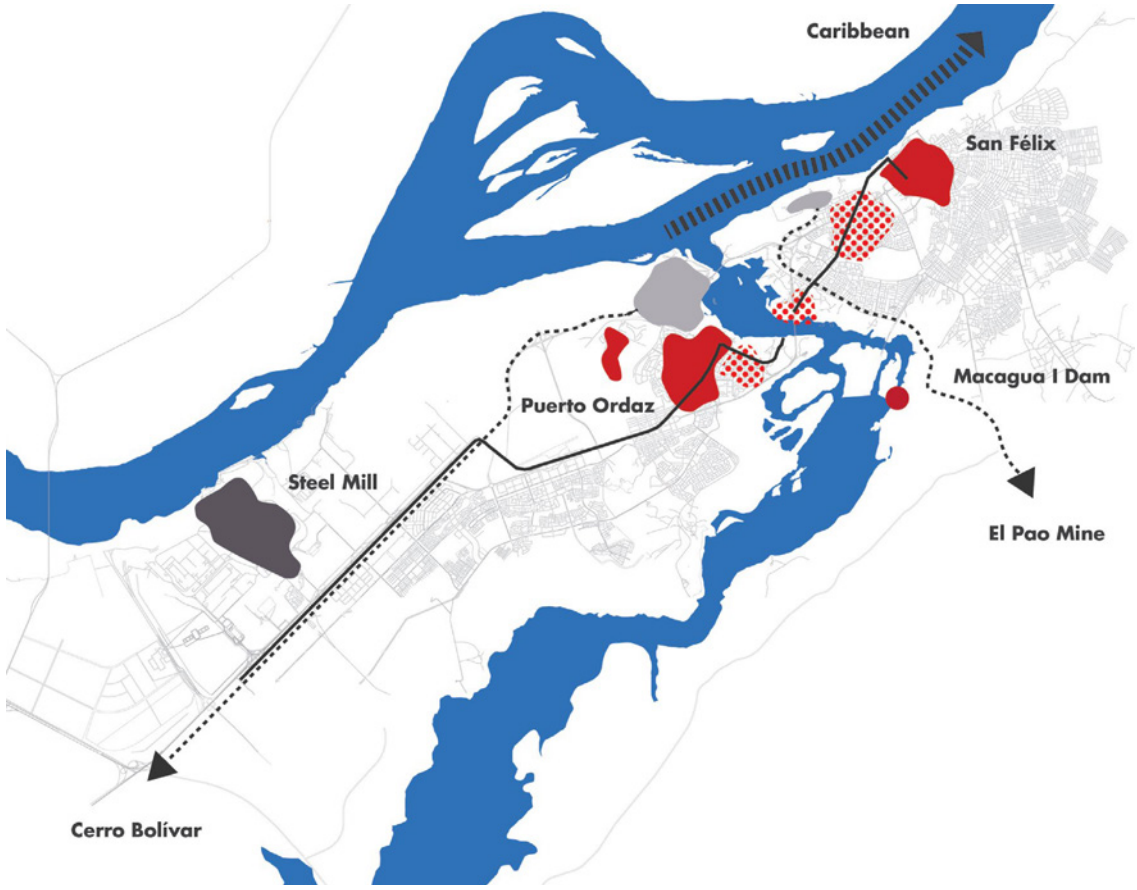


Figure 5.2. Location of original settlements in Ciudad Guayana. (Source: Avella, 2017: 6)

planners of the Joint Centre, the main objective of this zoning-plan was to create the conditions that would foster economic growth, while retaining a high standard of design that would serve as a model for developments elsewhere. Further, the plan had to be versatile enough to ensure the orderly distribution of future settlements and to meet the needs of the residents (Rodwin, 1969b).

The masterplan for Ciudad Guayana was the typical plan of a 'modernist city' such as Brasilia (Holston, 1989), with a strict separation of functions. But there was a big difference from Brasilia: the area designated for the new town was not a tabula rasa. Nearly 30,000 people were living there at that time in two settlements separated by the Caroní river (see Figure 5.2). Most of them were

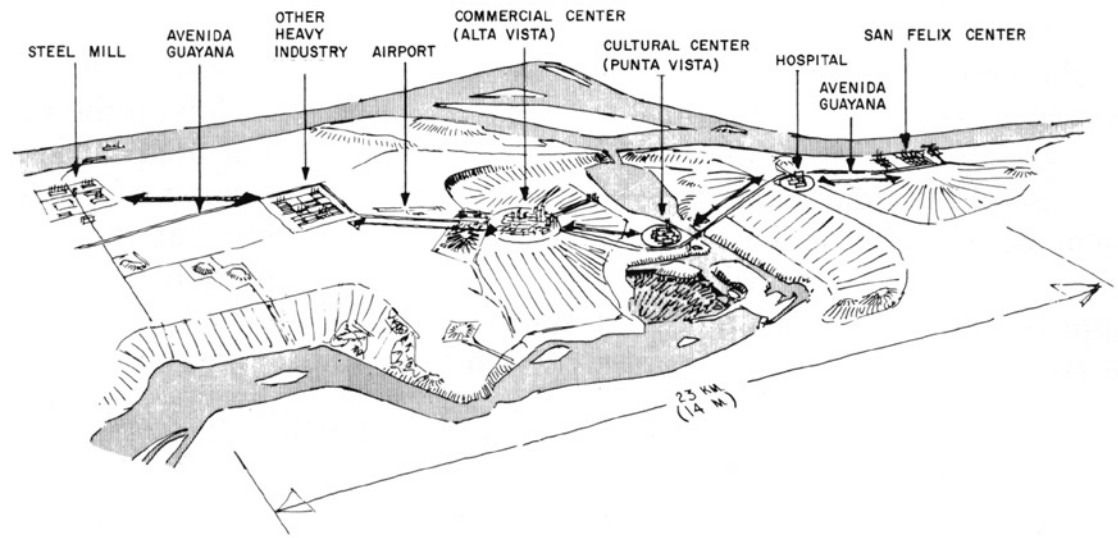


Figure 5.3. The comprehensive physical concept for the city of Ciudad Guayana, 1964 (Source: Von Moltke, 1969: 139)

living at San Felix, originally a fishing village located at the Orinoco riverside. The several mining projects in the region had attracted many new residents after the discovery of iron in the 1940s. Most migrants settled in San Felix, which grew in a few years from 1,500 to 24,000 inhabitants (Appleyard, 1976). Further, another settlement called El Roble was formed along the main road close to San Felix.

At the other side of the Caroní river there was Puerto Ordaz, a company town of 6,000 inhabitants. This town was planned and designed by Jose Luis Sert, a prominent CIAM figure for the Orinoco Mining Company, which extracted iron from Cerro Bolivar. As a typical company town in developing countries, Puerto Ordaz had clearly segregated neighbourhoods and facilities for the North American staff – who had access to a large 'country club' – and the local workers.

In such a geographical and physical context, a proper link between the existing settlements was a design imperative. This led to a masterplan whose dominant feature was an infrastructural backbone connecting San Felix and

Figure 5.4. The Plan Rector de Desarrollo Urbano of Ciudad Guayana
(Source: authors archive, Victor Artis)

Puerto Ordaz in 1950s, Sert (Courtesy of Special Collections, Francis Loeb Library of Harvard Graduate School of Design, Archive Josep Luis Sert, B76-1)

Puerto Ordaz, which continued towards the industrial areas of the Iron Mining Company and Orinoco Mining Company located at the west. The planned residential areas and their respective commercial and cultural centres were located around the existing settlements (see Figure 5.3).

The infrastructural spine, Avenida Guayana, connected the steel mill industrial area on the west side with the airport, the Altavista commercial centre and residential areas of San Felix, the Punta Vista cultural centre, and across the Caroni River to the hospital and San Felix centre at the east side. The plan also envisioned residential areas adjacent to the existing settlements of Puerto Ordaz and Castillito in the West and El Roble and San Felix in the East. The Alta Vista commercial centre was located on the Western plateau because of its good accessibility and its visual connection with the valleys on both sides of the river. The most beautiful natural area of the city, near the bridge and the natural parks, was chosen for the Punta Vista cultural centre (Von Moltke, 1969).

With employment on the west side and the concentration of housing at the east side, transportation was one of the most important planning issues. A rapid-transit system was considered too expensive, so in the context of oil-rich Venezuela, it was decided that transport would be by private cars, taxis, buses and the local 'por puestos'. This led to a car-oriented city that functions along a transport corridor, Avenida Guayana, connecting the residential areas, the commercial and cultural centres, and the industrial areas (Von Moltke, 1969: 137-139).

One of the goals of the masterplan was to provide housing for the residents closer to their work, in most cases the industry at the west end of the city. Yet most people settled near San Felix. Despite the attempt by planners to create socially mixed new residential neighbourhoods, homogenous neighbourhoods arose on the Puerto Ordaz because the CVG encouraged higher and middle class buyers to move there (Corrada, 1962: 1965). In such a way, the natural separation of the river also became the division between rich and poor, which is one of the main reasons why, even today, the process is considered a failure.

Although the basic elements of the 1964 plan were maintained for several years, it experienced important adjustments from the start (Peattie, 1987). These adjustments reflected the results from studies about the economic,

social, cultural, and financial issues. On the other hand, the implementation of the different area plans, demanded repeated changes and adaptations of the masterplan. Figure 5.4 shows one version of the masterplan for Urban Development of Ciudad Guayana planned for one million inhabitants.

5.5. Discussion

Ciudad Guayana stands among the most important examples of planning and building a new town in Latin America, realised under the ideas of progress and modernisation, which clearly benefited from the abundant profits from the oil industry. As many academics studying Ciudad Guayana have mentioned (Peattie, 1987; Angotti, 2001; Irazábal, 2004), the city was essentially an economic effort of the national government for regional development: it was planned to perform an essential role in both the regional and national industrial development of Venezuela. Ciudad Guayana was also a way to represent Venezuela as a modern and powerful nation in the eyes of the world at that particular moment.

The case of Ciudad Guayana shows many similarities with some of the recently planned and built satellite cities, high-tech spaces and new towns developed in Asia, Africa, and the Middle East, conceived of by their respective national governments as ambitious attempts to diversify and innovate their economies, while showing the world their country's achievements in the current world competition. In Africa, for example, such 'urban fantasies' project an image of modernity and that Africa is 'rising', while ignoring 'the fact that at the moment, the bulk of the population in sub-Saharan Africa cities is extremely poor and living in informal settlements.' (Watson, 2014).

New towns, growth poles and satellite cities implicitly have a strong relation with urban planning; they existed first as a utopian idea or a vision that needed to be planned and designed in order to be realised. Many of such spaces were built all over the world during the post-war period, a period of relative economic prosperity and high demographic growth. However, few of them have been able to meet the utopian objectives of the planners. Nevertheless, they have been valuable tools that have given useful insights

regarding different planning processes such as managing land use and the right to develop land, locating industrial areas, financing urban development, comprehensive planning aspects, and environmental issues (Abrams, 1964). This has also been the case in Ciudad Guayana, which, thanks to the strong academic attention it attracted and the related publications that documented the planning experiences, could also be considered a remarkable urban laboratory (Snyder, 1963).

Such an ambitious project evidently required the best possible experts to realise the idea in both an effective and an exceptional way, for which leading academics and planning experts from the Joint Center were hired by the Venezuelan government. Their expertise was considered the best possible to give shape to a modern industrial city, in order to attract capital and the required technical staff, during this period of abundant money flows and strong ties between the North American and Venezuelan governments.

The Ciudad Guayana plan, placed in its historical context, was a reformist attempt to create a new type of urban development in cities of Latin America (Agnotti, 2001). The planning concepts embraced by the Joint Center planners – based on the Modern Movement's democratic ideals; advocating for a welfare state; attempting to shift away from top down functional planning towards participatory planning; promoting the integration of the needs of low-income groups in the plans – were considered impractical, utopian and idealistic by local counterparts. Eventually, the original planning intentions did not survive the clash and the economic-driven pressures and interests of powerful stakeholders would give shape to Ciudad Guayana's urban development. The result is that Ciudad Guayana developed into a highly segregated city, which hardly differs from other cities of the region.

Irazábal (2004) has argued that the type of planning used in Ciudad Guayana promoted the existing social and spatial inequalities of the city. Indeed, masterplans and procedural planning may have contributed to shape and develop Western cities in the past, but have proved to be very inefficient in the rapidly growing cities of developing countries, which obviously do not share the conditions in which such type of planning originated. Places with high levels of poverty, inequality, and rapid growth have much more urgent and serious challenges to tackle, with a more complex nature and timing.

Furthermore, even before Ciudad Guayana was conceived of as a one city, it already existed as two very different towns – San Felix as a squatter area and Puerto Ordaz as a company town – with very contrasting social structures and cultural values. The Joint Center soon found out that its well-intentioned planning approach was not able to overcome the large division between these two existing settlements, as well as the problems associated to the socio-cultural conflicts and economic contrasts of the Guayana region. The informal response to the promise of the new city occurred so fast that it overwhelmed the planners: 'Some twenty thousand squatters in 1962 lived in the projected steel city of Ciudad Guayana, even when it was being planned and when the steel plant was providing only a thousand jobs' (Abrams, 1964: 18).

In the end, what happened in the case of Ciudad Guayana, was no different to what happened to Brasilia (Holston, 1989), and many other centrally planned towns and cities in developing countries. Even if the experience has been considered by many as failed, Ciudad Guayana has provided important lessons for planning efforts elsewhere:

- To avoid the problems linked to urban segregation, planning should strive for an inclusive kind of city that considers the needs and demands of all social groups, instead of focusing on the demands of higher-income groups. Facilitating the participation of all urban actors in planning processes, including community organisations and marginalised groups, is a key requirement to effectively improve the urban conditions. This lesson is especially relevant for the current type of privately-led new town projects being built in the Global South, whose developers tend to favour privileged groups. 'The consumptive and supply-driven character of many new city projects, their insertion into complex 'rurban' spaces with even more complex land governance arrangements and their tendency to implement post-democratic, private-sector-driven governance will make them, at best, unsuitable for solving any of the main urban problems Africa is facing and, at worst, they will increase expulsions and enclosures of the poor, public funding, and social spatial segregation and fragmentation' (Van Noorloos and Kloosterboer, 2018: 1237).
- The Joint Center emphasised the importance of comprehensive planning, linking economic, social, and spatial concerns, and used a

multi-disciplinary team for these goals. However, the clash with the economic orientation of the CVG finished in the dominance of the latter views. The main lesson here is that adequate instruments – capacity development, cooperation, mobilisation of financial resources, political and legal frameworks – should be used to achieve a more equitable allocation and distribution of urban facilities and services. For example, the successfully applied aided self-help policy in Ciudad Guayana, and especially the sites & services scheme should be revisited within the contemporary debate on new towns.

- From the consequences of on-site planning versus off-site struggle, it became evident that even the best and well-intentioned planning experts may not be sufficiently aware of the local circumstances from afar. New towns and their related urban visions cannot be developed by means of blue-prints or abstract planning models, as they are linked to distinctive local, regional, and national contexts. Careful awareness of the local cultural features and of the socio-economic conditions of the population, is indispensable for effective planning.
- Finally, the issues related to the urgent versus long-term planning concerns, have pointed out that a strong focus on implementation becomes highly important in the type of contexts of high complexity, rapid change, and uncertainty characteristic of cities in developing countries. New towns in contexts of high levels of complexity require adaptive and flexible instruments that are able to link the many urban actors and a wide variety of means.

The lessons coming from the original planning of Ciudad Guayana clearly coincide with the recently embraced planning guidelines of the New Urban Agenda (United Nations, 2016), expressed in the commitments for social inclusion, urban prosperity, and opportunities for all, and sustainable and resilient urban development. The Ciudad Guayana planning experience can be considered as a useful urban laboratory which helped to make clear that even progressive and thoughtful planning concepts for new towns cannot succeed without taking proper consideration of the future inhabitants and their societal circumstances, even if there are enough financial means to realise the plans. This verifies that 'planning cannot create the preconditions for its own success.' (Wildavsky, 1972: 508).

5.6. Conclusion

Ciudad Guayana has often been described as a failed city regarding to its planning process, with a too ambitious approach based on utopian views; and a design approach based on modern ideas of segregation of functions; in which priority was given to infrastructure; and with a spatial form that tried to integrate the existing parts without success. Its city planning was especially criticised on the subject of integration between the social and cultural aspects in the plans. Peattie (1987) correctly mentions that not enough was done to include the inhabitants in the planning process, and we know now that stakeholder participation in planning processes is indispensable to achieve effective and inclusive development.

But there are also positive considerations about Ciudad Guayana's planning, especially in the perception of Venezuelans, that is linked with the function it fulfilled as a successful industrial growth pole in the country's development (Ramirez, 2015). The impact of Ciudad Guayana in Venezuela was indeed significant, turning the Guayana region from a rather sleepy region into an important industrial hub with an active inner port (Correa, 2016).

More importantly, Ciudad Guayana became an important reference for national planning strategies across Latin America, exerting a significant influence across multiple scales and arenas of regional planning in South America (Correa, 2016). One of the most positive effects of a reference was the dissemination of the disciplines of urban and regional planning as useful and innovative tools for socio-spatial change in the context of the economy-driven societies in the region during that period. 'In those decades of US-backed developmentalism, Latin America's transition from urbanismo into planificación and planejamento adopted techniques and ambits drawn from regional planning.' (Almandoz, 2016: 33).

Other fruitful and inspiring elements of the planning and building of Ciudad Guayana have been the thoroughly devised housing experiments developed and implemented to test different planning approaches. El Roble Pilot Project is an illustrative example of such attempts to humanise the planning process, finding ways to bring formal and informal building processes together. Ciudad Guayana initiated a progressive attitude towards squatter settlements which led to inclusionary alternative strategies for informal settlements that still have

a considerable influence in contemporary Latin American urbanism. ‘Recent successful experiments in the transformation of squatter settlements as Quinta Monroy in Iquique by Elemental have used approaches similar to those in El Roble.’ (Correa, 2016: 108).

Seen in the spirit of the time, the unique collaboration of the Joint Center and the CVG, added valuable knowledge and experience to the urban laboratory of Ciudad Guayana during a crucial turning point in the international discourse on urban planning. In ‘its historical context, it was a path-breaking effort, a progressive attempt to create an alternative to the impoverished, dependent metropolis then common in Latin America. The rational comprehensive planning model was a necessary accompaniment to the massive government investments in the industry. Without a sizable and comprehensive planning effort, these investments could have been compromised’ (Agnotti, 2001: 330).

Another turning point is taking place in the current urban discourse, in which urban planning and design have attained a fundamental role to respond to the fast growing urbanisation processes of the Global South. Ciudad Guayana is still a valuable source for useful lessons to achieve more inclusive and sustainable cities, with affordable housing for everybody.

Ciudad Guayana, 2009

6. Building Ciudad Guayana

Chapter 5 analysed the planning process of Ciudad Guayana. The challenge of building a new city to strengthen the regional economy of a country, with affordable housing for all income groups, was reflected in the planning process: the struggle between economic priorities and a welfare state ideology. This chapter answers the question of how the implementation of the plans for Ciudad Guayana in the 1960s responded to the ongoing rapid urbanisation process. For this purpose, it analyses the demonstration projects developed for the housing programme which is considered one of the success factors of Ciudad Guayana's original plan (Correa, 2016). This chapter builds upon the conclusions from the case study in chapter 4, in which 23 the Enero, with the iconic super-block structure, failed to answer to the housing needs linked to the rapid urbanisation process.

Through the implementation of demonstration projects and experiments, Ciudad Guayana's housing programme was part of the general planning process from the beginning. Under the advice of housing expert Rafael Corrada, the Corporacion Venezolana de Guayana (CVG) used the 'Settlement Strategy', as an important part of the housing programme. This strategy was the starting point for the reception of migrants in Ciudad Guayana, and responded to the short-term demand, the growing housing shortage and also provided input for the large-scale long-term plans for the entire city.

The main focus in this chapter is on the implementation of one of these demonstration projects, El Roble Pilot Project, which illustrates the use of aided self-help in Ciudad Guayana. The first section analyses the housing policy and related programme during the period that the Joint Center for Urban Studies was working in Ciudad Guayana in order to clarify the context of the specific projects. The second section describes the demonstration projects.In the third section, the El Roble Pilot Project will be described. An

analysis of El Gallo, a neighbourhood within the El Roble Pilot Project that has been developed through aided self-help with a sites & services scheme, follows in the fourth section.

The most important sources for the analysis were the archives of the Joint Center for Urban Studies at MIT and Harvard University and the many publications on the planning and development of Ciudad Guayana. The (policy) documents of Corrada and Silva were particularly important for analysing the El Roble Pilot project. Interviews with members of the CVG and Joint Center for Urban Studies teams held during a site visit in 2009 and during the visit to the Cambridge archives provided insight into the intentions and motivations behind the housing programme. Highly valuable interviews were held with William Porter, architect of the Joint Center in 2011; a joint interview with Victor Artis, architect of the CVG; with Gustavo Ferrero Tamayo, member of the board of directors of the CVG, who also worked on the housing programme; with Oscar Tenreiro, architect and brother of Jesus Tenreiro, architect of the CVG headquarters in 2009; and with Anthony Penfold, part of the Joint Center team as city and transportation planner. A literature review provided specific insights about the aided self-help policy in general and in Ciudad Guayana specifically, in which the work of Carlos Reimers, who did intensive research on El Gallo, was especially useful.

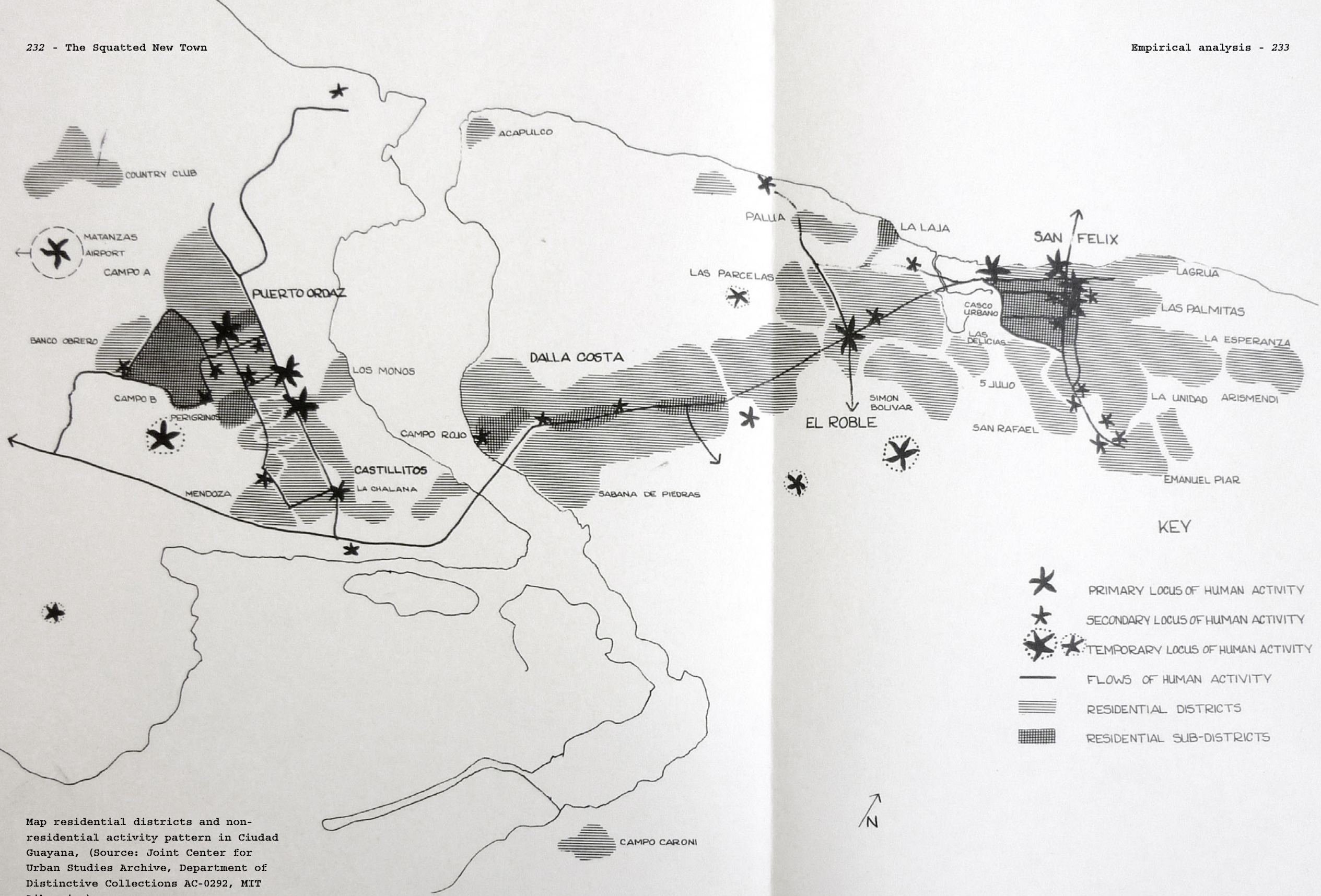
6.1. The housing programme in Ciudad Guayana

While the planning of Ciudad Guyana was mainly driven by economic motives, the provision of affordable housing for the future inhabitants was an important spearhead during the planning process of the new town in which the CVG and the Joint Center worked together. As discussed in the previous chapter, the CVG reluctantly felt compelled to take up the housing issues, which the Joint Center had been steering from the start. The Joint Center advocated for a housing programme for all income groups, which would promote the development of the building industry to supply the necessary building materials to carry out the desired housing construction. The programme would also bring employment and a training programme within the construction industry, so that residents could improve their own skills (Corrada, 1965).

