
HUMAN SETTLEMENTS
Formulations and (re)Calibrations
PAKISTAN
VIETNAM
INDONESIA
CHAD
KENYA
INDIA
TANZANIA
PERU
SOMALIA
LEBANON
SRI LANKA
BRAZIL

HUMAN SETTLEMENTS

Formulations and (re)Calibrations

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Calibrating Human Settlements
CONSIDERATIONS 1945–1970

Formulating Human Settlements
PROJECTS 1960–1980

[Re]Calibrating Human Settlements
OPERATIONS IN THE FIELD 1990–2010

***Elemental* housing in Quinta Monroy** —— With its collectivist and emancipatory agenda, the colorful housing project in Chile by the *Elemental* Do Tank responds to the need of low-cost housing provision without renouncing to both structure the city and to build community.

Human Settlements: Formulations and [re]Calibrations addresses the coining of the human settlements discipline in the postwar and postcolonial decades, its consolidation as a field of practices in the 1970s, and its evolution in both discourse and practice from then until today. In the recent past, the '70s phenomenon' of human settlements has been taken up by housing specialists, development experts and NGO workers. In the resulting literature, its relation to governance, participation and other process-driven approaches for the delivery and co-production of shelter, service and infrastructure is underscored. The bias of this publication rests in the field of urbanism and its double capacity as both a science of and action upon the city. It highlights the intertwining of the disciplines of human settlements and urbanism. It considers urbanism in its attempts to steer the worldwide transformation of the built and natural environments by connecting the context specificity of design practice with non-specific issues such as social exclusion, poverty, unsustainable construction and urban growth.

The first section of the book revolves around key protagonists and concepts crucial for the calibration of the disciplinary field. It traces a number of the key issues of the 1960s and 1970s human settlements agenda, including the increasing awareness of centre-periphery interdependence, the escalating importance of the environment, the contribution of vernacular architecture and its documentation in a number of newly independent countries and the attempt to blend a critically amended modernism with local specificities. Additionally, the impact of sustainable development, present in its embryonic form already in the 1950s, is critically reflected upon with an eye to the consequences it has begun to have on urban transformation and the term's (ab)use in the discourse.

The second part of the book revisits keystone urbanistic interventions which are representative of paradigmatic approaches to human settlements. The projects are coupled either because they share common objectives, such as the documentation of (densification processes of) informal settlement tissues or according to their location at the opposite ends of a particular opposition, as in the case of informal planning practices developed in response to a highly centralized and technocratic approach. The projects discuss issues of the informalization and user-transformation of modern(ist) dwellings and, by contrast, the upgrading of informal settlements; the instrumentality of space in terms of both design (mediating urban structures) and process (land-sharing); the importance of tissue-infill relationships; the quest of intermediate technology to produce '(g)locally-constructed' environments. Together, the interventions (re)define human settlements through its practices and in relation to (at least) six of the major themes and concepts that structure the discourse of human settlements.

The third section documents a number of contemporary explorations in human settlements. The focus is on an emerging collection of innovative approaches which are seemingly re-prioritizing the 'discipline' of human settlements by grafting with environmental concerns; re-cycling spaces, materials and built forms; coding new forms of urbanization; or relying on the structuring potential of infrastructure. The projects presented are emblematic of those renewing and recalibrating the human settlements agenda. Significant is the development of activist architects and urbanists positioned at the intersection of politics, design and research, as some of the emerging practices in the Global South (Urban Think Tank, Caracas; Elemental Do Tank, Chile; Urban Design Research Institute, Mumbai) or even in the declining Western periphery. Reinvigorating the scope of urban interventions, the position of such practices call for a design capable of being precise, relevant and irreducible for the contexts they are engaging with. The socially-engaged designs demonstrate how contemporary work in human settlements contexts contributes to the development of architecture and urbanism in general. This might be seen as one of the 'returns' of human settlements, that anyway is literally returning more and more on the agenda, be it often under the umbrella of new calibrations such as sustainability and, nowadays, the unavoidable challenge of climate change.

Calibrating Human Settlements

CONSIDERATIONS 1945–1970

The Nebulous Notion of Human Settlements

Viviana d'Auria, Bruno De Meulder, Kelly Shannon

In 1976, Eric Carlson, the then Head of the Human Settlements Program at the United Nations Environmental Program, acknowledged how embedded the concept of "human settlements" had become within leading international aid strategies: "A human settlements approach is a key conceptual instrument for the [development] process, and indeed it has been said that national planning through strategies for settlements is a means of humanizing and socializing the whole development process. The human settlements approach sees man in totality – in work, in play, at home, and in relationship with nature and the environment. Its objective is to ensure the spread of development efforts – the quality of life – to the people. The major components are to promote productivity, through spatial considerations, and public