In 1965, Rafael Corrada, housing expert at the Joint Center, proposed a housing policy for Ciudad Guayana in a policy document entitled “A Housing Policy for Ciudad Guayana” (1965). This proposal outlined the background of the housing problems in Ciudad Guayana and formulated a general framework as a guideline for the residential facilities (Corrada, 1965). This policy was based on a series of experiments that had been started in 1962 in Ciudad Guayana on the advice of Corrada, in order to find a quick answer to the urgent demand for housing that had rapidly increased. In order to stop the development of informal urbanisation (in ranchos), the El Roble Pilot Project was started, with different models for the housing of mainly lower income groups, within the urban laboratory of Ciudad Guayana (Snyder, 1963). The policy of 1965 was the outcome of the first results of projects and experiments carried out in Ciudad Guayana. This pragmatic development of the policy ran parallel to the development of the final masterplan of the city, which was adopted in 1964 but modified many times thereafter. The housing policy and the related demonstration projects and experiments are examples of the pragmatic planning approach presented in chapter 5, in which various smaller area plans were developed and implemented in a short time (Rodwin, 1969b).

In the housing policy document, Corrada stated that the first housing programme for Ciudad Guayana would be ‘of reception, progressive urban development and rehabilitation’ (Corrada 1965: 9). He highlighted the importance of housing for all income groups and stated that informal urbanisation could not be stopped. At that time, there were already 5000 ranchos at eight different locations in the city (Abrams, 1964). For Corrada, the planned new city was a unique opportunity to realise his ultimate goal of accessible housing for all. Corrada mentioned that he felt that this was also an obligation as an urban professional working in this type of context. He aimed to develop a city that would eventually have no ranchos, ‘the dream of every planner’ (Corrada 1965: 5). Such city would develop without the negative aspects of informal urbanisation (the ranchos), but would make use of its positive aspects, such as self-organisation.

The proposed policy included housing programmes for each of the different income groups: housing for squatters, working-class housing, middle-and high-income housing (Corrada, 1969). To have full control and strengthen



Map residential districts and non-residential activity pattern in Ciudad Guayana, (Source: Joint Center for Urban Studies Archive, Department of Distinctive Collections AC-0292, MIT Libraries)

MAP 1 RESIDENTIAL DISTRICTS AND NON-RESIDENTIAL ACTIVITY PATTERN IN CIUDAD GUAYANA

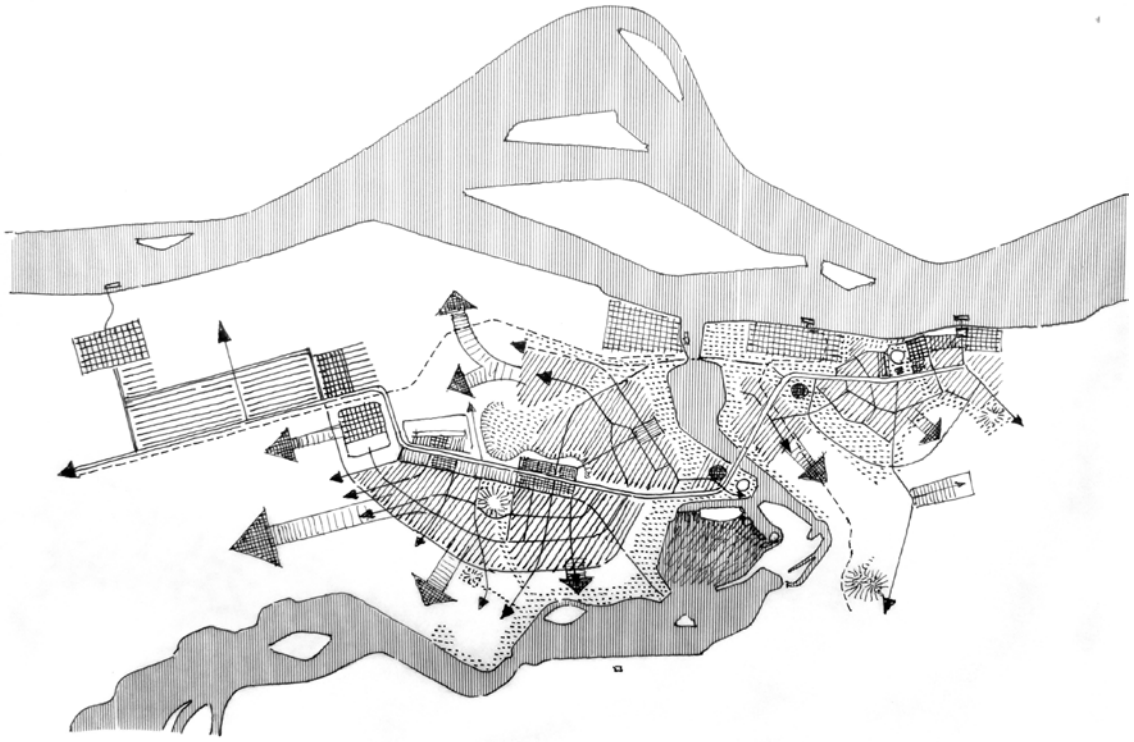


Figure 6.1. Avenida Guayana as the backbone of Ciudad Guyana, study (Courtesy of Special Collections, Francis Loeb Library of Harvard Graduate School of Design, Von Moltke Collection series 1a-57a)

the programme, the CVG strived for as much land ownership in the area as possible.

The central concept of Ciudad Guayana's urban design was the neighbourhood unit (Unidad Vecinal, UV) also important for the housing policy (Correa, 2016; Porter, 1969). The UVs comprised of a diversity of housing types that ranged from housing for managers at the mine to aided self-help housing for workers. Avenida Guayana was the central axis that connected these neighbourhoods, and the starting point of the city's urban design, which gave it a linear form. "The confluence of avenue, centrality and neighbourhood resulted in a collection of spreads and densities that guaranteed a vibrant urban environment and a city with a strong image" (Correa 2016: 99) (see Figure 6.1).

In order to realise the ideal of housing for all, Corrada (1969) analysed several possible strategies for the reception and future housing of migrants:

- In the 'Policy Strategy', migrants are admitted to the city when housing is available for them. This requires a good deal of control and policy on how the population moves and migrates. According to Corrada, this has not succeeded even in the most totalitarian states, so it is not an option for Ciudad Guayana, which should become an example of Venezuela's new democracy.
- The 'Massive Construction Strategy' develops an implementation programme that is tailored to the expected migration, but this required financial resources that were not available in Ciudad Guayana.
- The 'Confinement Strategy' (applied in Brasilia) reserves an area adjacent to the formal city where informal settlements are allowed. The relocation of the inhabitants of the informal settlements in the city takes place when affordable housing is available. The settlement area has a temporary character and there is no certainty of land ownership. The inhabitants are not encouraged to develop and improve their homes and to invest money and work. Instead, they are offered the prospect of an apartment, which in most cases is not geared towards income and needs. This was not an option either because Corrada preferred a 'progressive development' strategy, whereby the initial precarious shelters would be gradually replaced by a permanent home (Corrada, 1969).

On Corrada's recommendation, the CVG chose the 'Settlement Strategy', a strategy in which the informal process of urbanisation is accepted in the development strategy, because it is part of the process of urbanisation. An attempt was made to support informal urbanisation in defined areas, the so-called reception areas. The areas were developed according to a 'community layout', so that the homes could gradually expand and develop into finished homes, following a process of progressive development. The starting point was the aided self-help method with a sites & services scheme, relying on the labour of squatters. It included residents' training in building techniques, to speed up the building process from a hut to an adequate home, so that no permanent slums were created. Technical assistance and replacement with good building materials would be provided in the existing slums.

Corrada (1965) stated that in this way, over a period of 5 years, the ranchos had to be replaced by houses that would meet a certain standard. To achieve this target, it was necessary to provide basic construction on the plots of the sites & services, which would replace the informal construction. By this he meant the 'core house' referred to by Abrams (1964) (see chapter 3). Corrada called it a shell house (*casa-casco, nucleo*), with prefabricated elements for which a manual was made for the self-helpers.

Corrada felt that this method was applicable to Ciudad Guayana because migrants were motivated to improve themselves economically and they wanted to contribute with their own labour. Instead of improving their own rancho, in this way they could work more productively on a complete and permanent home (Corrada, 1969). The El Roble Pilot Project (UV 2) was set up to implement and test this aided self-help and progressive urbanisation strategy, which had the characteristics of informal urbanisation as its starting point (Corrada, 1962; Porter, 1969).

Within the framework of various housing interventions programmes, demonstration projects were carried out to test the planning concepts. The demonstration projects stemmed from an adaptive planning approach that responded to acute short-term issues. At the same time, the results of the projects provided input for a more comprehensive long-term planning approach for the city as a whole. The demonstration projects for middle- and high-income earners were complementary to the experiments for lower-income groups. Although the aim was to create an inclusive city with housing opportunities for all income groups, in practice this was done in a segregated way. Opportunities were identified for each group and experiments were started through demonstration projects, but the locations of the projects for the middle- and high-income groups, on the western side of the city near Puerto Ordaz, were far away from locations with the lower-income projects on the eastern side, with the river as a major barrier. The next sections focus on two examples of demonstration projects for middle- and higher-income groups, (UV4 and UV3) and demonstration projects within the Settlement Strategy (El Roble Pilot Project with the El Gallo neighbourhood) (see Figure 6.2).

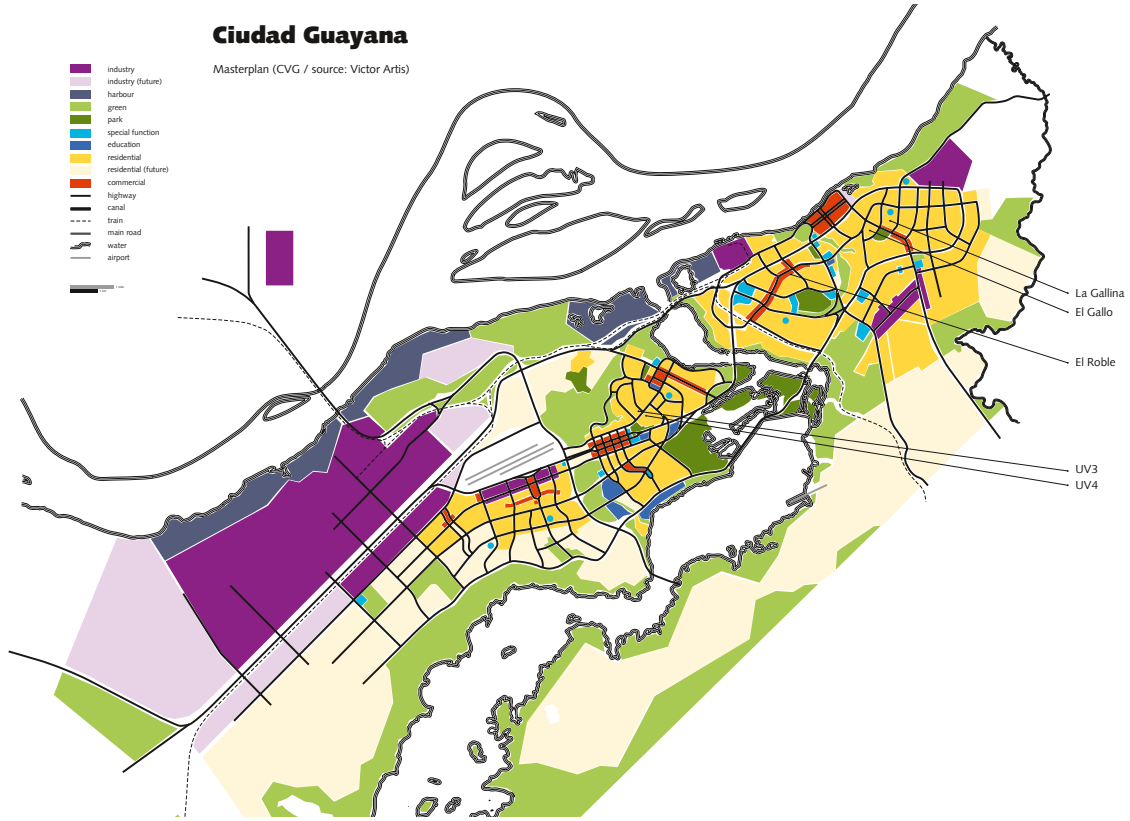


Figure 6.2. Masterplan of Ciudad Guayana

6.2. Demonstration Projects UV4 and UV3

A major experiment and demonstration project for the housing of future industry staff and management was planned on the west side of the city (Puerto Ordaz) near the developing industry, the Unidad Vecinal 4 (UV 4). UV4 was developed in the early period of the CVG-Joint Centre collaboration in 1961: 'the plan for UV4 was very specific and detailed and a demonstration of the CVG's intention to provide high quality living for the elite and a demonstration to the residents of Ciudad Guayana of a better way of life' (Porter, 1969: 254). The city had to become as attractive as possible for the elite (and the investors), to convince them to settle in Ciudad Guayana, instead of travelling back and forth between Caracas and Ciudad Guayana. At the same time, UV4 was an experiment to test the implementation of a new design and to investigate whether people would accept the design. It was a prototype for the future residential areas that had to be built on a large scale.

Figure 6.3. Masterplan of Unidad Vecinal 4, 1962 (Courtesy of Special Collections, Francis Loeb Library of Harvard Graduate School of Design, Von Moltke Collection 4A, series 1A-57A)

Figure 6.4. Original plan of UV4 projected on current situation -1 (Source: Crimson & 2020 © Google Earth)

Figure 6.5. UV4 projected on current situation, showing similarities in the street pattern (Source: Crimson & 2020 © Google Earth)

Figure 6.6. Current situation UV4 location, showing different parcelling and housing (Source: 2020 © Google Earth)

As indicated in Chapter 5 (in 5.2), the first phase of Ciudad Guayana's planning process was still determined by design-based planning as an infill exercise for a blueprint of a new city.

The design for UV4 was based on the concepts of the Modern Movement, with a separation between living and working, traffic circulation, and space for facilities and education, and with lots of greenery and a fluid transition from public to private, busy to quiet, and urban to rural. Areas with a higher housing density were combined with shopping areas, public space to create vibrant centres in the residential areas (Figure 6.3). In order to meet the required number of dwellings, strip construction and low-rise apartment buildings were used to obtain a higher density. This was very different from what was typically done in Venezuela during this period, which was essentially the North American suburban model of a low-density residential area with self-contained single-family dwellings (Porter, 1969). For example, the urban extensions of Caracas and the two new towns designed by Sert in the 1950s as precursors to Ciudad Guayana followed this model.

The design of UV4 was a strategy that combined the neighbourhood unit of Clarence Perry and the work of Patrick Geddes in creating a community (Correa, 2016). This was the model of the post-war new towns, in which many elements were carefully tuned, such as traffic regulation between pedestrians and cars. There were different types of public spaces with greenery and water features (landscaping) and the schools were planned in easily accessible locations. Shops and community centres were also provided in central locations in the vicinity of the homes. The expectations were that the carefully designed project, with many (re)new interventions, could be a demonstration project that would help 'to shape taste' (Porter, 1969: 254).

Funding was difficult to find, however, and the CVG did not want to take the risk of investing in housing itself. In the end, however, the CVG did invest with a guarantee of financing via US AID. However, only a small part of UV4 was carried out with this funding. Only the street pattern of the neighbourhood is still recognisable in the current situation, when projecting the original plan on the map of 2020 (see Figures 6.4-6).

Figure 6.7. Unidad Vecinal 3 (UV3) in Puerto Ordaz (Source: Porter, 1969: 255)

Simultaneously with the planning of UV4, a second neighbourhood, Unidad Vecinal 3 (UV3)[11] was designed in Puerto Ordaz, for middle- and higher-income groups (see Figure 6.7). The plan for UV 3 was more conventionally a North American suburban, with cul-de-sacs and two connected houses. The design was an existing housing design and the housing density was much lower than UV4. Funding for this plan came from a large Venezuelan developer (Porter, 1969) and it was quickly implemented and occupied. It is still clearly recognisable in the current map of the neighbourhood (see Figure 6.8 and 6.9).

11 William Porter (1969) refers to this neighbourhood as UV3, but comparative research with the current situation and original maps revealed that the plan fits on the location of UV6. Further research is needed. On Figure 6.15. the neighbourhood is indicated as UV6.

Figure 6.8. Original plan of UV6 projected on the current situation (Source: Crimson & 2020 © Google Earth)

Figure 6.9. Detail showing that the original parcelling is still accurate (Source: Crimson & 2020 © Google Earth)

Because there was a housing shortage and people started living in places where it was possible, it was difficult to make a substantive comparison between the two UVs, according to Porter (1969), but the fact is that UV3 was financed and UV4 was not. According to the urban designers, the plan was less well thought-out, but it was implemented more quickly and was very popular with the residents. The people who were going to live there had a higher income than the income target group for UV3; it was actually the target group for UV4.

An attempt was made to innovate the urban design of the residential areas, but in the case of UV4, this was not successful. The whole experiment provided various models for residential areas that had to be applied on a larger scale, but the financiers did not want to take the risk and chose a conventional type of urban design. Remarkably, high-rise buildings were not part of the experiment, probably because of the negative experiences of superblocks in Caracas and the large availability of space. No effort was given to implement high-rise strategies for new towns and large-scale approaches. Despite the experiments and international input of the Joint Center, the innovations in Ciudad Guayana seemed limited. However, this was not the case for the housing programme for lower income groups, a task that was very relevant at an international level and therefore also had an effect on the planning of Ciudad Guayana. The El Roble Pilot Project, part of the Settlement Strategy, is the most outspoken example of this experiment.

Box 3: Main Stakeholders of the Housing Programme of Ciudad Guayana

- The CVG was a regional development company and not a housing agency and therefore it wanted to transfer housing affairs to organisations specialised in housing construction. It was expected that the private sector would make a maximum contribution to housing construction, to implement half of the plans, so that public money could be spent on housing provision for lower-income groups. However, Banco Obrero, which was responsible for social housing, could not meet all the housing needs of Ciudad Guayana. Eventually, the CVG had to find a solution.
- Fundacion de la Vivienda de Caroni (FUNVICA) was established to implement the housing programme for low-income groups. It was an organisation made up of representatives of the municipality of Caroni, of which Ciudad Guayana is part, the CVG, the Banco Obrero and the Fundacion para el Desarollo de la Comunidad y Fomento Municipal, the national Foundation for Community Development and Municipal Improvement (Fundacomun). In FUNVICA, politics and expertise were combined.
- Asociacion Guayanesa de Ahorro y Prestamo, (AGAP) was the savings and credit bank, started by the CVG to provide mortgages.
- Fundacion de la Vivienda Popular (FVP), a private non-profit organisation with which the CVG made specific agreements to build more than 800 houses for middle-income families.
- International Housing Associates (IHA), the CVG together with the Agency for International Development (US AID) established special guarantees for IHA to build 800 houses. However, due to all kinds of negotiations and government bureaucracy, this eventually led to the construction of only 200 houses. This became the only project that has been paid directly from the Inter-American financing through US AID; such project financing proved difficult to obtain because the US AID wanted to make financing available for the whole of Venezuela on a national level. This was done by means of the Plan Nacion of 1963-1966 (Koth et al., 1965: 70).
- Rafael Corrada was familiar with aided self-help housing and the sites & services scheme, because of his involvement in Puerto Rican housing development and as a professor at the University of Puerto Rico. As a member of the Joint Center, he was given the space to develop and implement his ideas by taking advantage of the opportunities offered by the CVG. He also advised the CVG on how to act within their own boundaries regarding housing.
- Architect Julio A. Silva was a researcher within the Inter American Programme, studied at MIT and was involved in the evaluations of the El Roble Pilot Project. He was also a member of the editorial team of Housing in Latin America (1965).

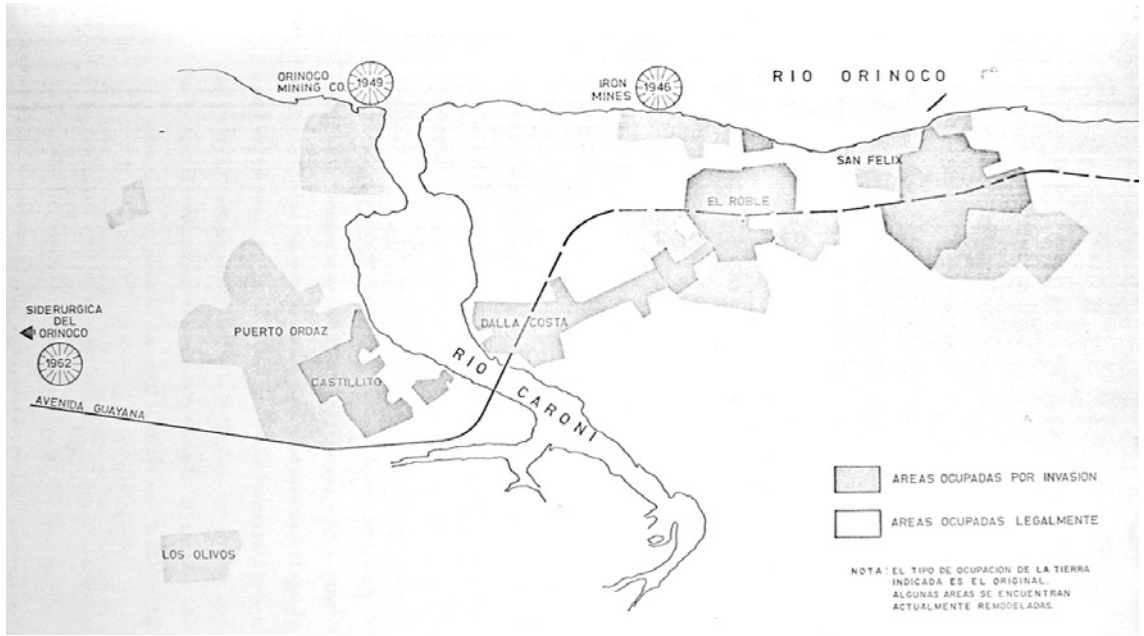


Figure 6.10. Map of invaded areas, with the reception areas indicated
(Source: Silva, 1967: 12)

6.3. El Roble Pilot Project: Self-organisation as a starting point

As part of the Settlement Strategy, another experiment, Unidad Vecinal 2 (UV2), was undertaken in parallel with the planning and implementation of the UV3 and UV4 on the other side of the Caroni river in the eastern part of the city. UV2 was the El Roble Pilot Project for housing for low-income groups. The projects that were part of the pilot were called reception communities because they had to accommodate the increasing flow of migrants (Corrada, 1965). The project started in 1962 when Corrada proposed the El Roble Pilot Project in order to gain experience and knowledge about possibilities for the urban development of Ciudad Guayana, which at that time was mainly affected by a fast growing migration to the city and a resulting housing shortage. Informal urbanisation grew throughout the city, but also in high-risk locations, such as river overflow areas that became more vulnerable with the construction of the new dams (Corrada, 1965; Abrams, 1964). Furthermore, at that time, adequate housing had to be provided specifically for the people who were going to work in the new steelworks. The area around the informal settlement of El Roble was chosen as the location for the Pilot Project because it was still largely free, thus it allowed maximum freedom to develop a community. The Pilot Project was precisely located between Puerto Ordaz and San Felix and can also symbolically be seen as the place where planning and informality came together (see Figure 6.10).

The housing program of El Roble Pilot Project consisted of the development of 2000 lots and 1600 houses, of which 1000 lots only received a minimum of services and could gradually be completed and improved. The other 1000 lots received a basic supply, consisting of their own water supply and drainage, sewerage, paved streets, and sidewalks. An additional proposal within this project was to develop 100 temporary houses, which were placed at the back of the lot and could be removed when the final house was finished at the front. The development of permanent homes was promoted by offering loans for the building materials for residents who could and wanted to build by themselves.

The programme would be embedded in urban policies regarding the rental or sale of the houses and plots, to have a far-reaching effect beyond the Pilot Project alone. It concerned policies setting rules and guidelines for land ownership, selling prices of plots and houses, prioritisation of plots for progressive urban development (i.e. sites & services), temporary housing, loans for materials, and economical housing (Corrada, 1962). In addition to the urgency to provide housing, the Pilot Project was designed as a test in progressive urban development as an effective possibility to provide housing for lower-income groups. Through the implementation of the project, CVG staff could also be trained in the implementation of urban programmes and projects. Finally, the necessary funding and policies were tested and evaluated.

Corrada (1965) called the approach within the El Roble Pilot Project an approach that combined short- and long-term strategies in response to rapid urbanisation: a comprehensive action project. He stated that tackling urgent issues, such as the housing shortage, should not be hindered by long-term considerations, but should be part of building a sustainable community that over time should achieve socio-economic integration of different income groups. At the same time, it would provide data for the overall urban development of Ciudad Guayana.

The research programme that was part of the planning process through the collaboration with the Joint Center was therefore essential for the project so that expertise and knowledge could be gained, but also shared within the international discourse on housing and urbanisation (Corrada, 1962). International experts such as Charles Abrams, John Friedman and Kevin Lynch were part of the team or were asked to give external advice on the planning and implementation process.

After the start of the El Roble Pilot Project, evaluations were carried out by the CVG in 1964 and 1967, which gave insights of the course of the project (Silva, 1964; 1967; Corrada, 1965). The El Gallo residential area, a part of the Pilot Project in which aided self-help with the sites & services scheme was applied, had several evaluations and observations up to 2002, which provided a better understanding of the progress of the project.

6.3.1. Aided self-help in El Roble

The El Roble project was an important experiment carried out to find an aided self-help housing strategy as an answer to the influx of new residents. It investigated which planning model could offer the possibility for the new residents to play a role in the development of the new housing. Even though the CVG was not a housing organisation but a developer, it was aware that housing was an essential part of the city's development, and could not afford not to take action on this. An additional advantage for the CVG, was that housing construction also provided local employment, which contributed to the CVG's objective of economic growth. By teaching them how to build their own house, it would improve the skills of the residents and at the same time increase their income.

An essential part of the aided self-help programme was therefore the participation of the (also unskilled) inhabitants. This was confirmed by the evaluation of the El Roble Pilot Project made by Silva in 1964, which analysed the difficulties of aided self-help (Corrada, 1965). It proposed that unskilled low-income residents could also participate in the system, building a house for someone else, paid by FUNVICA. With the money they would earn by building someone else's house, they would pay for their own house in three years. They could choose from several options: (1) to build a house and get paid; (2) to build two houses, of which one for himself, or (3) to build three houses, of which two for FUNVICA and the third house for himself.

Housing control and urban planning had the preference of the government because they wanted to organise a solution to address the housing shortage. Instead of giving the future resident a free hand to build his house on the obtained plot at his own pace, the future resident was paid for his work and built a house according to an established design.

In addition to a housing (see Box 4) and training programme, the aided self-help programme also included the community development initiative to support or set up the social organisation of the community. This was of great importance as aided self-help is based on mutual aid, in which families or other relatives work together. The attention to the support of an independently functioning community as essential for an inclusive modern city reflected the changed modernistic ideals, which go beyond spatially and technically planned urbanisation, and calls attention to the human scale and the living environment. The contribution of the Joint Center for the well-being of the inhabitants was an essential factor in the plans for an inclusive city. The social programme was actively used to support the aided self-help developments and the communal public facilities. A 'social action group' (Reimers, 1992; Corrada, 1965) was set up that aimed at participation and cooperation with the residents. The improvement of education, living conditions, and work / craft was high on the agenda. Furthermore, a corresponding financial programme was developed, for which national and international public and private money had to be found, so that the investments of the CVG could be minimised (Corrada, 1962).

However good the initial ideals and starting points may have been, financing and the actual production of the project was still essential. For example, the possibilities within the Alliance for Progress, with which the United States supported housing, were examined. But to begin with, the start of the programme had to be geared to local capacity with independently functioning organisations such as the AGAP and FUNVICA. For the aided self-help part of the programme, the Materials Credit Plan was created, which provided loans to residents for the building materials of the house. Its starting point was that the production costs would be reduced by the residents' own labour. Another

important element that influenced the financial model was the situation of land ownership: the CVG leased the land to the residents with an option to buy when the permanent home was completed. In this way, the CVG wanted to maintain control over land-use and prevent speculation, avoiding unclear financing and ownership of the land.

6.3.2. Sites & services

An important key point of the El Roble Pilot Project was the ability of the CVG to retain control over land ownership and parcelling. Informal urbanisation at random places in the city had to be prevented. At the same time, the aim was to develop an allotment pattern for the houses, with which future buildings could be regulated. This was based on a sites & services scheme with 'progressive (urban) development'. "Based on observations of informal settlements is progressive development the process by which dwellings evolve, shaped by the changing cultural, social and economic characteristics of the household" (Reimers, 1992: i). The neighbourhoods within this programme called Programa de Mejoramiento Urbano Progresivo para Areas de Recepcion en Ciudad Guayana (Program of Progressive Urban Improvement for Reception Areas in Ciudad Guayana) (Silva, 1967) were the Unidades de Mejoramiento Urbano Progressivo (Progressing Urban Improvement Units) (UMUP) (see Figure 6.11). UMUPs started with a minimum of services, individual housing and public facilities, which were gradually developed/improved through a combined effort of the government and the user "...where tracts of lands were subdivided and progressively serviced with inhabitants participation" (Reimers 1992: 7).

The so-called 'rancho replacement' strategy was applied for a supervised development of the houses in the plot (Corrada, 1965). This strategy considered the rancho as part of a social urban structure, 'a lot-community-city system'. The main aim of UMUP projects was to incorporate informal urbanisation into the legal framework of the city (Reimers, 1992). This meant that the construction of the house was the main objective and was encouraged by giving the inhabitants the right to buy the land. Initially, a rancho was built on the back of the plot by its owner, after which the permanent home on the front of the plot would be gradually self-built according to the financial possibilities of the resident (Figure 6.12). It was

Figura Nº 12 AREAS DE MEJORAMIENTO URBANO PROGRESIVO EN CIUDAD GUAYANA 1.967

Figure 6.11. Urban regeneration areas of Ciudad Guayana in 1967 on the east side of the city where El Roble Pilot Project was located. UD 112 (El Gallo) and UD 113 (La Gallina) are part of El Roble, (UV became Unidad Desarrollo -UD- during the planning process) (Source: Silva 1967: 44)

assumed that the security of land ownership would encourage families to use their own income and labour into replacing the ranchos and improving their homes. After the land was acquired by the CVG, it could be leased/rented by the inhabitants under the sites & services programmes until a complete house was built. Once the permanent home met the formal conditions, the resident could purchase the land. This process was implemented to avoid land speculation (See Figure 6.12).

6.3.3. Progressive urban development in El Roble

One year after the start of the implementation process of the El Roble project, in 1964, a first evaluation was carried out by Julio Silva, designer employed by the CVG. The CVG wanted to evaluate the process regularly

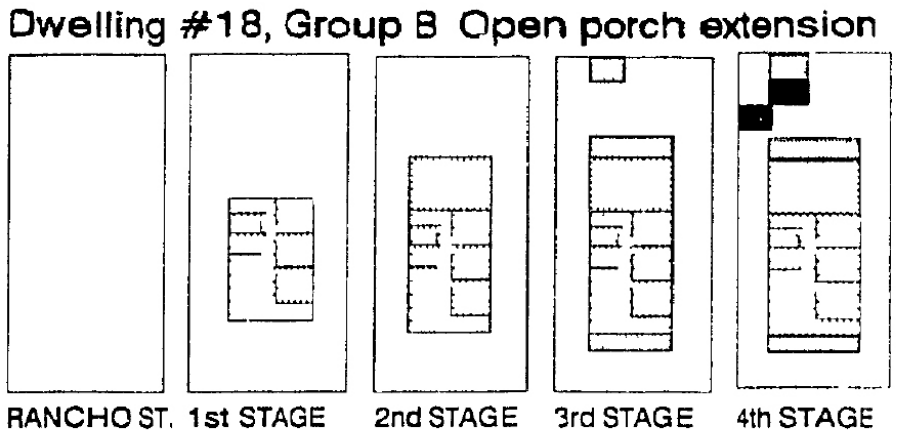


Figure 6.12. Different stages in house building in sites & services scheme in El Gallo (Source: Reimers, 1992: 94)

in order to improve it. The evaluation mentioned many problems, which mainly concerned the functioning of the local institutional framework. Several things went wrong in terms of coordination, political embedding, and time/planning. The procedures took a lot of time, while residents did not have a fixed monthly income, so the process stagnated. However, stopping the construction for a shorter or longer period according to the own financial possibilities is a characteristic of the progressive development strategy of the Pilot Project. A progress evaluation after such a short period was, as Wakely (2014) and others indicate, not very informative about the actual outcome of an aided self-help project. This should therefore not have been seen as a negative development, but as part of the development process.

The integration of inhabitants of different income groups was also difficult due to a lack of proper coordination in the CVG. However, this was a problem on the scale of the city as a whole and had been set in motion by the CVG's policy of segregation: higher-income groups in the west and lower-income in the east. This seemed difficult to change, although it was clear that the Joint Center remained committed to integration. Von Moltke stated in 1962 during the planning of El Roble, that an integral action plan had to be developed in which technical, social, and economic guidance was laid down, so that the physical plan could be implemented. If this did not happen, he warned that the creation of a community would not be achieved (von Moltke, 1962). Although

this aspiration was included in the Pilot Project, Silva confirmed a lack of integration in the implementation in 1964. Silva also saw problems with the local leaders, who did not support the plan because of frictions with the CVG. They mentioned that they felt disadvantaged in securing plots or housing for families, as well as criticism from the unemployed community, that they could not participate in the Material Credits plan which was an important part of the process.

The area where 'progressive urban development' took place was a success: in 1964, 886 of the 1000 lots had been constructed. Especially in the neighbourhood El Gallo, in the UV 112, where 300 families had initially built a rancho on their lot, which over time was replaced by a more permanent home. A similar development was also started in an adjacent area UV 113, La Gallina. According to Silva (1964) there were many possibilities in this area, people were very enthusiastic and he foresaw that the community would greatly improve as soon as sewerage and water was installed. It also turned out that families shared problems and were looking for solutions, and the residents were motivating each other to build their own homes. Silva (1964: 9) called the progressive urban development "one of the most fascinating points of the Pilot Project".

Box 4: Materials Credit Plan and self-help construction within El Roble Pilot Project

The Materials Credit Plan (MCP) involved the provision of building materials, for the residents to build their own house. These houses could also be part of the 'progressive urban development' part of the Pilot Project. Building materials were delivered in phases, depending on the progress of the building process. All materials could be obtained for 4 % interest over 20 years, and facilities for obtaining the lot were also offered.

Aided self-help assumes that the people do the work themselves and within this project this was possible in three ways: the resident outsourced all the work to a contractor (1); the resident built part of the house himself and part by the contractor (2); or the participant built his own house. Those who have built their own house with aided self-help can be distinguished in the group who have experience and fall under 'total self-construction' and those who have no experience but want to make their own contribution to reduce the costs of 'partial self-construction' and install the roof, paint the walls, etc. and then there are those who have no experience and represent a 'minimal self-construction', i.e. carrying the building materials and cleaning the site. The conventional materials that had to be used provided a limited group of people who could do the work themselves. Silva therefore also suggested that design should become part of the building process, so that more could be tailored to the possibilities of the residents and available materials. (Silva, 1967)

For the self-help construction, Do It Yourself manuals were drawn up, based on the migrants' normal schooling, so that a better home could be built with the available materials, while at the same time improving their skills (see Figure 6.13).

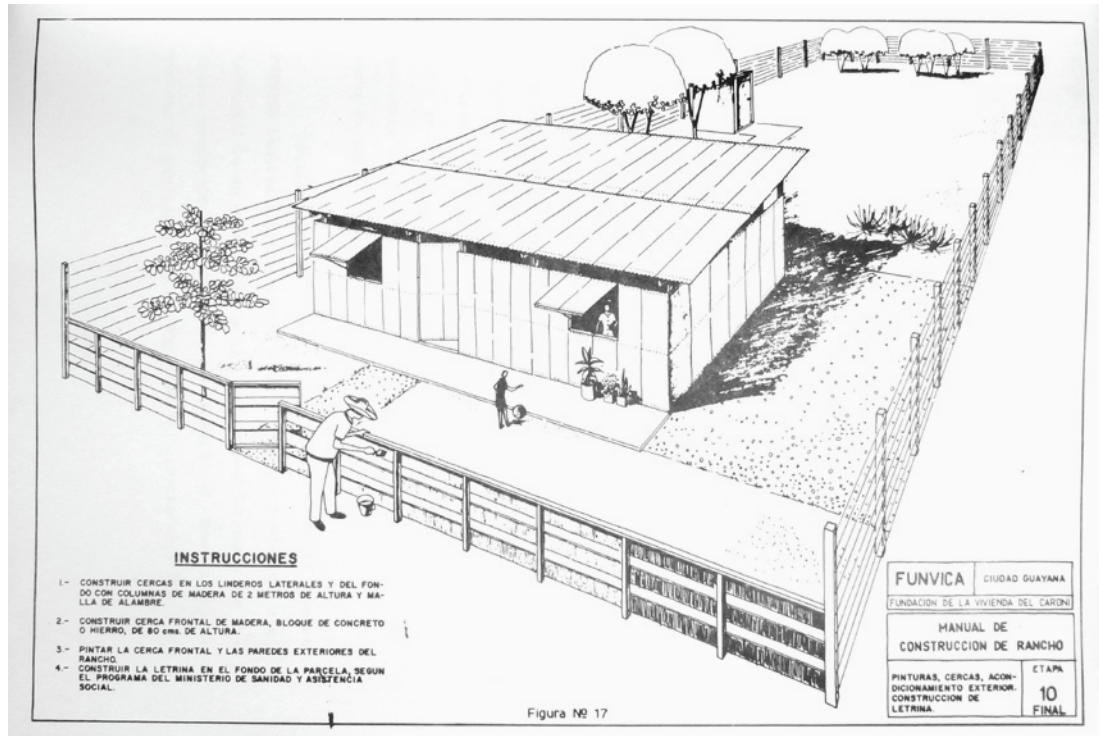


Figure 6.13. Manual for the construction of a rancho (final phase)
(Source: Silva 1967: 71)

Silva's recommendations demonstrate a drive to innovate and to explore the possibilities of progressive urban development. He calls for better coordination between the institutional organisations and also advises a limit on the number of organisations involved in housing. FUNVICA had to become a central player when it came to housing the lowest-income groups of the population (see Figure 6.14). He also insisted on the need to continue experimenting and innovating when it comes to housing types and material use, taking into account the self-help process. Participation had to be promoted by both making it more effective and thus easier to participate.

Silva proposed to make aided self-help housing a policy (as Corrada did in 1965) which would lead to a faster building production. He also warned that experience and the advice of experts, like John Turner and Charles Abrams, had shown that aided self-help required a good, but also complex, administrative organisation. This would also require ensuring a careful selection of families that were willing to make a real effort and did not expect

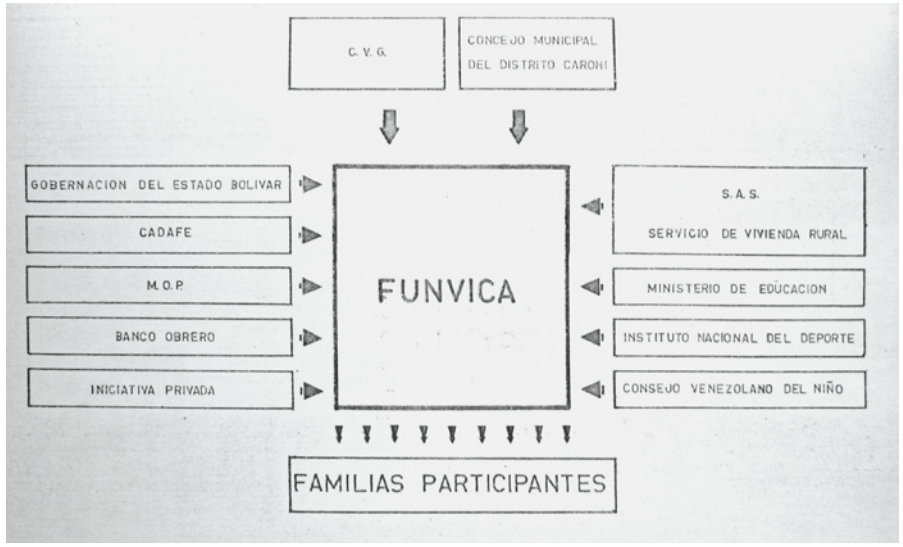


Figure 6.14. Institutions that are involved in the UMUP programme, with Funvica as the central player (Source: Silva 1967: 110)

the CVG to solve everything. It was important to set a good example, which would make people enthusiastic. The development of the El Gallo district (UV112) was an illustration of this (see Figure 6.15.[12]).

6.4. El Gallo: Aided self-help with sites & services

The progressive development occupation strategy, the Mejoramento Urbano Progressivo (MUP), was tested in El Gallo sites & services project. Named after a neighbouring mountain, El Gallo was located in the most peripheral part of Ciudad Guayana, 7 km from Puerto Ordaz and 1.5 km from San Felix. El Gallo is part of the El Roble Pilot Project, located on the south side of San Felix, the same as the later expansion of El Gallo, La Gallina (UD 113). In an interview with Victor Artis (2009), Los Pollitos is also indicated as a UMUP project, most likely (part of) UD 114.

12 In the texts written by William Porter this demonstration project is called UV3, but on the map I found in the archives of the Joint Center the area is indicated with UV6. The reason for this change in number is not clear yet. This needs further research.

Figure 6.15. Map with the demonstration projects UV4, UV3 (=UV6) and the area of the El Roble Pilot Project, with on the south side of San Felix, El Gallo

El Gallo residential area is bordered by a ring road on the north side and two street sections that form the main streets of the future urban layout (see Figure 6.16.). The Southeast limit is the Gallo mountain. The district is planned as a separate unit, but its subdivision structure could be extended, as it was done on the north side on the other side of the road around 1965 in La Gallina. The first layout, for which the infrastructure was constructed, included 18 building blocks, divided into 434 plots and 12 intermediate green areas with communal water taps. All the land was divided into plots of 12 by 25 meters. The blocks were sometimes one plot deep and the length varied from 24 m (2 plots) to more than 200 m. Changes in the direction of a block created indefinite open spaces. Streets were unpaved and, according to the oldest inhabitants, the inhabitants placed the electricity poles (Reimers, 1992). From the total area, 42% was residential plots, 28% streets and pedestrian circulation and 30% facilities.

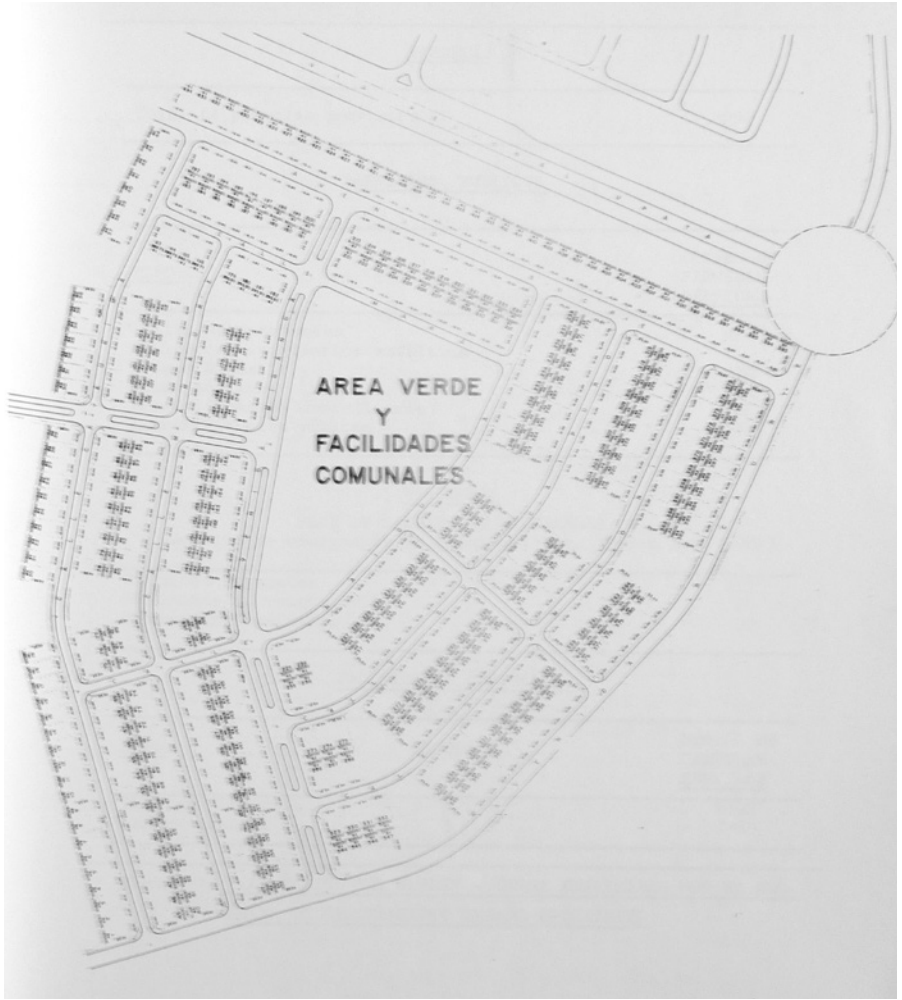


Figure 6.16. Layout plan of El Gallo (Source: Silva, 1967: 32)

Here, the progressive development principle prioritised the distribution of land ownership and communal facilities. First, the plots were subdivided, unpaved streets were constructed, and schools were built, after which the occupation and construction of the plots took place. The public facilities were built after the residents had settled on the plot in a rancho (Caminos et al., 1969).

6.4.1. Development of El Gallo

One year after the start of the project in October 1963, all 434 lots had been occupied. The selection procedure criteria had been drawn up by Corrada (1962) and were intended to obtain a mixed and strong social community. Applicants needed to have experience in construction, leadership skills, and a low- or middle-income. Priority was given to people living in high-risk locations or in locations for which the CVG had a different use, such as infrastructure (Reimers, 1992).

The self-organisation was large and was inspired by the possibilities that were offered. The inhabitants who built their own rancho on the plots initially connected their homes to the electricity poles and connected rubber hoses to the centrally located water points, so that they had home access to electricity and water. By the end of 1964, the main water pipes and individual taps had been placed through a collaboration between the community of inhabitants and the government department responsible for water (Reimers, 1992).

Project plans, infrastructure pipes, building materials, and technical assistance were provided by the CVG. The residents worked together to install the water pipes. They agreed that if someone was unable to work himself, a representative would be sought, for example a family member, friend or a paid worker. Many of the technical assistants hired by the CVG lived in El Gallo. The social self-organisation of the community and the cooperation between them were singular (Reimers, 1992). Joint problems and needs were discussed in general meetings of the residents (general assemblies). Around 1967, the CVG built a community centre, where all kinds of educational and communal activities were organised.

A few years later, in 1968 -1969, El Gallo was further occupied and consolidated (Caminos et al., 1969) (see Figure 6.17). In the central area a school, a centre for social services and a church were built next to the area for recreation. Local economic activities arose around the same central area and a bus line connected El Gallo with the rest of the city. All streets were intended for both pedestrians and car traffic, but some open spaces were only accessible to pedestrians. Furthermore, in 1968 there were no sewers and paved roads and there was no waste facility yet.

El Gallo, 1967 (Source: Caminos et al., 1969: 217)

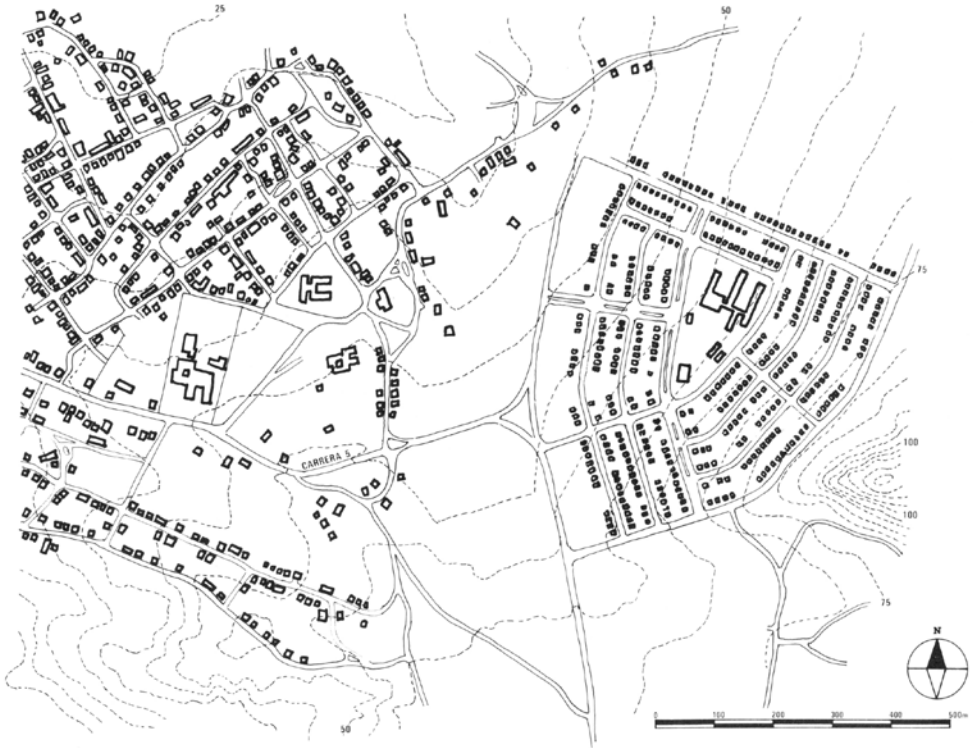


Figure 6.17. El Gallo in 1969 (Source: Caminos et al., 1969: 216)

At the end of the 1960s, the locations where the public water taps were initially placed were subdivided by the community and assigned to relatives and friends of the inhabitants, which added 14 new lots to the original plan. Around the mid-1970s, the CVG divided the green areas in the district into 31 lots for new applicants. Both actions led to the densification of the area. In 1975, sewerage was constructed by working together with the community. In 1976, the CVG built the sidewalks and paved the streets.

Reimers describes that at the time of his research, in 1992, the communal educational facilities funded by the Ministry of Education consisted of kindergartens and complete primary education. The sports facilities and the community organisation were managed and financed by the residents themselves, and a church was built by them in 1992. Figure 6.18. shows the evolution and consolidation of El Gallo, with aerial photographs from 1964, 1967, 1980 and 1987.

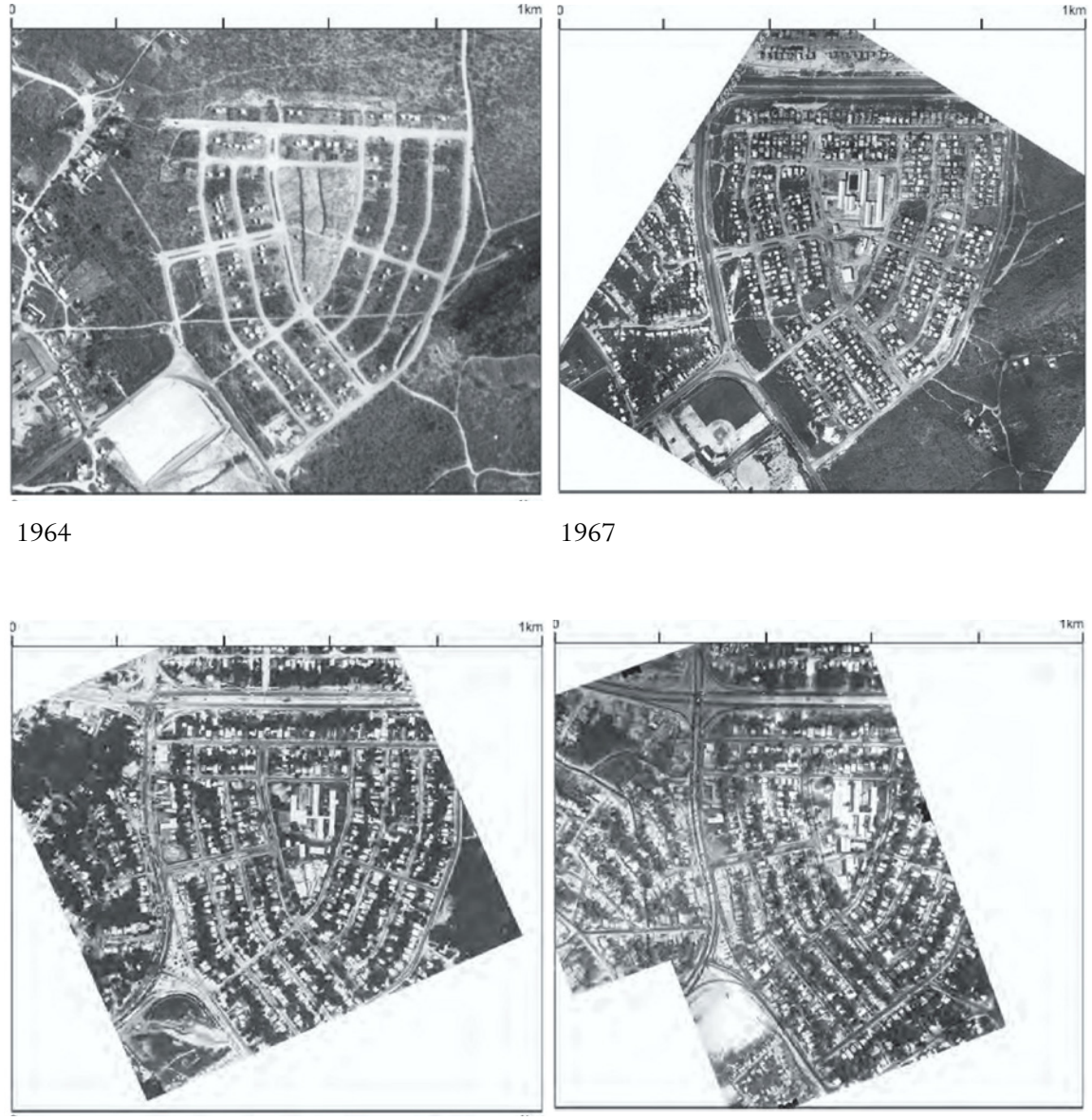


Figure 6.18. Consolidation of El Gallo from 1964 to 1987 (Source: Sigus, 2002: 12-13)

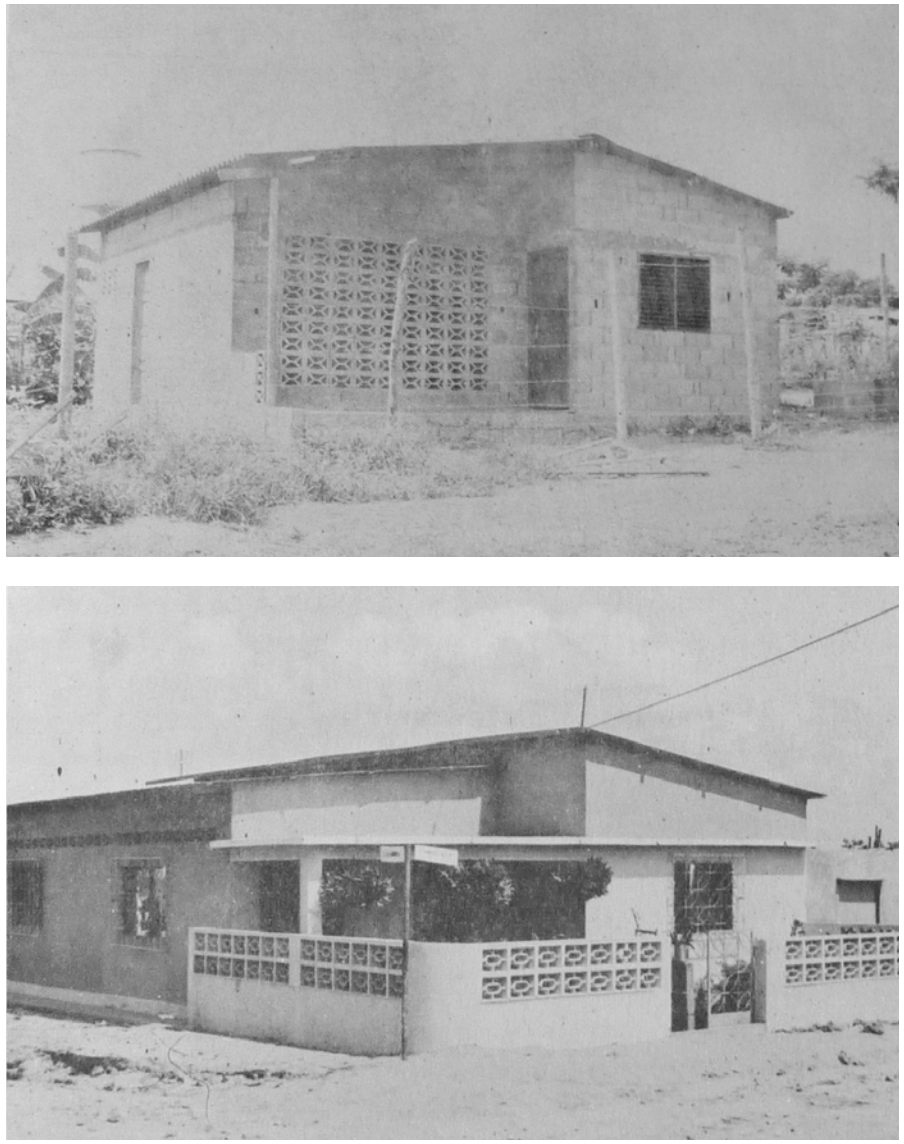


Figure 6.19. Two different types of dwellings in El Gallo (Source: Silva, 1967: 144)

6.4.2. Aided self-help housing

El Gallo was the focus of various housing and financial programmes within the El Roble Pilot Project, which ultimately resulted in several forms of housing and aided self-help. Reimers (1992) makes a distinction between three types of homes: the formally produced homes, with already completed basic units (the shell houses); the formally prescribed homes that stem from El Roble's

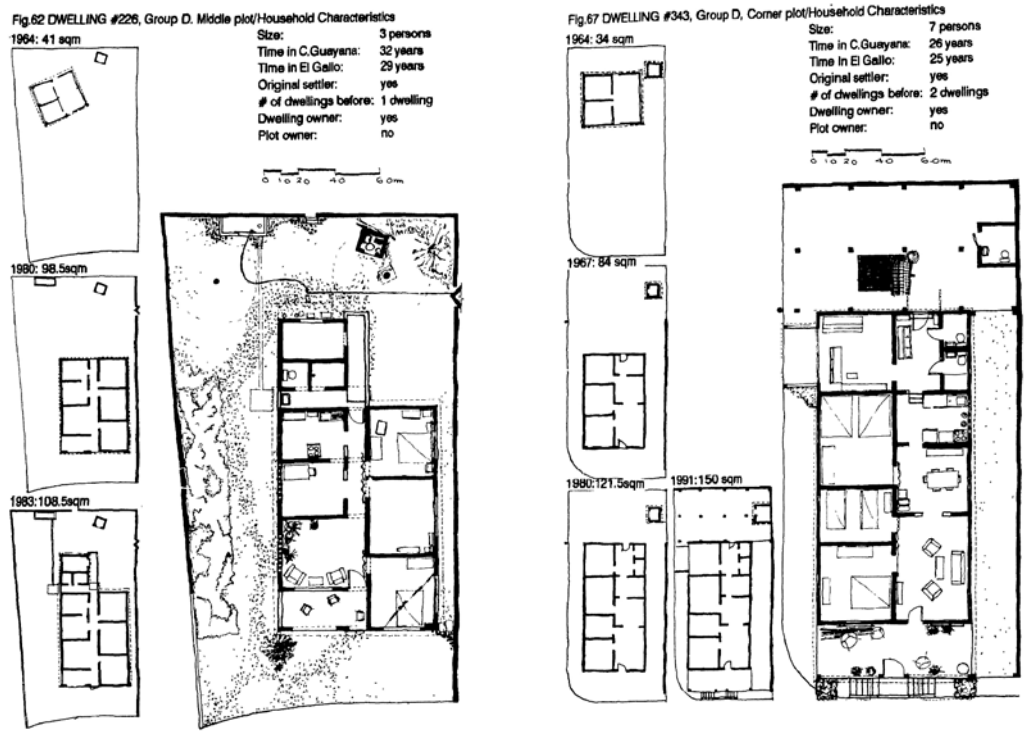


Figure 6.20. Examples of the gradual consolidation of two plots in El Gallo (Source: Reimers, 1992: 173 & 178)

original plan, where the residents receive a design that they can follow; and the self-built homes, where the family managed everything by themselves: design, money, materials and pace of construction. Depending on the choice and the financial possibilities, assistance was provided by the CVG in different ways. Remarkably, the completed houses turned out very similar, including the completely self-conceived and built houses, that the inhabitants no longer knew from which programme the houses belonged (see Figure 6.19.).

The occupation of the plots developed quickly. According to aerial photographs from February/March 1964, 123 of the lots were occupied, 121 with ranchos and 2 with a permanent home. By August of the same year, the number of households had risen to 300, 241 of them in ranchos (Reimers 1992, Silva evaluation 1964). Most people initially settled in a rancho on the rear part of the plot. Progress in the construction of the permanent houses varied per family during this period.

The consolidation of the dwellings, visible through the aerial photographs over the years, is linked to the completion and expansion of the dwellings: where there used to be a rancho, after 25 years there is a house with several rooms. The streets and the public areas were maintained, with the exception of the aforementioned subdivided green areas. In 1967, almost all the plots had completed permanent residences, which still show many extensions over the years, so that the plot became, as it were, full (Reimers, 1992) (see Figure 6.20).

Figure 6.21. Commercial activities in El Gallo in 2002 (Source: Sigus 2002 report: 24)

6.4.3. The success of El Gallo as a sites & services site

A group of students from SIGUS (Special Interest Group on Urban Settlements) of MIT's School of Architecture and Planning and the Universidad Simon Bolivar in Caracas conducted a fieldwork research in El Gallo in 2002, with the aim to see how an aided self-help project revealed itself after 40 years. The research built on previous research in the same site by John Turner with Horacio Caminos and John Steffian in 1968 - 1969 (Caminos, et al., 1969). The main questions was whether El Gallo could be considered a success and whether it supports the assumption that progressive development was the basis of low-income housing in developing countries since the late 1960s.

The findings indicated that El Gallo had a better quality of life compared to neighbouring residential areas. Located in the informal part of the city, there were constant problems with the water supply, safety, accessibility, and maintenance of the public spaces, but the inhabitants mentioned that it is a good neighbourhood to live in. Small-scale activity had developed in the district because the size of the plot made it possible to open a commercial site. As soon as people had the funds, the house was extended and when it was big enough to live in, a place could be created for a shop, bar, hairdresser, or workshop for example. Parts of the house or a room could also be rented out (23% of the plots surveyed in 2002). The services provided in El Gallo were also used by people from outside the neighbourhood. This home-based informal entrepreneurship has been of great significance for the success of El Gallo, both economically and culturally (see Figure 6.21). The flexibility to respond to changing circumstances makes the home worth more, improves the position of women (as in most cases women are the entrepreneurs) who will also make a financial contribution to the household, creates social structures outside the home, and ensures stability in the community. It provides opportunities to grow, stabilise income and thus become happier and emerge from economic insecurity.

El Gallo's close-knit community was the driving force behind the district's development from the outset and was essential for its success. Very soon, a temporary community centre was built by the residents, which was later replaced by a more permanent and sustainable building. The community centre not only attracts the residents of El Gallo, but also serves residents from other areas. The CVG has played an important role in the community programme of the El Roble Pilot Project, which was considered an essential part. The community centre symbolises the importance of forming a self-organising community.

The results on the research on El Gallo shows that the situation of land ownership/tenure is essential for the success of aided self-help policies. If the plot is owned by the resident, or if there is a future perspective, the resident is not haunted by the threat of eviction, and a house can be built in a progressive way once the resident has the financial means. It is then possible to build a sustainable permanent home that will replace the initial temporary rancho. This possibility of progressive development is also one of the success factors. It turned out that the corresponding Materials Credit Plan that was applied to the entire El Roble Pilot Project, of which the inhabitants of El Gallo used it the most compared to other neighbourhoods (Silva, 1964).

Figure 6.22. Consolidation of El Gallo (Source: 2020 © Google Earth)

Supporting community development is also crucial. The social network that – initially driven by the CVG, so from outside of the community – is established by the residents ensures that a joint responsibility is felt for the quality of the living environment. This fits in with the concept of mutual aid (as described in Chapter 4) in which several families, or other related groups, work on the construction of the homes and thus of the community. Such as the example in El Gallo, in which it is agreed that a family member or other relative of a resident who is not able to build himself/herself will be deployed. The community also ensured that parts of the area that were still available, the former water taps, were divided up so that new plots became available. Within the spatial plan for the sites & services, space must be reserved for communal facilities, just as with the neighbourhood concept that the Modern Movement stood for: residential areas around centrally-located facilities. The difference with the formally planned modern neighbourhoods is that

at El Gallo the schools and community centres have not yet been built, and that this is done in cooperation with the residents. For the layout of the sites & services scheme, however, the destination of this land is important and therefore also the public open space.

The size of the plots is important, so in addition to a proper home that can be extended, it provides the opportunity to start a business. This leads to the strengthening of the social structures and services within the district, but it also offers the residents to improve their income so that a rise on the social ladder becomes possible. El Gallo shows the possibilities of densification when land is no longer available, as the size of the plots allows houses to be stacked.

Eventually, El Gallo has become an independent and self-organised community, which is ultimately indistinguishable from a conventionally built settlement (Figure 6.22).

6.5. Conclusions

In response to the question of how to deal with the challenge of rapid urbanisation, external advisors such as William Alonso, Robert Mitchell and Charles Abrahams made an important statement related to Ciudad Guayana in the 1960s. Their conclusion was that there was no need for a definitive masterplan, no blue-print, but a programme that could channel and guide urbanisation, a programme with rules and instructions that responded flexibly to the dynamics of the urbanisation process during implementation (Peattie, 1987). It is consciously accepted that informal urbanisation is part of that process, a combination of ‘comprehensive’ and ‘adaptive’ planning (Rodwin 1969, see chapter 5). The aided self-help policy with the sites & services scheme are the instruments used for the implementation of this programme.

Just as in the 1950s in Caracas where the superblock was the answer to rapid urbanisation in 23 de Enero, in the 1960s the El Roble Pilot Project in Ciudad Guayana specifically explored the need for a convergence between formal planning and informal dynamics in order to respond to the ever-increasing housing shortage caused by rapid urbanisation. The aided self-help policy with a focus on the progressive development of the sites & services scheme proved

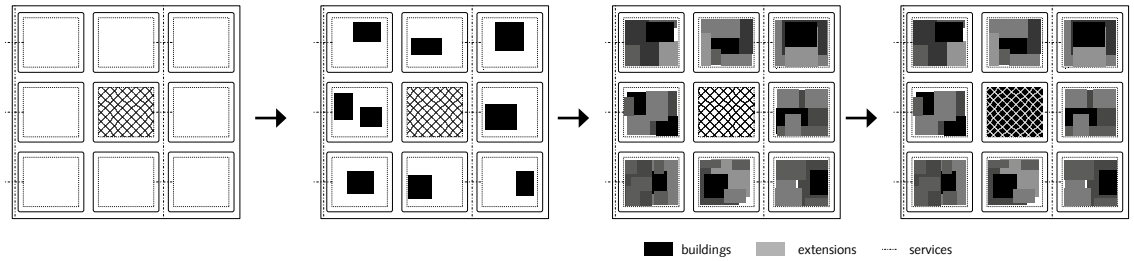


Figure 6.23. Sites & services scheme in which the community services and the public space is also planned and released for self-construction (see Chapter 3 for the diagrams of the sites & services scheme)

to be a successful answer in the development of one of the housing estates within the El Roble Pilot Project, El Gallo. The combination of the sites & services scheme with community building support and financial support from the Materials Credit Plan made the aided self-help application in El Gallo a success.

The analysis of the El Roble Pilot Project shows that the lowest-income groups, which in most cases are not included, were actually integrated into the process. There were several issues present within the project from the very beginning, and it had to surmount several obstacles such as lack of time, money and proper institutional frameworks (Silva, 1967). However, it is commendable that within the thinking of building a new city that was to become the new economic engine of the country, it was considered of great importance to implement such an experiment with aided self-help.

The aided self-help program with the sites & services scheme and a progressive development approach in El Gallo achieved many of the desired goals. The strategy of providing low cost basic housing and facilities resulted in the gradual improvement of the housing structures in the area. Progressive development also created a mixed income community which allowed people to save and invest in education, business, or transport, which ultimately improved their quality of life. The fact that adjacent to El Gallo, an extension was quickly executed in the residential area La Gallina also showed that the application of the sites & services scheme was considered a successful planning tool.

In addition to the diagrams for the sites & services scheme that were presented in Chapter 3, the scheme for El Gallo is a layout with relatively large plots and planned free public space and space for facilities and community activities, that were also build through self-construction (Figure 6.23).

Despite the many criticisms of the top-down way in which Ciudad Guayana was planned and designed, it can be seen from the El Gallo example that participation occupied an important position. When the application of the aided self-help policy here is compared to the different interpretations given to aided self-help, different discussions could take place. Peattie (1982), for example, is of the opinion that sites & services are actually the same as informal urbanism, with the difference that the government (in this case the CVG) distributes the land instead of the illegal landowner. She argues that a layout of the plots is too formal and the plots should be filled in with total freedom. In El Gallo's case, this flexibility of filling in is less, because land ownership is only secured after the completion of the permanent home. Nevertheless, the freedom of progressive infill was such that the residents made it their own and that it led to successful results.

Contemporary discourse focuses on urbanisation processes similar to those of the 1950s and 1960s in Latin America. Even now, informal self-organised urbanisation is growing and people are looking for answers to the housing shortage. El Gallo can therefore be an inspiration, sometimes even a model, for the current urbanisation challenge that is occurring worldwide.

Ciudad Guayana, 2009

Part 4.
Conclusion

7. Findings, conclusions, lessons, and future research

The Modern Movement promoted ideas and approaches in architecture, urban design, and planning which were implemented worldwide in very different political, cultural, and socio-economic contexts. In the Latin American context, these ideas and approaches were used as the foundation for the implementation of housing and neighbourhood experimental projects searching for solutions to the rapid urbanisation processes that these countries were experiencing during the 1950s and 1960s. The physical realisation of these same ideas and approaches also constituted an expression of the desired modernisation of both the cities and the society, driven by government intervention and funding. However, the desired form of modernisation clashed strongly with the political, cultural, and economic context of Latin American societies. As an answer to this mismatch, the aided self-help policy with the sites & services scheme was promoted across Latin American regions. Combining modern urban planning concepts and residents' capacity to build their own dwellings, aided self-help was implemented as an answer to rapid urbanisation.

This research has examined the meeting point of modern urban planning and informal self-organised urbanisation specifically focusing on the Venezuelan situation, based on two cases that embody two different, but related, approaches to urbanisation: the new towns 23 de Enero and Ciudad Guayana. Both case-studies are also part of a generation of globally dispersed new towns from the post-war era that have a common DNA, based on the combined ideologies of the Garden City model, the neighbourhood principles, and CIAM modernism, and are both, in their own way, good examples of the encounter of informal and formal urbanisation processes.

The analysis of these case studies in the 1950s and 1960s provide significant insights and lessons for transnational learning and are useful today for the planning of and the debate about emerging new towns. There are other players in the field today than in the 1960s, a more diverse and expanding group of NGO's and institutional organisations are presently concerned with global urbanisation. But the market, with its commercial developers, are planning and building new towns according to top down masterplans in different parts in the world such as Africa and Asia and once again, the human scale is missing and informality grows rapidly. The analysis shows that trends within the international urban discourse, since the second half of the 20th century, alternate between top-down planning on the one hand and attention and space for the human scale on the other.

The ideas of the Modern Movement still underlie the planning of new towns. In the planning and development of new towns currently being carried out in Asia and Africa, the characteristics of the Modern Movement are clearly visible. A critical discourse on the influence of modernism has been taking place since the mid-20th century, accompanied by an ongoing search for opportunities to bring the human dimension, scale and self-organisation into this process. However, this search was also done in the past in the context of urbanisation in Latin America in the 1950s and 1960s, and especially Venezuela. The lessons that can be drawn from the examples in Venezuela, which not only focus on the needs and wishes of the inhabitants, but also on the possibilities for the authorities, policy makers and project developers, have not yet been linked to the current planning of new towns.

I would like to underline that the lessons mentioned in this research are lessons on the meeting point of modern urban planning and informal urban self-organisation in the context of new town development. For basic principles on design and planning of new towns (on a worldwide scale) I would like to refer to the publication 'To Build a City in Africa, a history and manual' by Keeton and Provoost (2019).

This chapter presents the main findings, conclusions, and lessons from this research, and reflects on the historical analysis of the rapid urbanisation in Latin America in the early post-war era. The chapter is organised into four sections. The first section presents the main findings of the research following

the research questions formulated in the introductory chapter. Then, the concluding lessons from these findings are explained in more detail in the second section. The third section discusses the application of the lessons in practice in three cases and the final section presents the opportunities for future research.

7.1. Main findings of the research

This section consists of five subsections which present the most important findings of this research, related to the five sub-research questions mentioned in the introductory chapter. They refer to the post-war new town developments in Latin America (7.1.1.), the role of the international housing policies at that time (7.1.2.), the confrontation of these developments with the daily reality of a CIAM new town, 23 de Enero in Caracas (7.1.3.), the avant-garde planning process of Ciudad Guayana, an industrial new town in Eastern Venezuela (7.1.4.), and the application of the aided self-help policy for housing based on the sites & services planning model in a district of Ciudad Guayana (7.1.5.).

7.1.1. Modernist planning and design in Latin American post-war urban development

The modernistic ideas of the CIAM had a vast influence in the planning and design practice in the large countries of Latin America in the 1950s and 1960s. The urbanisation of the Latin American region became a laboratory where Modern Movement ideas were implemented and tested for applicability in cultural, social, and economic conditions that differed from the original context in which the ideas originated. In many cases, Latin American modern architecture and urbanism acquired a hybrid form that integrated architecture, local modern art, traditions, and heritage.

Several reasons explain the strong influence of Modern Movement ideas in the region. To begin with, Latin American countries were expanding the education of architects and urban planners since the 1940s because cities were beginning to grow rapidly. Many urban planners from the region went to study abroad and at the same time, many prestigious CIAM planners and

designers travelled to Latin America, disseminating their modernistic ideals through conferences and, more importantly, through their work as planners hired by national governments to plan the future of the large Latin American cities.

A second important reason of the wide popularity and influence of modernist planning and design in Latin America was the fact that modernistic architecture became a symbol of progress and development in the largest countries of Latin America. The democratic ideals of the welfare state that linked to the Modern Movement matched the image of modern society envisioned by the government leaders in Latin America. National governments used this symbolism to advertise the economic progress of their countries. Modern buildings, infrastructure, city expansions, new towns, and new cities were built according to the principles of the Modern Movement. New towns and city expansions that followed the zoning principles of the Functional City, were divided by broad avenues giving priority to car mobility, and built projects with wide open spaces, using mass produced materials. Brazil's decision to build a new capital under the direction of Brazilian architects in this period reveals the strong influence of modernist design and planning in Latin America. Brasilia became a classical and powerful example of the symbolism of modern architecture to show the economic progress of an emergent Latin American country.

Venezuela, and especially Caracas, was considered a place where "the newest area of architectural achievements" (Hitchcock, 1955) was taking place. The huge revenues from the oil trade, in combination with a strong growth and a profound influence of modernistic planning and design completely transformed the city's built environment in a very short time, providing it with a new modernistic face, crossed by wide motorways without comparison in Latin America. One of the most important symbols of urban modernisation was the superblock, a 15-storey residential building, inspired by Le Corbusier's l'Unité d'Habitation. Accompanied by low-rise residential blocks, the superblocks were the most important carriers of new housing projects in Venezuela. Due to its size and position in Caracas, the 23 de Enero new town became an icon of the role of the Modern Movement ideas in Venezuela and is considered a monumental cultural heritage site.

7.1.2. International housing policies in the Latin American urban context during the 1950s and 1960s

International housing policies, under the sponsorship of the United States, were extremely influential on the national housing sectors in most Latin American countries during the 1950s and 1960s. This was evidently linked to the rise of the overall economic and cultural influence of the United States in Latin American countries during the same period. The factors that explain this influence of international housing policies in Latin America are strongly linked to the demographic and economic processes going on within the countries of the region, in which the need for affordable housing had peaked enormously. The large increase in housing demand and the emergence of informal settlements in large cities became a matter of concern for both the Latin American national governments and the US. To tackle this matter required effective policies with a corresponding financing plan, but most Latin American countries lacked the institutional capacity and framework to implement such a policy as well as the resources to invest sufficiently in the housing sector.

Furthermore, increased Inter-American cooperation in the policy field during the post-war period led to establishment of several multi- and bilateral agencies that paid attention to housing concerns as part of the future economic development in the region. The most important agencies were the Organisation of American States (OAS), United States Agency for International Development (US AID) and Inter-American Development Bank (IADB), all of which provided technical and economic support to the housing sector in Latin America.

Another important factor that made the housing sector a significant matter for the United States was the threat of the rise of communism and political insurgence in the region after the Cuban revolution in January 1960. Not long after this event, the United States decided to implement a stronger approach to accelerate the economic development of the Latin American region. The result of this was the Alliance for Progress, established after the Punta del Este Conference in August 1961. The Alliance was a sort of Marshall Plan for Latin America, requiring countries to establish democratic governments, more equitable income distribution and land reform, and the establishment of national planning agencies. Under this agreement, funding was released for

housing programmes and housing policies, under the assumption that good and sufficient housing was an important driver of a strong economy.

Until then, housing programmes and projects were still developed under the traditional way of total public housing provision. However, the non-stop growth of informal neighbourhoods made evident that this was not sufficient to tackle the large housing demand of low-income groups. Gradually, a radically different approach for housing began to emerge. In the 1950s, Jacob Crane was the first to promote the concept of aided self-help for new type of housing policies for low income people as part of the Inter-American relationship, when he was in charge of the international housing office of the United States Housing and Home Finance Agency. Latin America gained significant experience in combining planning and the forces of self-organisation through the application of progressive development, which was the base of the aided-self-help policy. John Turner's academic publications in the 1960s and 1970s strongly contributed to the turning point in housing approaches firstly within the academic field. Turner and other academic associated with him advocated the progressive development of housing for low-income residents.

In the 1970s, the World Bank followed and advocated for a policy change from total public housing supply to a policy of enablement. This meant government assistance in private housing construction by means of aided self-help, more specifically sites & services and slum upgrading. During the same period, the United Nations Development Programme (UNDP) embraced the same policy and promoted it worldwide as the solution for housing the urban poor. Self-help policies were strongly disseminated and promoted during the first UN Habitat Conference in 1976, held in Vancouver.

7.1.3. A modernist neighbourhood in rapidly growing Caracas

The high-rise superblock, which had become the urban symbol for the modernisation of Venezuela, was the basis of the government solution to tackle rapid urbanisation. The new superblock projects built all over Venezuela were considered by local experts as the best alternative for the growing housing demand and against the emerging informal urbanisation. They clearly manifested the goal of the authoritarian regime to provide social housing while showing the economic progress and modernisation of the nation.

A new town built in the outskirts of Caracas in the late 1950s contained the largest number of superblocks in the Latin American region. Due to its size and visibility in the hills of Caracas, this new town became an icon of the role of the Modern Movement ideas in Venezuela. However, in January 1958, most of the superblocks were still vacant. The distribution of the apartments was delayed because President Perez Jimenez wanted to inaugurate them on the date of his birthday, 25 April. On January 23, a huge popular uprising in Caracas led to the fall of the dictator and this site was one of the important places of the revolution. The confrontation of the empty high-rise superblocks with the large number of people in need of housing resulted in the largest squatting action ever in Latin America: the vacant superblocks were occupied in a few days' time. As a result, this new town became an important symbol for the revolution, and the site then took the name of the precise date of the revolt: 23 de Enero. As the number of vacant flats were not enough to satisfy the huge housing demand, also part of the open public space was occupied by squatters to build informal dwellings.

An important consequence of the occupation of 23 de Enero by the squatters was the processes of informal self-built shelters that emerged. The strong self-organised community of 23 de Enero also became an example of bottom-up initiated participation and of the capacity of the residents to make their own city. The national agency which developed 23 de Enero, the Banco Obrero (the Workers Bank) commissioned the CINVA (Inter-American Housing and Planning Center) to evaluate the developments in the site. CINVA's advice was to stop the construction of new superblocks and to focus on upgrading the existing city by aided self-help. The second important advice was to promote the industrial upgrading of the country through a policy of regionalism. One of the regions designated for development was Guayana, in the East of the country, where natural resources such as bauxite and ore were present (and already mined by American companies), and good natural conditions were present for the development of hydroelectricity. In the centre of this region the new industrial capital of the country was planned: Ciudad Guayana.

7.1.4. Different approaches and dilemmas to plan and build an industrial new town in Venezuela

The process of planning the industrial new town of Ciudad Guayana was the result of a unique partnership between international planners working for the Joint Center for Urban Studies from MIT and Harvard University and local experts of the Venezuelan development agency (CVG). Looking for answers to the rapid urbanisation challenges, the former were willing to test the latest urban planning and design approaches on the field. But their academic and social perspective were in conflict with the views of their local counterparts. For the Venezuelan government, Ciudad Guayana was primarily an economic endeavour, which played an essential role in the restructuring and diversification of the Venezuelan economy. The confrontation between the different perspectives of the two teams was clearly seen when they had to deal with three concrete planning issues (see table 7.1).

Table 7.1. Different dilemmas in the planning process of Ciudad Guayana

Dilemmas	Approach of the Joint Center	Approach of the CVG
The point of view on the location of residential areas for the different population groups.	To achieve inclusive urban design concepts, a mix of different income groups spreading across the city was proposed.	To attract engineers and technical staff to secure the industrial development of the city, it was considered indispensable to fulfil the demands of residential separation of higher-income groups.
The perspective towards the welfare of residents.	An inclusive housing programme was elaborated for all income groups, integrating the community and a financial programme.	To avoid getting directly involved in the housing sector, private developers or other public agencies were expected to take over the task to finance and implement housing.
Opinion about the location of the workplace of the planning teams.	Most members of the Joint Center team considered working on the site essential to take into account the local and cultural aspects and the needs of its residents.	The CVG was part of the central government and therefore located in Caracas, 700 km away from Ciudad Guayana. The Joint Center had to follow.

Opinion about how to deal with urgent matters versus the importance to have a long-term vision and strategy.	A comprehensive long-term approach was needed to plan a sustainable new town that incorporated the findings of research concerning economic and cultural aspects, in order to discover the societal needs. So most members wanted to wait for the research results.	Projects had to start because of the growing needs for facilities and pressure on housing, but at the same time research had to be done to discover these needs. This resulted in a pragmatic planning approach that was a combination of comprehensive and adaptive styles.

The fourth dilemma mentioned in table 7.1. concerns one of the most important challenges of the planning practice in rapidly growing cities. Planning requires sufficient time and resources, hardly available in developing countries. In this case, the confrontation was not only between the Joint Center views and the CVG's technocratic approach but between formal planning and the reality of cities with high levels of poverty and inequality. The academic planners attempted to implement a planning process responsive to short-term issues without neglecting long-term planning matters. However, the growing pressure to solve the short-term problems obliged them to make a compromise, that would lead to the immediate implementation of the projects, before a comprehensive plan was approved. The first definitive masterplan would only come years later.

7.1.5. Organising a proper answer to the housing demand in a new town

Part of Ciudad Guayana's planning process included the elaboration of a housing programme to test and implement the demonstration projects and housing experiments for the different income groups, including the lower-income groups. The programme used an aided self-help policy to provide shelter for the urban poor combining the power of self-organisation of the inhabitants with governmental support and guidance. The housing programme followed the 'Settlement strategy' recommended by the housing expert Rafael Corrada, which integrates informal processes of urbanisation into the housing strategy because informal self-organised building activities are considered inevitable when a city is planned and built in these type of contexts. The strategy attempted to guide the informal urbanisation in some

areas, the so-called reception areas. The objective was to help residents build or improve their home through aided self-help using the resident's manpower in combination with training in building techniques, so that no new slums would emerge.

To carry out and test the Settlement Strategy of progressive urbanisation, the El Roble Pilot Project was set up. El Gallo, a neighbourhood inside El Roble that started in 1962, was one of the first experiments for housing the migrants. A planned sites & services scheme was applied with a spatial layout that provided enough space for public amenities and facilities. The physical layout was combined with guided progressive development based on the capacity of the residents to build their own houses. All the plots were occupied in the following years and a school, a church and community centre were built by the self-organised community. The strategy to provide basic housing, technical support and space for facilities promoted a gradual improvement of housing structures in the area while the residential areas gradually densified. This also allowed people to save in housing costs and to invest in education, business or other areas, something that contributed to creating a mixed income community. El Gallo can be considered an inspiring example of combining urban planning and self-organisation as a response to rapid urbanisation processes in which the government has a major role to play, not only with the provision of land, but also through the guidance in financing and building up the neighbourhood and the community.

7.2. Conclusion and lessons

7.2.1. Modern Movement versus self-organisation

The results of the detailed examination of urban processes in Venezuela during the 1950s and 1960s, through desk research, archival and empirical work, have provided useful insights to enrich the current debate about (rapid) urbanisation in the Global South.

The two case studies from the 1950s and 1960s in Venezuela, 23 de Enero and Ciudad Guayana, have given important lessons related to the challenges, dilemmas and the results of modern planning, housing experiments and

demonstration projects which can be applied in other new towns and urban projects in both the Global South, and some of them also in the Global North as the discussion on formal and informal planning is as relevant as ever, world-wide.

In the history of Latin American urban design and planning, 23 de Enero and Ciudad Guayana stand as significant examples of how an emergent Latin American country with sufficient financial resources, as Venezuela, attempted to tackle the troubles linked to rapid urbanisation in the 1950s and 1960s. The implementation of these two significant flagship projects was done through modernistic urban design and planning approaches, reflecting the international discourse on urbanization at that time. The confrontation between top-down modernistic urban design and planning and informal urbanisation processes that occurred in 23 de Enero, on the one hand, and the combination of modernistic planning and self-organisation used in the planning and implementation of Ciudad Guayana, on the other hand, showed to be very much connected to each other. They tell a binding story of the evolution of the urban approaches that shaped the urban development processes in Venezuela during the 1950s and 1960s.

23 de Enero is a clear example of implementation of design ideas of the Functional City (CIAM), reflected in the high-rise superblocks and spatial lay out of the new town. The modernist superblocks that developed as a solution to the housing shortage became icons of the modernisation of Venezuela. The informal urban processes which began with the squatting of the buildings and open public space in January 1958, created a community based on self-organisation with a strong sense of ownership that improved the different neighbourhoods. In a rather extreme way, 23 de Enero tells the story of the meeting point of modern urban planning and informal urban dynamics.

Ciudad Guayana is one of the most visible examples of a new town built by means of centralised planning approaches. Planned as an industrial driver of national economic development, Ciudad Guyana is especially singular because its planning process was the result of the collaboration between prestigious academic planners from the United States – from Harvard University and the Massachusetts Institute of Technology (MIT) – and local professionals

from the Venezuelan development agency. The former were the main carriers of the international discourse on urbanisation at that time. Through this collaboration the planning and later implementation process of Ciudad Guayana became an urban laboratory of the application of the most advanced ideas on urban design and planning. This case study also demonstrates that even when the most prestigious academic planners and experts work in such a context, success is not guaranteed if there is not a collaboration with all stakeholders, including the residents.

The urban process of the new town 23 de Enero with the modern superblocks and self-organised community that was the result of the squatting, was evaluated by the CINVA (Inter-American Housing and Planning Centre). The lessons resulting from the experiences of 23 de Enero led to a radical shift in the approach towards rapid urbanisation, promoting a policy of regionalism for the development of Venezuela. To mitigate the pressure of urban growth of Caracas, the national government decided to diverse the attention to other parts of the country where new resources could be found and new cities could be built. The industrial new town Ciudad Guayana became the flagship of this new approach.

During that period in Venezuela, as in any situation of modernisation and rapid urbanisation, housing became the most important challenge to tackle rapid urbanisation, especially finding the best way to facilitate the access to housing of the urban poor. After the experience of 23 de Enero, the planners and experts in Ciudad Guayana became aware of the importance of accounting for informal processes for self-organised housing. The Settlement Strategy for housing applied in Ciudad Guayana was prepared taking into consideration that urban informality was a foreseeable part of urbanisation and had to become part of the planning strategy. As a result, housing policies were tested and implemented, resulting in the application of aided self-help policy and especially the sites & services schemes as demonstration projects. With governmental support, aided self-help became part of modern planning including self-organisation and progressive development processes.

7.2.2. Lessons on planning versus self-organisation in new town development

The experiences from the case study research have produced innovative insights and fourteen main lessons to achieve inclusive new towns and cities in the current urban situation. The lessons are thematically divided in lessons that focus on the urban planning process and lessons that address, specifically, the aided self-help policy with the sites & services scheme. The final, more reflective lesson is the basic lesson of this research linking historical analysis research to today's urban questions and challenges. The lessons are meaningful for various stakeholders of the urbanisation process who are addressed in this research. We distinguish five main categories of stakeholders: the government, professional experts, international agencies, the market, the residents.

The first category of stakeholders is the government, in which local, regional, and national authorities and also the different departments, like urban planning, housing, infrastructure and economics, can be distinguished. Most lessons are relevant for one or more governmental bodies, as they play various important roles within the urban planning process as landowners, policymakers, facilitators, and administrators. Then, many lessons are valuable for the different experts who are connected to new town urbanisation. Several disciplinary professionals play a role in the processes of formal and informal planning, such as urban planners, urban designers, (landscape) architects, infrastructure planners, civil engineers, sociologists, economists, and legal experts. The lessons can also be helpful for the international agencies, institutes and NGO's that work on the implementation of the New Urban Agenda, which address sustainable and inclusive spatial planning and housing. The private commercial market with contractors, developers and investors are also related to the lessons, as builders and/or as landowners. Finally, the residents as individual households, or as organized communities are key players as they are the users of the urban environment and producers of urbanity. All stakeholders are connected to most of the lessons, because they are all involved in urban development, but in each lesson I will specifically indicate who has the main role to play for taking into account the lesson in their urban interventions.

Lessons for planning

1. **Planning approaches in new towns should acknowledge and address the social circumstances of all the income groups, including the lowest income group, the urban poor.**

The top-down planned modernist residential areas built with high-rise residential buildings, were a major attempt to solve the large housing demand during the period of rapid urbanisation in Latin America. However, the many projects built during this period were absolutely not enough to meet the demand of lower income groups, which remained an unsolved issue. To avoid the problems linked to urban segregation, planning should strive for a city that takes into account the needs and demands of all social groups, instead of (only or primarily) focusing on the demands of higher-income groups. A city that facilitates diversity and equal chances to climb the economic ladder. Facilitating the participation of all urban actors in planning processes, including community organisations, and marginalised groups, is a key requirement to effectively improve the urban conditions. In such an approach social, economic, and cultural identity are used as starting points. The social circumstances of the lowest income groups usually put a strain on short-term planning issues.
Related stakeholders: All the stakeholders must be aware of the necessity to integrate the needs of the different income groups within the urban context. Policies and thorough research should be developed on this topic with the goal to achieve the planning objectives.

2. **A pragmatic comprehensive planning approach needs to combine short- and long-term planning.**

The analysis of the origins of post-war new town development shows that the planning process should be responsive to short-term issues without neglecting planning for the long-term. Then the most accurate answer would be a combination of comprehensive and

adaptive styles. A pragmatic strategy that on the one hand facilitates the immediate implementation of the results of research, and on the other hand uses the research for the longer term. A strong focus on implementation becomes highly important in the type of contexts of high complexity, rapid change, and uncertainty characteristic of the urban circumstances in developing countries. New towns in such context that are able to link short- and long-term visions, and connect to the many urban actors and a wide variety of means require adaptive and flexible instruments.
Related stakeholders: A comprehensive planning approach has to take into account close collaboration between all the stakeholders, including the residents. The study of local identities should be facilitated and supported by the initiators of new towns, like the government or developers. Also, the urban planners, designers and architects should be aware of the necessity of integrating research results in the short term and long term planning process. International agencies have an important in exchanging this knowledge.

3. Informal urbanisation processes require the use of flexible and adaptive planning approaches.

It should be consciously accepted that informal self-organised urbanisation is part of new town developments. In most cases planning and building new towns attracts many migrants with informal urbanisation as a result. Consequently, there is a need for a programme that channels and directs urbanisation, and a program with rules and instructions that responds flexibly to the dynamics of the urbanisation process when implemented. In general, new towns and their related urban visions should not be developed by means of a definitive master plan, no blue-print or abstract and rigid planning models is needed. This also requires a comprehensive approach that includes different disciplines.
Related stakeholders: The government and other landowners, like developers, have a responsibility to make a general plan in which a program considers different urban dynamics, like planned and informal urbanisation. This program that should be facilitated and developed by policymakers, urban planners, and urban designers in and/or outside of the governmental departments is based on spatial visions, strategies, and policies at and across various spatial levels.

4. A comprehensive approach for planning demands a planning team with local and external urban experts from various disciplines.

The link to economic, social, and spatial concerns is of great importance for comprehensive planning. By using a multi-disciplinary team with experts from the local context and (external) experts, this goal can be achieved. However, this can lead to dilemmas between the different approaches and aims of the experts, for example economic versus social orientations. The planning team should be assembled in such a way that knowledge on adequate instruments – capacity development, cooperation, mobilization of financial resources, political and legal frameworks – is secured to achieve a more equitable allocation and distribution of urban facilities and services.
Related stakeholders: In many cases, the government is responsible for forming the planning team. The government but also the experts on the team should be aware of the importance of a multi-disciplinary team, with representatives from outside and inside of the governmental departments that can cooperate and exchange knowledge among themselves. A team of urbanists like policymakers, planners, researchers, sociologists, economists etc. should be involved for producing a planning and development strategy that can immediately implement and monitor the results of these studies, plans and interventions.

5. The planning process of a new town should include an affordable housing programme, where housing should be understood beyond shelter.

When housing is taken into account from the start of the planning process with a programme that includes assistance and support

for financing and community-building, the lowest income groups can get affordable and sustainable shelter. A planning process with an integrated housing programme can facilitate a mix of different neighbourhoods for different income groups.
Related stakeholders: Awareness of the importance of housing as part of a planning-process should be created among the stakeholders that are responsible for this process. The policymakers of the government and the (housing) experts from the different departments should facilitate and support this, while the planners, designers and housing experts must take care of the implementation. Additionally, the sectors of the market involved in planning new towns should be strongly notified of this lesson.

Lessons for affordable housing via aided self-help and sites & services

6. Aided self-help can help to reach the aim for housing for all.

Many planned projects in the post-war era showed the limits of a top-down modernist approach to housing in developing countries, which was not geared to the needs of all the inhabitants.
Because aided self -help, including the sites & services scheme, is a combination of two urban development processes - the conventional urban development and informal urban development - it is useful as a model for achieving the goal of an inclusive city, and for integrating housing for the urban poor. The scheme of sites & services as part of an aided self-help policy works very well at the district and neighbourhood level. So, within the process of planning an inclusive city that integrates housing for all income groups, sites & services could provide the possibility of housing based on self-organisation. In this way also the lowest income groups have the opportunity to become an equal part of the city.
Related stakeholders: The government - especially the policymakers in the domain of spatial development -, urban experts and the market should be aware of the possibilities of aided self-help for the current urbanisation challenges. The international agencies could enable and support this by exchanging research, knowledge, and experiences. The residents should be informed on the policy of aided self-help, because of their role in the implementation of aided self-help.

7. Aided self-help requires the involvement of a strong, well-organised and committed government.

Unravelling the characteristics of the aided self-help policy and, in particular, the application of the sites & services scheme, clarifies that the success of the policy needs a strong government. This is necessary not only to preserve the essence of aided self-help, i.e. the facilitation and planning of self-organisation, but also to ensure

the chance of long-term success. This entails a great deal of technical and financial assistance as well as the facilitation of community building.
At the same time, the government should be aware of the vulnerability of aided self-help because of the growing influence of commercialisation within this system, at the expense of the urban poor. Aided self-help does not consist only of the infill of the sites & services scheme. The combination of the sites & services scheme with the community building, technical assistance and financial support are the basics for success of the implementation of aided self-help. The role of the government is to plan and facilitate this combination
Related stakeholders: The government should be aware of their important role in the development and implementation of the aided self-help policy. The government has to commit to the aided self-help policy, if they want the policy to be a success. This means that next to the policymakers, also the sectors that are responsible for spatial planning, housing and welfare should be committed and should be organised in such a way that the policy will be implemented in the urban planning and housing process. When the developer is the owner of the land and planning to build a new town, the developer should be aware of the aided self-help policy and facilitate it in the same way. The international agencies should facilitate research and exchange this knowledge with the governments and other landowners.

8. **The policy of aided self-help seems to be best applicable in small- and middle-scale developments.**

Because aided self-help is based on the capacity of residents to organise themselves and to build their own houses, in most cases the implementation of the aided self-help policy was successful on the scale of a neighbourhood or district. When the scale becomes larger the market will be increasingly involved and the threat is that in the end, the market will take over, and will decrease self-organisation activities. The danger is that accessibility to an affordable house for lower-income groups will disappear. Research should be done on the possibilities of aided self-help for different scales of settlements (see 7.3.2.). This fits in one of the current planning approaches attempting to take pressure out of the growing metropoles by building smaller new towns in vicinity, in the region.
Within the concept of upscaling the sites & services scheme, mutual aid - when groups of inhabitants organise themselves and help each other - can be very useful. Ideally, mutual aid may be used for house construction, so that several houses can be built by a group of residents. This has the advantage that their specialisms and skills can be shared and used for all dwellings, instead of one family that must have all the skills.
Related stakeholders: The possibilities of the sites & services scheme and the use of the scheme for small scale settlements should be researched by urban planners, urban designers, and financial experts. In the case of planning on a regional scale, the government and international agencies should support the research on the possibilities of the sites & services scheme on a larger scale and enable implementation. This applies also to the market in its role as developer and landowner.

9. **An ideal type of the sites & services scheme does not exist; it depends on the possibilities of the government/ developer and on the consultation with residents on their capacities and needs.**

The sites & services scheme can have different types according to the role of planning and their spatial evolution in time. The variation of schemes depends on the influence of the different stakeholders within the context of economic and political circumstances: residents, government, market. When the government only facilitates the plots, the residents play the most important role through self-building and self-organisation. While planning gradually becomes more determinative and more is decided in advance, the market can become more important. In the end, the market could take over and built everything.

The residents can play a part in integrating the market in this process. When the mutual aid version of aided self-help is applied a group of residents can ask a commercial contractor to build their houses bringing the market trends into the system. However, from the different types of sites & services schemes (see chapter 3), the core house on a plot is the most popular version, because the central services like water, sewage and electricity are secured in the core house and the rest of the filling in of the lot can be done in a progressive way, depending on the availability of materials and financing.
Related stakeholders: The extent of influence of both the government and the residents determines the planning and the implementation process of the sites & services scheme. All stakeholders should be aware of this process beforehand.

10. The consolidation of sites & services needs time because it is inherently an incremental process.

It is essential to be aware of the fact that the success of the use of a sites & services scheme for a new urban extension or town cannot be measured after two or three years of inhabitation. When an evaluation is done with the criteria that are used for conventional housing construction, not aligned with the incremental development process and the time factor, both of which are essential in a sites & services development, the conclusion will be that the policy did not work. However, in the first months and years after the start of a project, a sites & services location looks unfinished and informal, it has the character and appearance of illegal informal urbanisation. After 10, 20 or 30 years, in many cases this results in an entirely different picture, namely that of a lively and growing community. Hence, the monitoring strategy for results and successes has to bear in mind the incremental nature of the development process.
Related stakeholders: All stakeholders should be aware of the time aspect because the incremental process of implementing a sites & services scheme should be supported for a longer period of time. The filling in of the plot by the residents depends on the availability of materials and financing and this needs time and approval of the policymakers and urban departments of the government. Urban planners and researchers should monitor the process and the success should be evaluated after a longer period of time.

11. The size of the plots (within the sites & services) is a good starting point for the success of implementing aided self-help.

The analysis of the demonstration projects has shown that the size of the plots is important. Next to sufficient space for a good shelter, it might provide the opportunity to start a business on the plot of the resident. This form of 'informal income-generating' entrepreneurship from home has been of great significance for the success of the settlements. A strengthening of the social structures and services within the district can be the result, and it offers the possibility to the residents to develop themselves economically to improve their quality of life.
Related stakeholders: The government and other landowners should provide plots to residents that have sufficient space for mixed uses. The architects and urban designers must take the size of the plot into account in the layout of the plan and policymakers should make policies which allow mixed program on the plots. The residents should be attentive of the possibilities of a larger plot and use the progressive process of filling the plot for adding other program next to the needed shelter.

12. The situation of land ownership influences the success of aided self-help directly.

The success of demonstration projects on housing show that the situation of land ownership is essential for the success of aided self-help policies. If the resident has the certainty of legal tenure, (or will have in the future), then his/her house can be developed in a progressive way when that possibility exists. This means that it is feasible to work towards a sustainable permanent home that will replace the initial shelter, that is quickly built on the plot in the

beginning to provide temporary accommodation. The possibility of progressive development is also one of the success factors.
Related stakeholders: Residents are the main stakeholders because it addresses their landownership. The landowner should facilitate the land tenure by the residents. Policymakers and financial experts should facilitate the implementation of policies of (a gradual achievement of) land tenure for the residents.

13. A solid community and strong social networks are important drivers for the development of sites & services neighbourhoods.

The social network that is built up by the residents themselves ensures a joint responsibility for the quality of the living environment. This fits in with the concept of mutual aid in which several families, or other related groups, work together on the construction of the houses and thus of the community. At the start of the implementation of the sites & services scheme, the government can promote strong social networks by supporting the construction of a community centre, that can be replaced in the future by a more permanent and sustainable version. A community centre can also serve residents from other residential areas.
Related stakeholders: Residents must be aware of the importance of their social network and the community that they must maintain. Local governments and community experts with knowledge and expertise on the social domain, have an important role in assisting the community building within a settlement practice.

Final lesson, future from the past

14. Examining historical examples is a necessary endeavour for understanding the present reality of urbanisation in highly complex situations and can provide useful inspiration for the ongoing urban issues.

A new wave of rapid urbanisation is dominating regions of the world as it was in Latin America in the 1950s and the 1960s and again an ongoing search for an inclusive city is taking place. History repeats but within a different political, technical, and economic context. The technical improvements of the last 60 to 70 years are enormous, the political systems are more complicated, in which governance is being influenced by different stakeholders and media, also the economic circumstances differ, and the urbanisation rate is faster than ever. However, the basic needs for shelter and inclusive, accessible, liveable cities are the same. In 2050, 70% of the global population will live in urban areas. Although during the past century a lot has changed, the challenges in the 1950s and 1960s in Latin America are comparable to those of the present in Asia and Africa.
Related stakeholders: All professional stakeholders must be aware of the role of examples from the past for understanding the urban world and be inspired by its history. International agencies should support research, develop knowledge exchange and inform the professionals and governments of the importance of the incorporation of historical research within the process of urban development. Government, experts, and market should take advantage of the sources of information from the past and implement it in the current urbanisation processes in an optimised, updated way.

Theoretical contribution

This research is not just a historical analysis of modernism and aided self-help in the 1950s and 1960s, but can be placed in a long tradition of discussion and international discourse regarding modernistic new town planning. This discussion is based on the criticisms that in the mid-20th century emerged within the international discourse on the technocratic and economically-driven approaches of the Modern Movement. The functional separation advocated by the Modern Movement was difficult to reconcile with more recent considerations that a city must develop organically and strive for the freedom of the individual, as human needs and behaviour could not be predicted or forced (Somer, 2014). Furthermore, the focus on top-down planning and separation of functions, was increasingly criticised for not being attuned to the needs of residents and far removed from the human scale. This led to an almost common critical approach towards modernism. But the fact is that since its origins in the 20th century, modernism is still constantly present in new town planning, accompanied by the discussion on the integration of the human needs and self-organisation within planning.

The results of this research should not be considered as an encouragement of urban informality as the opposite approach of modernism. Instead, it shows the opportunities of a policy that could give an alternative within the habitual use of modernistic ideas and concepts. In a period when the ideas of the Modern Movement were massively implemented in the Latin American region and the housing shortage became a growing problem, the aided self-help policy with the sites & services scheme was promoted as a solution, based on the combination of modern planning and self-organisation. Through the analysis of the implementation of this policy in the Venezuelan cases within the process of modernisation of the country in the 1950s and 1960s this research provides lessons that can be shared within the current practice of new town planning, in which the modernistic ideas are still very much alive. Further research should confirm that also nowadays (top down) planning and (bottom up) self-organisation should not be addressed as counterparts within a planning process, but as necessary supporting elements.

7.3. Methodological Reflection

The specific choice for the case study research of the cases in Venezuela was made, because the situation in Venezuela illustrated very clear and concrete examples of the meeting-point of formal and informal planning processes in a short period of time. Venezuela was in the 1950s and 1960s not representative of the economic situation of the Latin American countries, on the contrary. Because of the discovery of oil in its territory, the country became more affluent and was able to use the huge resources coming from oil extraction in an important effort to modernise the country. Such modernisation included upgrading cities and building new infrastructure. In such way, modern new towns could be rapidly developed and foreign professionals with knowledge and experience on housing and planning could be hired to implement their ideas. Modern high rise buildings – the so-called superblocks – and new towns were built swiftly (superblock in only 40 days). While this huge top-down building endeavour was happening, a process of rural–urban migration, triggered by the job opportunities in the cities, was producing a strong housing demand that could not be answered by the conventional housing supply. The encounter of these two processes within the context of the Venezuelan produced examples that represent the meeting-point of formal modern planning and informal urbanisation. In this way, the history and development of the cases are comparable to the current context of urbanisation in the 21st century: a rapid urbanisation process, still dominated by modernistic principles and still looking for answers to fast growing rural-urban migration.

At the beginning of the research I have considered to use other, for example European, cases as counterparts, and include the search for answers to self-organisation within another modern urban context. Although new towns from different parts of the world have the same characteristics, this extended the research too much and devaluated the strong parallel of urban questions that was found between specifically the cases studies in Venezuela and the current urbanisation processes. The importance of a comparison between cases from different parts of the world and the need to reflect on the lessons in the current new town developments I describe in the following sections.

The process of data collection during the research has had some limitations, especially regarding field visits and local planners' views in Venezuela. It

is usually difficult to get data from developing countries. In the case of Venezuela, this is even more difficult because the country has experienced a highly problematic political and economic situation, which has led to high levels of poverty and a huge exodus of a great percentage of its population to other countries of Latin America. Due to this situation, it became increasingly difficult for foreigners to enter the country. The interviews and field visits to the two sites could only be done at the beginning of the research. The cases could not be revisited and the initial contacts with local inhabitants and professionals were difficult to maintain.

The interviews took place in an informal way during the field trips to the sites, instead more systematized interviews could have delivered more straightforward answers on the role of residents and the Venezuelan professionals. More fieldwork by visiting the locations more often and more thorough interviews to collect information from the residents and local professionals would have led to more primary data to improve the results. To compensate this, the archival research and literature research was done more intensively and this led to broader insights in for example the ideas and starting points of the planning process of the cases. The archives host both original planning documents and contemporary analyses and literature. Especially the Special Collections of the Frances Loeb Library at the Harvard Graduate Design School contained a very rich archive on Ciudad Guayana. But in retrospect I could have been more thoughtful in distinguishing the results from primary and secondary sources. This would have structured the results of the archives and literature more.

7.4. Lessons in and for Practice[13]

This section provides an illustration of the potential use and application of the lessons from this research in new towns of other countries of the Global South. During the period in which I developed my PhD research, I started to use the gained knowledge on aided self-help and sites & services for my

13 The goal of this section is to illustrate the possible use of the results of this research, it cannot be adressed as new research results.

work for the International New Town Institute, a platform for research, education and knowledge exchange on post-war and current new towns. In this section I describe how I used this knowledge in workshops on current urbanisation challenges that were held in three cities: in Curitiba (Brazil), Tatu City (Nairobi, Kenya) and Mahonda (Zanzibar). Since the workshops were held before the end of the PhD research, the lessons of this chapter were not presented during the workshops. However, within my role in the workshops, I applied the knowledge of this research within the discussions among the participants and stakeholders.

I presented the basics of the aided self-help policy and used the sites & services scheme in urban planning workshops, of which the ones in Curitiba and Tatu City were New Town Labs organised by the International New Town Institute as part of an international programme that started in 2012, under the motto ‘New New Towns. Why we need to rethink the city of tomorrow today’. A New Town Lab is a research workshop in which a selected group of international and local experts work together for one week with the aim of finding a convincing and innovative concept for urgent planning issues regarding new town developments. It puts an emphasis on the research phase that takes place prior to the workshop and a participation process that focuses on integrating the historical, socio-economic, and cultural issues in the assignment. In this way the Labs are research-by-design workshops with an interdisciplinary approach. By using the pressure-cooking method of having external and local experts working together in four or five days on the specific issues of the new town, inspirational, innovative, and realistic strategies are delivered. The ultimate goal is to implement these strategies in the urban development process of the new town (INTI, 2019).

‘Play Mahonda’ is a participatory research workshop that was organised by Delft University of Technology and took place in Zanzibar. This weeklong workshop aimed to test the adaptive design and planning principles developed in the book ‘To Build a City in Africa: A History and a Manual’ (International New Town Institute, nai010, 2019). These principles focus on “the specific design decisions in New Town Planning that often are overlooked or not taken into account. They attempt to pre-empt the spatial challenges that New Towns often encounter” (Keeton & Provoost, 2019: 44), like ‘Incorporate local cultural heritage’ or ‘No New Town is an island’. The case of Mahonda was

brought forward by the Department of Urban and Rural Planning (DoURP) of Zanzibar as one of many new urban developments needed on the island of Unguja. Experts in urban planning issues, or 'resource persons' were brought together with the DoURP planning officers (Keeton, 2019). The workshop consisted of a game with the residents of Mahonda and expert meetings with local experts and representatives from urban planning and design, participatory planning and architectural history.

Caximba, Curitiba – Brasil

Curitiba has a modern planning history and is known as a textbook example of urban planning due to its high-quality public transport system with buses and dedicated bus lanes, its extensive green spaces and its waste management system. The local government was confronted with informal urbanisation in the south of the city, in the area of Caximba. The challenge that was addressed in the New Town Lab in December 2017 organised by INTI, was to develop a strategy to control the growing informal urbanisation in this area. The result of the new town lab, the strategy 'Nova Caximba', proposed a green urban framework plan as a starting-point for the urban extension (see Figure 7.1).

"The existing green structures are the starting points, using the flood zones for water-management, adding bike and slow traffic paths where these areas meet the city, thereby creating a border for urban expansion while making the green areas more accessible, but also integrate them in the urban structure. Between these natural borders a robust urban grid, based on the planning model sites & services, incorporates evenly the existing informal settlement. The mixed-use plots contain affordable housing, collective spaces and areas for agriculture. Community involvement is supported by urban agriculture, self-construction programs for housing, and by three multifunctional community centres at the intersection of transportation routes and natural areas. These include libraries, healthcare, sports facilities and administrative centres, as well as local markets." (INTI, 2019)

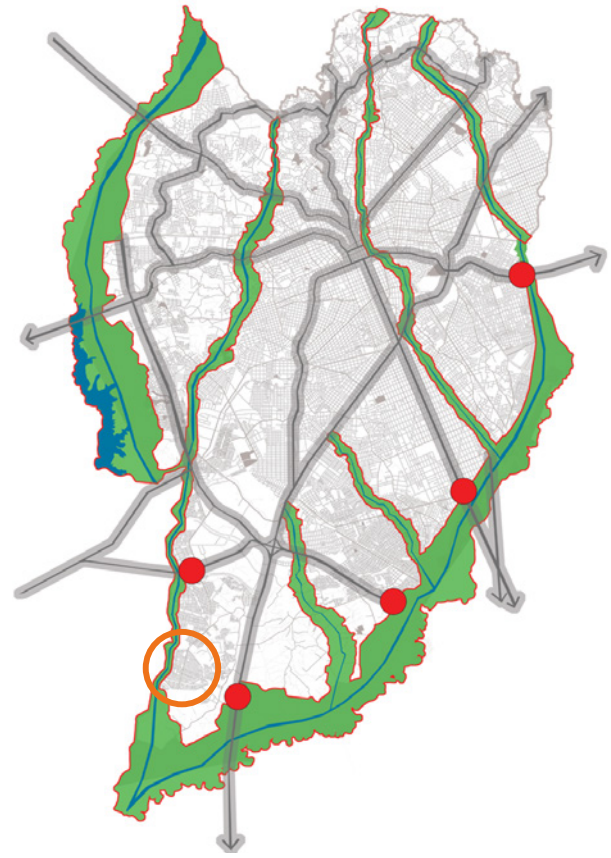


Figure 7.1. Curitiba with the location of Caximba (orange circle) (Source: INTI, 2017)

Within this framework, a sites & services scheme was recommended to plan the urbanisation. The planning department of the municipality embraced this proposed model through which the growing informal urbanisation could be regulated (INTI, 2018). "Affordable housing through affordable urbanism" was used as one of the focus points (INTI, 2018: 4). However, the most important advice was not only to make a plan for facilitating urban informal growth, but also to integrate in the planning policy the technical, financial and social support for the self-organised existing and future inhabitants. It was acknowledged by the head of the planning department that the role of the government is leading in this process. "It is a fragile area, with pressure for occupation, in which the municipality needs to have control of the process" (IPPUC, 2017). The workshop had the aim to exchange and improve knowledge, find innovative answers and to implement the results of the workshop in the planning process. To achieve this, a sustainable relationship was needed. From 2015 onwards INTI started to cooperate with the planners of the municipality.

Figure 7.2. Caximba in 2017 (Source: IPPUC, 2017)

Figure 7.3. Nova Caximba, result of the New Town Lab in Curitiba in 2017 (Source: INTI, 2017)

Finally, this resulted in 2017 in the workshop in which both the external and local experts worked together intensively and the framework plan and strategy were produced. The planning department received the results enthusiastically and indicated that implementation in their plans and process was their goal.

In 2018 the Novo Bairro do Caximba plan was presented by the planning department of Curitiba (Galani, 2018). The plan takes some of the observations and advises of the Nova Caximba strategy into account, such as the use of flood zones for water management, the self-organised programmes and the community hubs. An intensive social housing programme is also part of the plan, but it is not clear if the proposal for the sites & services scheme has been followed in the plan (Bemparana, 2019).

Tatu City, Nairobi – Kenya

In September 2018, INTI organised a New Town Lab in Nairobi, in collaboration with the developer of Tatu City, Rendeavour. After an intensive process of building up a network and relationships in Nairobi and researching the plans for and development of several new towns surrounding Nairobi, INTI received the assignment of Tatu City for an urban planning workshop on the public space of the new town.

Tatu City is a 5,000-acre, mixed-use development with homes, schools, offices, a shopping district, medical clinics, nature areas, a sport & entertainment complex and manufacturing area for more than 150,000 residents and tens of thousands of day visitors. The new town is located 25 km from Nairobi, the capital of Kenya as part of a circle of planned new towns in the surroundings of Nairobi. Tatu City is first in its implementation as a new town (see Figure 7.4).

The main objective of the workshop was “How can we create a connected network of green and blue spaces as a sustainable and resilient backbone of Tatu City?”. The first phase of the project was a social-economic/spatial/ ecological/ cultural research of which the results were input for the New Town Lab (KUWA 2018). The research consisted of an empirical mapping exercise of the existing formal and informal activities within and in the surroundings of the location of Tatu City and Mchana. Although Tatu City

was in contact with the representatives of the surrounding settlement, the research brought better and more extensive insights in the spatial impact of life and work in the area, the habits and activities and the expectations and fears of the inhabitants. The results of the research defined, next to the latest version of the masterplan, the content of the New Town Lab (INTI, 2019).

Instead of the collection of existing masterplans for different projects (Figure 7.5), the workshop produced the framework plan 'A City in Between', that forms the (blue and green) framework that connects and combines the projects and program clusters (industrial, residential, infrastructure) that are planned and developed within the borders of Tatu City (Figure 7.6). The framework plan also forms the connection with the surroundings of Tatu City. On the locations where "The City in Between" literally meets the borders of Tatu City, gateways form (and can be programmed as) the connecting hubs, being both physical and social connections. In this way 'The City in Between' becomes a framework plan and strategy that will function as the backbone of Tatu City and in which the programme (also housing) could be organised in a flexible way.

During the lab, the presentation of the sites & services scheme yielded knowledge about facilitating informal urbanisation, which has traditionally been present outside the planning area and is increasingly moving towards the city. Within the top-down planning process and building of Tatu City, the connected informal processes cannot be ignored, because informality is part of daily life and also offers opportunities. At an economic level, the formal city makes use of the informal city in many ways, for example through street trading. Within that context, the idea of reception areas like developed in Ciudad Guayana in the 1960s was embraced in Tatu City. The other observation was that in the case of Tatu City, it is important that the private developer realises that he has an important role, as landowner, in ensuring an inclusive city. From the beginning of the planning process, the developer was aware of the (informal) settlements in the surroundings of the development area. The developer reached out to the communities, organised events to connect and invested in new schools. This created a better understanding, but the masterplan for Tatu City stayed the same and the border of the development areas for industries, a shopping area, a civic centre, and specific income groups stayed. Housing for the lower income groups is still not available.

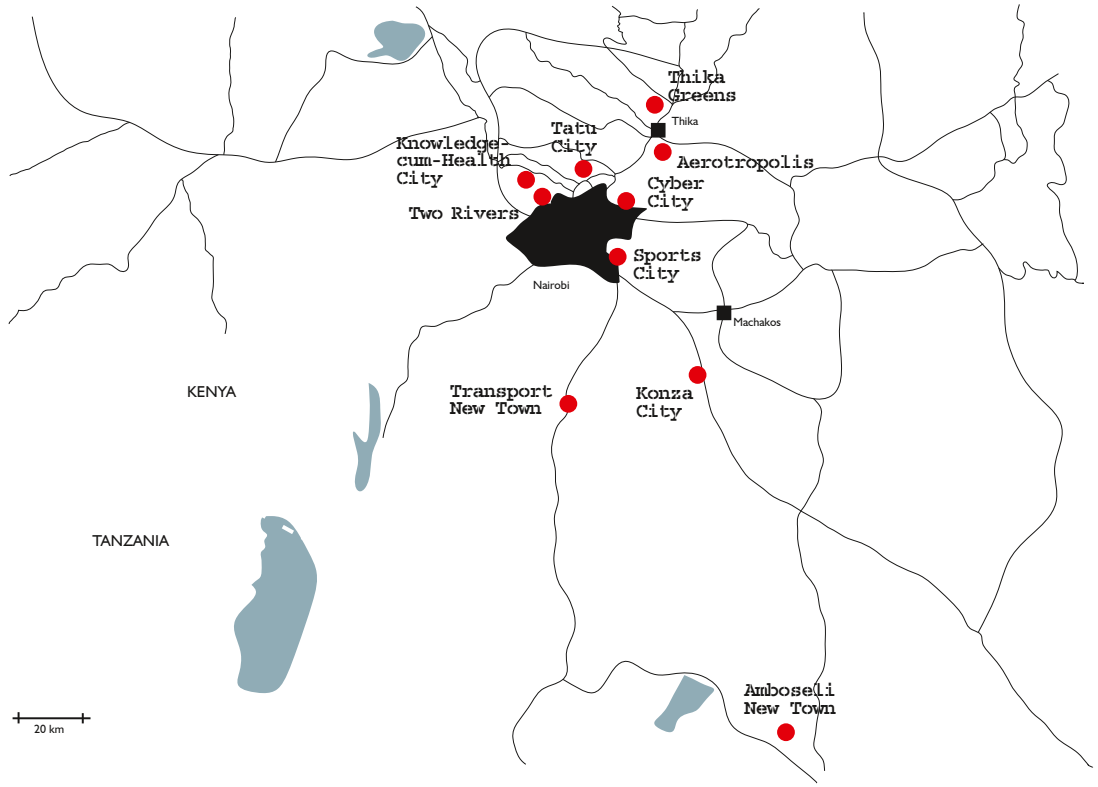


Figure 7.4. Tatu City located to the North of Nairobi, as part of the planned new towns (Source: INTI 2018)

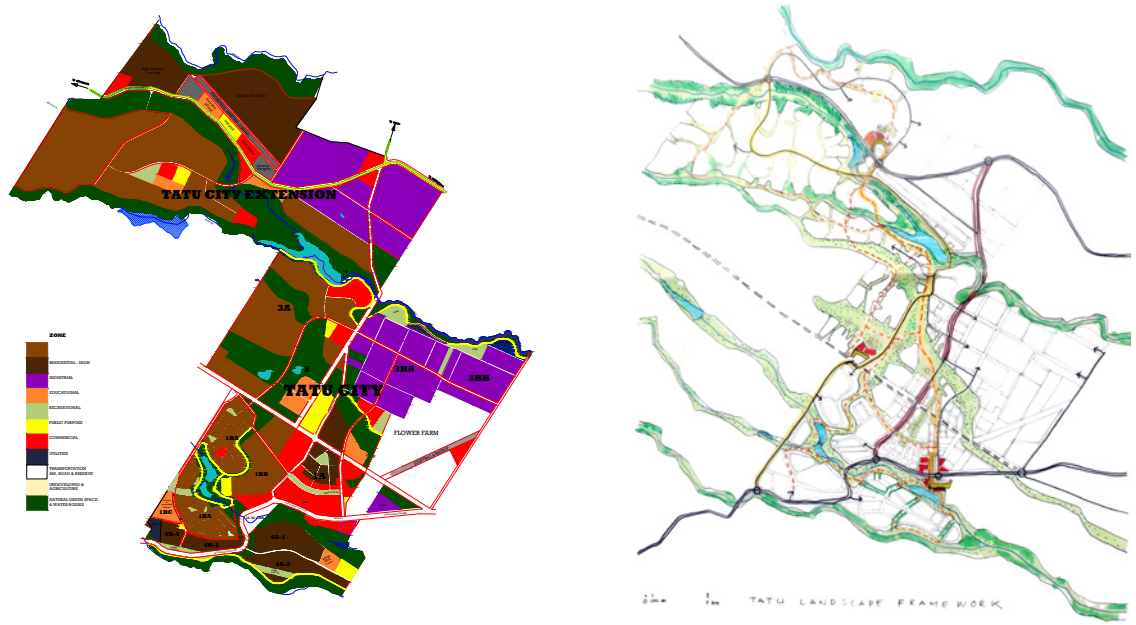


Figure 7.5. The original masterplan with projects Tatu City (Source: Tatu City 2018) and Figure 7.6. The framework plan 'City in Between' for Tatu City (Source: INTI 2018)

Figure 7.7. Tatu City in 2016

"There is a lot of unskilled labour available both around Tatu City and beyond. Informal settlements are likely to mushroom around the edges of the city as demand grows for housing from people working in Tatu. While Tatu City will not allow informal settlements on its land, it cannot control what happens outside its borders. The wage for unskilled labour and agricultural workers is about US$3.5-5 a day; semi-skilled industrial workers earn US$6-7 dollars a day, while teachers earn about US$600 dollars a month. As a private developer, it is not possible for Rendeavour to provide housing for workers on those levels." (Report Tatu City, 2018: 5)

At the end of the workshop a way forward was discussed and INTI was invited to make a proposal to the Tatu City team/Rendeavour. Tatu City was very positive towards formulating next steps in the cooperation with INTI. The aim was to do a next New Town Lab in the first quarter of 2019. Both parties agreed that a sequel in the near future was important to improve the understanding and implementing of this different approach on urban development. It seemed that there was a seed planted for a more inclusive planning process by an economical driven developer.

Mahonda, Zanzibar

In September 2019 Rachel Keeton of the department of Urbanism of the Delft Technical University organised the workshop 'Play Mahonda' in cooperation with the planning department of Zanzibar (DoURP), Play the City and African Architecture Matters (AA Matters). Mahonda is a small farming community of 7000 – 12000 residents (no precise numbers were available), concentrated in linear development along existing roads. It is roughly 20 kilometres north of Stone Town, the capital of Zanzibar.

During the workshop, the future expansion of the rural settlement Mahonda was studied. With the participation of the inhabitants and the local government, different external professionals on urban planning shared and exchanged their knowledge. The main goals of the workshop were to (1) test the validity of the planning principles introduced in 'To Build a City in Africa' (Provoost & Keeton 2019) through a gaming event that simulates a New Town planning process. And to (2) initiate collaboration and support negotiations among relevant local stakeholders to make a first step towards the development of a Local Area Plan for Mahonda. The workshop consisted of a gaming event with the inhabitants of Mahonda. The game materialised the Mahonda site at a scale of 1:300, where the (redrawn) site plan was used as a gameboard. The 'Play Mahonda' game was conceived of as a test of the principles, and as a way to engage local community members in a participatory design process. Next to the game, a knowledge exchange with the external and local experts took place and a first urban development strategy on Mahonda was produced. In internal evaluation with the resource persons, Keeton (2019) observed that the workshop had brought meaningful contributions to the DoURP team, and that the principles could have a positive effect on future plans for Mahonda.

Figure 7.8. Mahonda, 2019

Figure 7.9. The Play Mahonda workshop 2019

Figure 7.10. The site plan of Mahonda was translated to a gameboard and printed at a scale of 1:300. This resulted in a 2m x 5m gameboard printed on canvas that could be placed on the floor (Source: Keeton 2020)

The use of an aided self-help policy with the sites & services scheme for facilitating the growth of the settlement was one of the results of the workshops. In the case of Mahonda it could be a starting point for the development, because through this model the inhabitants of the agricultural town could not only build their own houses, but could also use the plot for their own source of income, the cultivation of fruit and vegetables. Again, the importance of the role of the local government within this policy was emphasized. Although the workshop showed that the dream of the inhabitants was to live in modernist high-rise buildings (see Figure 7.11) the

Figure 7.11. The Play Mahonda workshop 2019

economic reality appears more into the solution of planned self-organisation. Both planners and representatives of the governments were inspired by the aided self-help model, it emphasised the importance of the central role of the government/landowner. The limitations that were mentioned relate to financing, low density, and the necessary strong commitment of the government/landowner. Aided self-help does not solely consist of a sites & services scheme to be planned and filled in: the additional word ‘aided’ means a supporting role of the government in building and planning an inclusive city. In the conclusions of the report on Mahonda the local experts recommended to further research the possibilities of aided self-help (Keeton, 2019).

Combining lessons learned in research and practice

Finally, when the lessons from this research are afterwards linked with these cases, it is evident that especially in Mahonda, Zanzibar many of the lessons can be (and hopefully will be) applied in the future (see Figure 7.12). The settlement, that has in its origin a strong community and depends on the cultivation of the land, can be transformed in a larger settlement through a

sites & services scheme that has enough space for a combination of housing and other activities on the plots. Additionally, the planning department is aware of the fact that a policy and planning process based on aided self-help needs the support and assistance of a strong government. Especially the more specific lessons on the sites & services scheme, like time, landownership, size of plot, and community building can be applied in Mahonda, because these lessons are already connected to the reality and the state of mind of the residents in the settlement. The planning of Mahonda is in an early stage and the scale for future Mahonda is estimated for 20.000 residents, so the lessons could be a successful inspiration.

Also the plan for Caximba in Curitiba was in a starting phase and proposals to integrate the social circumstances and real needs within the planning process seemed to be applied in the plan that is now presented for the area (Novo Bairro do Caximba, 2018). But in the case of Curitiba this is not unusual, because it has a history of participatory planning and is an example for providing good public transport and services. This is an example of a strong, well-organised local government when it comes to urban and social planning, the planning department of the municipality plays an important role in the decision-making on the city. Whether the suggestions for planning the fast-growing urban informality with the use of the sites & services scheme as part of the plan are incorporated is not clear yet. In the plan, a resettlement of 1147 families is foreseen, so the scale of the new settlement could fit the use of a sites & services scheme.

In the case of Tatu City, the masterplan is driven by economic goals and consist of a zoning-plan with different industrial, retail and housing programs. The developer has been in good contact with the surrounding settlements and wants to improve the relation with these residents through providing schools and other facilities. There is an awareness of the social circumstances being important for planning a new town, but in the case of Tatu City it is applied in how Tatu City can provide services for the surrounding settlements. It is scarcely implemented in the development of the programs within the borders of Tatu City.

Although the framework plan, as a result of the new town lab, brought more insight in the possibilities of a flexible planning and a flexible implementation

process that could integrate short term and long term planning, the masterplan and the goals did not change. And although affordable housing seems to be part of the programme, an aided self-help policy with the implementation of sites & services scheme for the lowest income groups seems a step too far.

Lessons	Curitiba	Tatu City	Mahonda
1. social circumstances lowest income group	Yes	Surrounding area	Yes
2. short- and long-term planning	?	No	Could be applied
3. informal urbanisation	Yes	No	Yes
4. planning team	No	No	No
5. affordable housing programme	Yes	No	Could be applied
6. aided self-help	?	No	Could be applied
7. well-organised, committed government	Yes	No, developer is landowner	?
8. small + middle-scale developments	?	No	Yes
9. ideal type of the sites & services	?	-	Mixed plots
10. sites & services needs time	?	-	Could be applied
11. size of the plots	?	-	Could be applied
12. land ownership	Municipality	Is clear, but not for lowest income group	Could be applied
13. solid community and strong social network	? (yes)	? (No, mostly privately owned)	Yes
14. historical examples	Yes	No	Yes

Figure 7.12. Lessons applied in the planning and urban development process

Important to mention is that depending on one's role in the project the lessons can be applied as a tool to evaluate and monitor, when you are a researcher (like I did), but also as ingredients for creating a policy or making an urban plan when you are a policymaker or planner.

The table with the results shows a wide variety of the use of the lessons and examination of the possibilities show 3 different outcomes of the lessons:

- In Tatu City the lessons are not applied, the most important reason is that affordable housing for the lowest income groups and self-organisation is not part of the masterplan. The top-down masterplan is not adaptive to a short-term strategy and a sites & services scheme is not implemented. The government is one of the stakeholders in the planning process and not in a position to aim for an inclusive city, because the developer is the landowner. On the other hand, Tatu City is respecting and supporting the informal and self-organised urbanisation of its surrounding settlements and is looking at possibilities to connect and integrate the informal economies.
- In Caximba/Curitiba the use of the lessons is mixed. The government has a committed and well organised planning department and the municipality is the owner of the land, which is one of the necessary starting points for the success of implementing aided self-help. The scale of the area is suitable for implementing a site & services scheme. Because of its planning history and expertise in participation processes, the attention for the needs of the different income groups is part of the planning processes, but it is not clear if self -organisation is also integrated in the final plan for the area and if (a form of) the aided self-help policy will be applied in Caximba, Curitiba.
- In Mahonda, like said before, most of the lessons could be applied in the new plans for this rural settlement. The context, scale and strong community could make the settlement an experiment for the application of the aided self-help policy. Then it is necessary that not only the planning department but also other governmental departments should support and finance the policy. Further action and research to acquire strong commitment is essential.

7.5. Opportunities for future research

Historical analysis is the key method of this research. The urbanisation processes in Latin America in the post-war era show many similarities with the current rapid urbanisation that takes place worldwide and that is why an historical view on the Latin American experiences was necessary for this research. Considering issues of modern planning and self-organisation as drivers for urban development in Latin America this thesis conducts an historical analysis of the influence of modernistic planning in the region. Next to that, it became clear to me that international housing policies were applied in that same period as an answer to the growing demand for shelter. That is why two case studies were selected, as new town developments from the 1950s and 1960s in Venezuela, which, due to the wide implementation of modernistic projects, was considered an urban laboratory during that period.

The case studies showed the impact of both a modernistic top-down approach of dealing with urbanisation and a comprehensive academic approach that tried to consider both economic and social drivers. Attempts were made to integrate self-organised informal urban dynamics in the planning process and the aided self-help policy was used to establish that. As a result, the aided self-help policy can be considered a meeting point of modern planning and self-organisation. Although aided self-help is a housing policy, it also incorporates the sites & services scheme and, in this way, it can be applied as a planning instrument for new urban developments.

Aided self-help with the sites & services schemes deserves further analyses for the current and future planning challenges. I mention two starting points for this future research. First, I would like to address the value and importance of more historical analysis of both new town cases and the application of aided self-help on a worldwide scale. Secondly I want to stress the importance of (more) structured action research agenda for the Global South that incorporates the lessons learned from the past, like the ones I mention in this research: practice-oriented research that integrates the knowledge on aided self-help in the current plans for new town development.

7.5.1. The value of a history-based research approach

Using the historical analysis of case studies from the past is a valuable way of doing research, because it is a method to deepen insights and observations on the process of urban development. As mentioned in the final lesson, history-based research should be addressed as a significant part of the urban development process. Lessons of the different applications of the aided self-help policy in the past are of great use and importance for current urbanisation trends, because self-organised users are included more and more as serious stakeholders in the process of planning and the development of urban areas. Through sharing the knowledge of the examples of the past, governments, planners, inhabitants, and other stakeholders become aware of the possibilities and limitations of aided self-help and use it in their current context of working and living.

Obviously, aided self-help policies with the sites & services scheme were applied in other parts in the world and (historical) research has been done. But a systematic overview of the different applications and development of the sites & services schemes on a worldwide scale is missing. The impact on various cases across the world shall be (re)discovered and more lessons can be learned through research on the results of the implementation of the aided self-help policy with sites & services and through initiating missing (historical) research.

In this context, I would like to mention examples from Greece and India. There is an interesting connection between Jacob Crane, who promoted aided self-help for housing policies for low income people, and the Greek urban designer Constantinos A. Doxiadis, who applied the sites & services scheme at global scale (Provoost, 2006). Doxiadis used the aided self-help policy for the rebuilding of villages and towns after World War II in Greece. The application of the the aided self-help policy show similarities to the implementation of the policy in Latin America. An historical analysis of the application in Greece could give more insight in the circumstances and context of the use and implementation of the policy in Greece (on the border of Europe and the Middle East) in a transcontinental comparison with the Venezuelan case studies.

The other example comes from the Asian continent and consists of research done on the results 20 years after the application of sites & services in India.

Owens, Gulyani and Rizvi (2018) analysed two cities in India —Chennai and Mumba —where about $200 million were invested in developing 28 sites with approximately 143,000 plots over the period 1977 to 1994. Revisiting these sites several decades later offered a unique opportunity to test the durability of some of the original ideas, claims, and critiques, and to assess their validity on the ground. This analysis revealed that the projects were successful and created well-planned and well-serviced neighbourhoods that are both liveable and inclusive. The positive insights were contrary to past critique that argued that most sites & services projects, were too complicated and in the end were only accessible for the non-poor because the sites were too remote and far from jobs and income opportunities. (Owens et al., 2018). When the findings of this research are linked to the lessons from the Venezuelan cases more insights could be gained on the successes and failures of the use of sites & services on a global scale.

7.5.2. Practice-oriented Research

To find out if the lessons can contribute to the current urbanisation processes, the lessons must be further explored and monitored via practice-oriented research. Three starting points that derive from the urbanisation practice are addressed in this section. First I describe the possible connection with the New Urban Agenda, then I will explain the question of scaling up the sites & services scheme for larger scale urban developments and I will point out the question if the lessons of aided self-help can also be useful for urban practices in the Global North.

<u>New Urban Agenda</u>

The New Urban Agenda (NUA) was adopted at the United Nations Conference on Housing and Sustainable Urban Development (Habitat III) in Quito, Ecuador, in 2016. (UN, 2016) It represents a shared vision for a better and more sustainable future, through guidelines expressed in the commitments for social inclusion, urban prosperity and opportunities for all, and sustainable and resilient urban development, next to the importance of a flexible way of planning. The Strategic Plan 2020-2023 (2019) and the Participatory Incremental Urban Planning (PIUP) (2020) toolbox are the most recent documents of UN Habitat that are related to the New Urban Agenda.

Through the Strategic plan 2020-2023, UN Habitat is working on refining and implementing the New Urban Agenda. Urban planning and design are defined as belonging to the four main "drivers of change" in the Strategic Plan 2020-2023. Adequate and affordable housing is one of the main outcomes (UN Habitat, 2020). The Strategic Plan will be executed in cooperation with a large network of international institutes and agencies. These are for example, the Global Taskforce of Local and Regional Governments and Cities Alliance, institutes that address an actual topic or theme like the World Resources Institute, financial institutes like the World bank, organisations that bring together urban professionals like the International Society of City and Regional Planners (ISOCARP) and organisations that fund NGOs and development agencies like Cordaid and SDI. These organisations work together with the NGOs working locally on topics such as affordable housing and urban development.

In 2020, UN Habitat published 'Participatory Incremental Urban Planning (PIUP)', which is "a toolbox to support local governments in developing countries to implement the New Urban Agenda and the Sustainable Development Goals", with a special edition for fast-growing small cities. The PIUP-toolbox is a phased methodology that helps all urban stakeholders to better understand urban planning processes and shows when the stakeholders need to participate to safeguard their voices and interests in the urban processes and corresponding documents. This toolbox combines the results of different studies that UN Habitat has completed in the past ten years and targets city leaders, city planners and civil society, investors, and the private sector (UN Habitat, 2020).

The lessons can be linked to both the Strategic Plan and the PIUP-Toolbox to analyse the possibilities of the aided self-help policies in the current context of the New Urban Agenda e.g. the current context of urban planning. This analysis could also identify if the sites & services scheme can complement the toolbox of UN Habitat by addressing a progressive process with a major role for self-organisation and self-construction.

Scaling-up sites & services

Whether aided self-help with the sites & services scheme can provide a large-scale solution for a whole new city is still an open question. For a

neighbourhood, a village or a small town, research has shown that it can offer a solution for income groups that have difficulty accessing the housing market. Still, it is important to investigate the possibilities of applicability in the larger new towns that are currently being planned and built in places like Africa, where urbanisation is escalating very fast. The research of Rachel Keeton (2020) on the adaptability of new towns in the African continent is associated to this topic and further research could investigate the role of the policy of aided self-help within the context of contemporary rapid urbanisation in Africa.

Empirical research into the results of the urban extension of Ningo Prampram in Accra, Ghana may be a useful example for analysing possibilities of upscaling of the model of aided self-help with sites & services. Ningo Prampram is a planned large-scale urban extension of Accra that allows flexibility in its growth, for which a series of Urban Labs organised by UN Habitat were held. For these urban labs, a team of architects, urban designers, and landscape architects worked together with local experts in a series of three rapid urban planning workshops, which led to a strategy or concept-plan for a specific urban development. "The planned city extension proposed, uses the most basic but easy to understand and execute system of the grid that secures access, flood risk mitigation as well as provision of utilities. Locally-existing spatial conditions modify the grid and create specificity. In the future, the grid will allow to accommodate virtually any programme that is compatible with an urban environment." (MLA+, 2020 website). In this grid self-organisation could be allowed, but it is not clear in what way it secures the services and in what way the plan includes possibilities for all income groups. Monitoring the development of Ningo Prampram can give more insight in the possibilities of a progressive self-organised way of filling in the grid.

Application in the Global North

Due to the growing demand for affordable housing worldwide, new forms of urban development that share similarities with the aided self-help policy may be applicable in urban settings within the Global North. Because of the new forms of participation in urban processes and the more prominent role of residents, there are more and more examples in the Western world that fit with the aided self-help features. An extreme form is the example of Almere Oosterwold, in the Netherlands, where residents buy a piece

of land and must take care of both housing construction and connection to the urban services by themselves. This means that roads and other facilities like sewage and electricity will not be constructed by the municipality and the buyers of the plots must organise and build it themselves individually or collectively. This is not a form of aided self-help for low income groups, but the process is connected to the planning of self-organisation. Research into the implementation of such examples would be very valuable to get more specific knowledge of the difficulties encountered by residents, the most effective level of guidance of the local government and the kind of facilities that may be needed, among others. For example, through case study research the lessons of this research can be applied to cases in the Global North. Also through the instrument of research-by-design workshops, which is being used more regularly in in the process of urban planning worldwide as part of a research-phase before the actual urban planning and design (like shown in 7.4.), the lessons can be integrated in the planning process.

What becomes clear from the research is that the successful implementation of aided self-help depends on who is in charge and what kind of power and drivers this institute, department, or person pursuit. But it is necessary that somebody takes responsibility for the collective public interests and then the role of the strong and well organised government that is concerned with the welfare of all the residents is essential. This means that, dealing with the lowest income groups, one has to be aware of the long, but also short-term needs of the residents like shelter, food and hygiene. Although this all depends on politics, culture and economics a committed government who strives for inclusive cities has to put this on the city's development agenda and energetically monitor the progress. Furthermore, the research demonstrates that next to the government, the residents have a central position in the implementation and success of aided self-help. It is clear that the mutual aid form of aided self-help in which a collective of families, friends or neighbours cooperate in building the houses and the shared facilities is more successful than the individual form. A strong community is essential.

To conclude, the aided self-help policy with the sites & services scheme applied in the 1950 and 1960s in Latin America is a policy, an inspiration, and provides us lessons while aiming to reach the shared vision of the New Urban Agenda "for a better and more sustainable future – one in which all

people have equal rights and access to the benefits and opportunities that cities can offer, and in which the international community reconsiders the urban systems and physical form of our urban spaces to achieve this." (United Nations, 2016: iv). With a committed government and strong community it is an approach that aims for an inclusive city incorporating safe shelter for all its residents in a resilient and sustainable way (Goal 11 of the Sustainable Development Goals and Targets from the 2030 Agenda for Sustainable Development, 2015).

References

Abrams, Ch. (1964a) *Man's Struggle for Shelter in an Urbanizing World*. Cambridge, Mass. and London, England: MIT Press

Abrams, Ch. (1964b) *Housing in the Modern World*. London: Faber and Faber

Almandoz, A. (2002) Urbanization and Urbanism in Latin America: From Hausmann to CIAM. In Almandoz, A. (Ed.) *Planning Latin America's Capital Cities 1850-1950* (pp. 13-44). New York: Routledge

Almandoz, A. (2010) 'From urban to regional planning in Latin America, 1920–50' in *Planning Perspectives*, 25:1, 87-95, DOI: 10.1080/02665430903515840

Almandoz, A. (2012) Caracas, entre la ciudad guzmancista y la metrópoli revolucionaria. In Almandoz, A. (Ed.) *Caracas, de la metrópoli súbita a la meca roja* (pp. 9–25). Quito: Organizacion Latinoamericana y del Caribe des Centros Historicos (OLACCHI)

Almandoz, A. (2016) Towards Brasília and Ciudad Guayana. Development, urbanization and regional planning in Latin America, 1940s–1960s, in *Planning Perspectives*, 31:1, 31-53

Angotti, Th. (2001) Ciudad Guayana from Growth Pole to Metropolis, Central Planning to Participation. *Journal of Planning Education and Research* 20, (3), 329–338

Appleyard, D. (1976) *Planning a Pluralist City: Conflicting Realities in Ciudad Guayana*. Cambridge MA: MIT Press

Arboleda Halaby R.A., Lau A.L. (1965) *The urban and housing design of a self-help development for Bogota, Colombia, South America*. Cambridge MA: MIT Press

Avella, R. (2017) *Ciudad Guayana, a planned growth pole on the Orinoco, A critical assessment on the role of spatial planning*. Retrieved from https://www.academia.edu/39780480/CiudadGuayana_a_planned_growth_pole_on_the_Orinoco._A_critical_assessment_on_the_role_of_spatial_planning

Barrios, C. (2012) Transcrições arquitetônicas: Niemeyer e Villanueva em diálogo museal. *Arquitextos*. Retrieved from https://www.vitruvius.com.br/revistas/read/arquitextos/13.151/4465

Barrios, C. (2013) Can patios make cities? Urban Traces of the TPA in Brazil and Venezuela. *ZARCH* no.1 Paisages Landscapes, 70-80

Bauchner, J. (2009), The City that built itself. *Triple Canopy*. Retrieved from https://www.canopycanopycanopy.com/contents/the_city_that_built_itself

Bemparana (2019, 23 10) Caximba sera o primeiro bairro intelligente do Brasil. Retrieved from https://www.bemparana.com.br/noticia/caximba-sera-o-primeiro-bairro-inteligente-do-brasil#.XsUCURMzbOQ

Bergdoll, B. Comas, C.E., Liernur, J.F., Real, del P. (Eds.) (2015) *Latin America in Construction: Architecture 1955–1980*. New York, MoMA

Bitter, S., Weber, H. (2003) Living Megastructures. Part of *Caracas, Hecho en Venezuela*. Retrieved from https://vimeo.com/120108581

Brillembourg, A., Feireiss, K., Klumpner, H. (Eds.) (2005) *Informal City: Caracas Case*. Munich, New York: Prestel Verlag

Brillembourg, A., Klumpner, H. (2013) 1 in 23 A Day in the Barrio. *Engineering and Society* Volume 16: 108-115

Brillembourg, C. (Ed.) (2004) *Latin American Architecture 1929-1960, Contemporary Reflections*. New York: the Monacelli Press

Bullrich, F. (1969) *New Directions in Latin American Architecture*. New York: George Braziller, Inc.

Byard, P.S., Klein, L. (2005) Modern Public Housing in Post-Modern Caracas. *Future Anterior*, Volume 2 (1), 59-66

Caldeira, T.P.R. (2001) *City of Walls, Crime, Segregation and Citizenship in Sao Paolo*. Berkeley: University of California Press

Caminos, H., Turner, J.F.C., Steffian, (1969) *Urban Dwelling Environments, an elementary survey of settlements for the study of design determinants*. Cambridge MA: MIT Press

Carlson, E. (1960) Evaluation of housing projects and programmes, a case report from Venezuela. *Town Planning Review*, Vol. 31, 187-209

Carranza, L.E., Luiz Lara, F. (Eds.) (2014) *Modern Architecture in Latin America, Art, Technology and Utopia*. Austin: University of Texas Press

Castillo Melo, R.I. (2015) *Appropriating modern architecture: designers' strategies and dwellers' tactics in the evolution of the 1950s Venezuelan Superbloques*. Lawrence: University of Kansas

Ciccariello-Maher, G. (2013) *We created Chavez, a people's history of the Venezuelan revolution*, Durham: Duke University Press

Cobbett W. (2011) *Formalising the informal*, lecture at World Planning Schools Conference in 2011, Perth Retrieved from https://www.citiesalliance.org/formalising-informal-william-cobbett-address-world-planning-schools-congress-2011

Corrada R. (1962) *EL Roble Pilot Project*, Division of Studies, Planning and Investigation, Archives Joint Center for Urban Studies at Department of Distinctive Collections, MIT Libraries, Records of the Guayana Project, 1961-1969, Archival Collection–AC 292, file B-43

Corrada, R. (1965) *A Housing Policy for Ciudad Guayana*, Stafworking Paper, CVG, Division of Studies, Planning and Investigation, from Frances Loeb Library at the Special Collection Department of Harvard Graduate School of Design, file F-56

Corrada, R. (1969) The Housing Program. In Rodwin, Lloyd & associates. (Ed.) 1969. *Planning Urban Growth and Regional Development: The Experience of the Guayana Program of Venezuela*. Cambridge, MA: MIT Press

Correa, F. (2016) *Beyond the City, resource attraction urbanism in South America*. Austin: UTPress Austin

Crane J.L., Paxton E.T. (1951) The world-wide housing problem. *Town Planning Review*, 22, 16-43

Crimson Historians & Urbanists (2012) *The Banality of Good*. Manifest/exhibition at the 13th edition of the Biennale d' Architettura di Venezia

Crimson Historians & Urbanists (2020) *New Towns on the Cold War Frontier*. Retrieved from https://www.crimsonweb.org/spip.php?mot12 (ongoing research, published ISUU, Rotterdam)

D'Auria, V. (2013) Caracas's Cultural Belongings. In Real del, P., Gyger, H. (Eds.) *Latin American Modern Architectures, Ambiguous Territories* (pp. 115-134). New York: Routledge

De Sola, R. (1988) *La Reurbanizacion "El Silencio" Cronica 1942-1945*. Caracas: Fundacion Villanueva,

Driant, J.C. (1992) *Las barriadas de Lima. Historia e interpretacion*. Lima: IFEA

Economic Commission for Latin America and Carribean (ECLAC). (2019) *History of ECLAC*. Retrieved from https://www.cepal.org/en/historia-de-la-cepal

Fabricius D. (2011) Looking Beyond Informality. *Architectural Design* Latin America at the crossroads, 211, 144-149

Fernández-Maldonado, A. M. (2011) Trends toward Urbanization in the Americas. In Tarver, H. M. (Ed.), *World History Encyclopedia, Era 8: Crisis and Achievement, 1900-1945*. Santa Barbara, CA.: ABC-CLIO

Fernández-Maldonado, A. M. (2014). Incremental Housing in Peru and the role of the Social Housing Sector. In: Bredenoord, J., Van Lindert, P., Smets, P. (Eds.) *Affordable Housing in the Urban Global South: Seeking Sustainable Solutions*, (pp.271-285). Abingdon, UK : Routledge - Taylor & Francis Group

Fernández-Maldonado, A. M. (2019) Unboxing the Black Box of Peruvian Planning. *Planning Practice & Research*, 34 (4), 368-386. London: Routledge

Folch J.E., (1951) Le Réaménagement du Quartier El Silencio a Caracas. *Urbanisme Revue Francaise*, Volume 7-8, 33-36

Fraser, V. (2000) *Building a New World, Studies in the modern architecture of Latin America 1930-1960*. London – New York: Verso

Friedman J. (1966) The Changing Pattern of Urbanisation in Venezuela. In Rodwin L. (Ed.) *Planning Urban Growth and Regional development: The experience of the Guayana Program of Venezuela* (pp. 40-59). Cambridge MA: MIT press

Friedman, J. (1966) *Regional Development Policy: A Case Study of Venezuela*. Cambridge MA: MIT Press

Galani, L. (2018,1017) Projeto que fará da Caximba bairro ecológico de Curitiba prevê casas sustentáveis e orla suspensa. *Gazeta Do Povo*. Retrieved from https://www.gazetadopovo.com.br/haus/urbanismo/caximba-vila-29-outubro-novo-bairro-ecologico-curitiba-arquitetura-urbanismo/

Galantay, E.Y. (1975) *New Towns: Antiquity to the Present*. Toronto: Doubleday Canada

Gonzales Casas, L. (2010) Caracas: Territory, Architecture and Urban Space. In Almandoz, A. (Ed.) *Planning Latin America's Capital Cities 1850-1950*. London and New York: Routledge

Goossens, M., Gómez Meneses, J. (2015). Experiments in social housing. The work of the Land Loans Institute in Bogota, 1964-1973. *INVI Magazine* 30 (84), 121-148

Gyger, H. E. (2013) *The Informal as a Project: Self-Help Housing in Peru, 1954–1986*. New York: Colombia University

Hall, P. (2002) *Cities of Tomorrow: An Intellectual History of Urban Planning and Design in the Twentieth Century* (3rd ed). London: Blackwell Publishing

Handelman, H. (1988) The Role of the State in Sheltering the Urban Poor. In Patton, C.V., *Spontaneous Shelter, International Perspectives and Prospects*. Philadelphia: Temple University Press

Harris, R. (1998) The Silence of the Experts: 'Aided self-help housing' 1939-1954. *Habitat International* 22(2), 165-189

Harris, R. (1999) Slipping through the Cracks: the origins of Aided self-help 1918-1953. *Housing Studies*, 14 (3), 281-309

Harris, R. (2003) A double Irony: the originality and influence of John F.C. Turner. *Habitat International* 27, 245-260

Heeling, J., Meijer, H., Westrik, J.(Eds.) (2002) *Het ontwerp van de plattegrond, deel 1 van de Kern van de Stedebouw als perspectief van de eenentwintigste eeuw*. Amsterdam: Uitgeverij Sun

Hein, C. (2002a) Maurice Rotival: French planning on a world-scale (Part I). *Planning Perspectives*, 17 (3), 247-265

Hein C. (2002b) Maurice Rotival: French planning on a world-scale (Part II). *Planning Perspectives*, 17 (4), 325-344

Hernandez F., Kellet P., Allen L.K. (Eds.) (2010), *Rethinking the Informal City, critical perspectives from Latin America*, New York – Oxford: Berghahn Books

Hill, D.M. (1975) *The planning and Management of Human Settlements with Special Emphasis on Participation*. The Hague: International Union of Local Authorities

Hitchcock, H.R., (1955) *Latin American Architecture since 1945*. New York: Museum of Modern Art

Holston, J. (1989) *The Modernist City: an anthropological critique of Brasilia*. Chicago: The University of Chicago Press

Horowitz, D. (1964) The Alliance for Progress. *The Socialist Register* 1, 127-145

Howard, E. (1944) *Garden Cities of To-Morrow*. London: Faber and Faber Tld.

IFHP, Working Party New Town (1999) *New Towns world-wide-2, New Towns Reviewed*, IFHP

International New Town Institute (2018) *New Town Labs Research-by-design workshops in four New Towns*. Rotterdam: report unpublished

International New Town Institute (2018) *Report New Town Lab Curitiba, Brazil, 4-8 December 2017*. Rotterdam: report unpublished

International New Town Institute (2019) *To Build a City in Africa: A History and a Manual*. Rotterdam: nai010 publishers

IPPUC (2017) *Estudo para o Tatuquara prevê o aproveitamento do potencial Ambiental*. Retrieved from http://ippuc.org.br/mostrarPagina.php?pagina=508&idioma=1&titulo

Irazábal, C. (2004) A Planned City Comes of Age, Rethinking Ciudad Guayana Today. *Journal of Latin American Geography*, 3 (1), 22-51

Jencks, Ch. (1977) *The Language of Post-Modern Architecture*. New York: Rizzoli

Kahatt, S.S. (2011) Agrupación Espacio and the CIAM Peru Group: architecture and the city in the Peruvian modern project. In Lu, D. (ed) *Third World modernism: Architecture, development and identity* (pp. 85-110). New York: Routledge

Keeton, R. (2019) *Play Mahonda Workshop*, Delft University of Technology

Keeton, R. (2020) *Africa New Towns: An adaptive principle-based approach*, dissertation Delft University of Technology

Klein, L. (2007) *Metaphors of form: Weaving the barrio*. Retrieved from http://www.columbia.edu/~sf2220/TT2007/web-content/Pages/leslie2.html

Koth, M.N., Silva, J.G. & Dietz, A.G.H., (Eds..) (1965) *Housing in Latin America*, Cambridge: MIT Press

KUWA (2018) *Tatu City Public Space Research report*. Nairobi, report unpublished

Laquian, A. (1983) Sites, Services and Shelter – an Evaluation. *Habitat Intl.* Vol.7 (516), 211-225

Linden, van der J. (1987) *The Sites and Services Approach Renewed. Solution or Stopgap to the Third World Housing Shortage?* Aldershot: Gower

Lu, D. (2011) Introduction: architecture, modernity and identity in the Third World. In Lu, D. (Ed.) *Third World modernism: Architecture, development and identity* (pp. 1-28). New York: Routledge

Lynch, K. (1964) Some notes on the design of Ciudad Guayana. In Banerjee, T., Southworth, M. (Eds.) (1996) *City Sense and City Design, Writings and Projects of Kevin Lynch* (pp. 634-640). Cambridge: MIT Press

Mangin, W. (1967) Latin American squatter settlements a problem and a solution. *Latin American Research Review*, 2(3), 65-98

Mateo J.L., Baumgarten M, Ramis, T, Land P, ((2016), Redescription PREVI Lima 1969. In *Monograph* 1. Retrieved from https://www.transfer-arch.com/reference/previ-lima-1969/

Mayo, S. K., Angel, S. (1993) *Housing: enabling markets to work*. World Bank, Policy Paper

McGuirk, J. (2014) *Radical Cities, Across Latin America in Search of a New Architecture*. New York: Verso

Meza, B. (2008) Superbloques y masificación: vivienda Banco Obrero en Venezuela (1955-1957). *Tecnología y Construcción* 24 (2), 19-33

Meza, B. (2011) *El Taller de Arquitectura del Banco Obrero en Venezuela Tomo 1. Vivienda Estatal 1951-1958*. EAE (Editorial Academia Espanola)

Miller, N., Hart, S. (2007) *When was Latin America Modern?* New York: Palgrave Macmillan

MLA+, (2020) *Planned City Extension*, Accra Ningo Prampram, Ghana retrieved from https://www.mlaplus.com/portfolio/en-22-2-55/

Moholy-Nagy, S. (1964) *Carlos Raul Villanueva und die Architektur Venezuelas*. Stuttgart: Arthur Niggli

Moore, R. (2015,5,22), Latin America was a place where Modernist dreams came true. *The Architectural Review*. Retrieved from https://www.architectural-review.com/essays/reviews/latin-america-was-a-place-where-modernist-dreams-came-true/

Motta, N., (2015) To Be Continued…Home Design and Self Determination. DASH #12-13, *Affordable dwellings for growing cities*. Delft University of Technology

Mumford, E. (2000) *The CIAM Discourse on Urbanism, 1928-1960*. Cambridge MA – London: MIT-press

Mumford, E., Sarkis H.,(Eds.) (2008) *Josep Lluís Sert: the architect of urban design, 1953-1969*, Yale University, MA: Harvard University Graduate School of Design

Neyra, E. (1974) Las Políticas de Desarrollo regional en América Latina, Document for the *International Seminar on Urban and Regional Planning*, Viña del Mar, 17-22 April 1972

Norwood, H.C. (1973) Planning Sites and services housing. *Town Planning Review* 44, 359-272

Offner, A. C. (2012) Public Housing and Private Property, Colombia and the United States, 1950-1980. *Progressive Planning* 193, 26-29

Osborn, F., Whittick, A., (1977) *New Towns. Their Origins, Achievements and Progress*, London:Leonard Hill/Boston: Routledge & Kegan Pauk

Owens K. E., Gulyani S., Rizvi A. (2018) Success when we deemed it failure? Revisiting sites and services projects in Mumbai and Chennai 20 years later. *World Development*, Volume 106, 260-272

Parnell, S. (2016) Defining a Global Urban Development Agenda. *World Development*, 78, 529-540

Patricios, N. (2002). Urban design principles of the original neighbourhood concepts. *Urban Morphology*, 6 (1), 21-32

Peattie, L. R. (1982) Some Second Thoughts on Sites and Services. *Habitat Intl.* 6 (1/2), 132-139

Peattie, L. R. (1987) *Planning: Rethinking Ciudad Guayana*. Ann Arbor: The University of Michigan Press

Penfold, A. (1970) Caracas, Urban Growth and Transportation. *Town Planning Review* Vol. 41 (2), 103-120

Perry, C.A. (1929) The Neighbourhood Unit in *Regional Plan of New York and its environment*, Volume 7: 22-132

Pineda-Zuaran, J. (2016) Potential barriers for the implementation of the HABITAT III Agenda: the conflicting thinking of the planning approach to formal and informal urbanization in Peru. Paper presented at the Latin American Studies Association Annual Congress, New York, United States. May 2016

Porter, W. L. (1969) Changing Perspectives on Residential Area Design. In Rodwin, L. (ed) *Planning Urban Growth and Regional Development. The Experience of the Guayana Program of Venezuela*, Cambridge, MA: MIT Press

Porter, W. L. (2011) *Professional Transformations*. Retrieved from https://issuu.com/wlymanporter/docs/porter-duttachapter

Potter R. (1985) *Urbanisation and Planning in the 3rd World, Spatial Perceptions and Public Participation*. London: Routledge

Provoost, M. (2006) New towns on the Cold War frontier. *Eurozine*. Retrieved from https://www.eurozine.com/new-towns-on-the-cold-war-frontier-4/

Ramirez, M. (2015) Ciudad Guayana: de milagro de planificación a ejemplo de destrucción. *Elestimulo*, Climax. Retrieved from http://elestimulo.com/climax/ciudad-guayana-milagro-de-planificacion-a-ejemplo-de-destruccion/

Real del P. (2011), Simultaneous territories. *Architectural Design* 211 Latin America at the crossroads, 16-21

Real del, P., Gyger, H, (Eds.) (2013) *Latin American Modern Architectures, Ambiguous Territories*. New York: Routledge

(1929) *Regional Plan of New York and its environment*, Volume 7

Reimers C.A. (1992) *Evolution of Dwellings in Progressive Development Projects: Case Study El Gallo, Ciudad Guayana*, (thesis) Montreal: School of Architecture, Mc Gill University. Retrieved from https://www.academia.edu/990014/Evolution_of_dwellings_in_progressive_development_projects_case_study_El_Gallo_Ciudad_Guayana

Reimers C.A. (2002) *After Sites & services Planned Progressive Development Strategies in Low Income Housing during the 1990's*. (MSc. thesis) Cambridge MA: MIT. Retrieved from https://dspace.mit.edu/bitstream/handle/1721.1/69443/51894789-MIT.pdf?sequence=2

Robinson H. (1976) *Aided self-help housing: its history and potential*. U.S. Department of Housing and Urban Development

Rodwin, L. (1969b.) Reflections on Collaborative Planning. In Rodwin, L. (Ed.) *Planning Urban Growth and Regional Development: The Experience of the Guayana Program of Venezuela* (pp. 467 – 491). Cambridge, MA: MIT Press

Rosling, H. (2018) *Factfulness, how to really understand the modern world*. London: Sceptre

Row, C., Koetter, F. (1978) *Collage City*. Cambridge MA: MIT press

Roy, A. (2005) Urban Informality Toward an Epistemology of Planning. *Journal of the American Planning Association* 71 (2), 147-158

Special Interest Group in Urban Settlement (SIGUS). (2002) *Revisiting El Gallo*. Cambridge MA: MIT School of Architecture and Planning

Silva, J.A. (1964) *An evaluation of El Roble Pilot Project*, CVG, Division de Estucios, Planificacion e Investigacion, Ciudad Guayana, File N B-75 Joint Center for Urban Studies Archive, Department of Distinctive Collections AC-0292, MIT Libraries

Silva, J.A. (1967) Programa de mejoramiento urbano progresivo para Areas de Recepcion en Ciudad Guayana, Fundacion de la Vivienda del Caroni, CVG (available at Joint Center for Urban Studies Archive, Department of Distinctive Collections AC-0292, MIT Libraries)

Snyder, D. E. (1963) Ciudad Guayana: A Planned Metropolis on the Orinoco. *Journal of Inter-American Studies* 5 (3), 405-412

Somer, K. (2014) A Clear Message to the Outside World. Drawing Conclusions and Publishing the Results of CIAM 4. In Van Es, E. , Harbusch, G., Maurer, B., Perez, M., Somer K., Weiss D. (Eds..) (2014) *Atlas of the Functional City, CIAM 4 and Comparative Urban Analysis* (pp. 72-82). Bussum: THOTH Publishers, Zurich: gta Verlag

Stein, C.S. (1966) *Toward New Towns for America*, MA: MIT Press

Supersudaca (2009) LA Collective, Latin America's parallel history as occident's laboratory backlash. *Volume #21 The Block*, supplement

Taffet, J.F. (2007) *Foreign Aid as Foreign Policy, The Alliance for Progress in Latin America*. New York: Routledge

Tatu City (2018) *Report of the New Town Lab Tatu City*. Nairobi: unpublished

Taylor, N. (1999) Anglo-American town planning theory since 1945: three significant developments but no paradigm shifts. *Planning Perspectives*, 14 (4), 327-345

The Charter of Punta del Este (1961) *Establishing an Alliance for Progress Within the Framework of Operation Pan America; August 17, 1961*. Retrieved from: https://avalon.law.yale.edu/20th_century/intam16.asp

Turner, J. (1963) Mass urban re-housing problems. In *Architectural Design 8 Dwelling resources in South America*. Retrieved from http://www.communityplanning.net/JohnFCTurnerArchive/index.php

Turner, J. C. (1967) The Squatter Settlement: An Architecture that Works. In *Architectural Design Architecture of Democracy*. Retrieved from http://www.communityplanning.net/JohnFCTurnerArchive/index.php

Turner, J.F.C. (1967) Barriers and Channels for Housing Development in Modernizing Countries. *Journal of the American Institute of Planners* 33 (3), 167–181

Turner, J. F. C. (1968) Housing Priorities, Settlement Patterns and Urban Development in Modernizing Countries. *Journal of the American Planning Association* 34 (6): 354–363

Turner, J.F.C. (1972) Housing as a Verb. In J. F C. Turner & R. Fichter (Eds..) *Freedom to Build, dweller control of the housing process*. Retrieved from http://www.communityplanning.net/JohnFCTurnerArchive/index.php

Turner, J.F.C. (1976), *Housing by People, Towards Autonomy in Building Environments* (reprint 2009). London: Marion Boyards Publishers

UNESCO (2019) Ciudad Universitaria de Caracas. Retrieved from: http://whc.unesco.org/en/list/986 (1-11-2019)

UN Habitat, (2019) *Strategic Plan 2020-2023*. Nairobi

UN Habitat, (2020) *Participatory Incremental Urban Planning*. Nairobi

United Nations (2004) *World Population Prospect 2004*, UN

United Nations Development Program. (2004) *Forging a Global South, United Nations Day for South South Cooperation*. Retrieved from www.undp.org

United Nations (2016) *New Urban Agenda (NUA)*. Quito: Habitat III, Secretariat

United Nations. (2017) *UNData. A world of information*. Retrieved from http:// data.un.org/

United Nations. Department of Economic and Social Affairs, Population Division (2018). *World Urbanization Prospects: The 2018 Revision*. (data acquired via website)

U.S. Department of Housing and Urban Development (1969) Aided Self-Help in Housing Improvement, prepared for the Agency for International Development. *Ideas and Methods Exchange* no.18, Division of Internal Affairs, Washington D.C.

Van Es, E. , Harbusch, G., Maurer, B., Perez, M., Somer K., Weiss D. (Eds..) (2014) *Atlas of the Functional City, CIAM 4 and Comparative Urban Analysis*, Bussum: THOTH Publishers, Zurich: gta Verlag

Van Holstein E. (2019) Unidad Independencia. In Crimson Historians & Urbanists (Eds.) *New Towns on the Cold War Frontier*. Retrieved from https://www.crimsonweb.org/spip.php?article266

Van Noorloos,F., Kloosterboer, M. (2017) Africa's new cities: The contested future of urbanisation. *Urban Studies*, 55(6), 1223–1241

Velasco, A. (2015) *Barrio Rising: Urban Popular Politics and the Making of Modern Venezuela*. Berkeley: University of California Press

Vernet, N., Coste, A. (2019) Garden Cities of the 21st Century: A Sustainable Path to Suburban Reform in *Urban Planning*, Volume 2: 4, 45–60

Villanueva, P. (2013) Unidad residendial "El Paraíso", *Documents de Projectes d'Arquitectura* 2013, 29, 58-63

Villanueva, P., Pinto, M. (2000) *Carlos Raul Villanueva*, Birkhauser Verlag

Von Moltke W. (1962) Memorandum to Norman Williams jr (de chief director of the Joint Center) "Program for implementing Mejoremeinto Urban Progresivo", 26 april 1962 Caracas, from archives MIT

Von Moltke, W. (1969) 'The Evolution of the Linear Form' in Rodwin, L. (Ed.) *Planning Urban Growth and Regional Development. The Experience of the Guayana Program of Venezuela*. Cambridge, MA: MIT Press

Wakely, P. (2014) Urban public housing strategies in developing countries: whence and whither paradigms, policies, programmes and projects. *DPU60 Working Paper series: reflections* no.163(60

Wallace, A. (2013), *Ciudad Kennedy: la mayor huella de JFK en América Latina*. Retrieved from www.bbc.com/mundo/noticias/2013/11/131113_kennedy_colo Bogotá

Ward, P. (2012) Self Help Housing Ideas and Practice in the Americas. In Sanyal B., Vale L., Rosen C. (Eds.) *Planning Ideas That Matter: Livability, Territoriality, Governance and Reflective Practice* (pp. 283-310). Cambridge MA: MIT Press

Watson, V. (2009) The planned city sweeps the poor away…: Urban planning and 21st century urbanisation. *Progress in Planning*, 72(3), 151-193

Watson, V. (2014) African urban fantasies: dreams or nightmares?. *Environment and Urbanization*, 26(1), 215-231

Wildavsky, A. (1972) Why planning fails in Nepal. *Administrative Science Quarterly*, 508-528. Retrieved from www.vitruvius.com.br/revistas/read/arquitextos/13.151/4465

Zelik R., Bitter, S., Weber, H. (2004) *Made in Venezuela, Notizen zur Bolivarianischen Revolution*. Berlin: Assoziation A

Interviews

Interview with Paulina Villanueva, daughter of Carlos Raul Villanueva, Caracas, 19 May 2009

Interview with Victor Artis, Gustavo Ferrero Tamayo and Oscar Tenreiro, members of the team of the Corparacion Guayana Venezolana in the 1960s, Caracas, 20 May 2009, in cooperation with Alfredo Brillembourg, Urban Think Tank

Interview with William Porter, member of the team of the Joint Center for Urban Studies, Boston, 14 September 2011

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A critical discourse on the influence of the Modern Movement in urban design and planning has been taking place since the mid-20th century, accompanied by an ongoing search for opportunities to bring the human dimension, scale and self-organisation into this process. However, still a large number of new towns have been built across Asia and Africa, generally following modernistic urban concepts. This research contributes to the afore-mentioned discussion, exploring the context of urbanisation in Latin America in the 1950s and 1960s, in many ways similar to the context of current new town developments in Asia and Africa. To address the meeting point of the ideas of the Modern Movement and self-organisation, the study examines two case-studies in Venezuela, a country which urbanized rapidly after the discovery of oil in the 1920s. The oil revenues made it possible to build new towns, on a large scale, with modernist ideals.

The analysis of the planning and implementation of the two new towns built in Venezuela in the 1950s and 1960s provides important lessons that can be shared to improve the current practice of new town planning. The main lessons emphasize the importance of integrating the needs and wishes of the residents, and to get the commitment of the authorities. More importantly, the results show the opportunities of the aided self-help housing policy, an effective alternative beyond the habitual use of modernistic ideas and concepts.

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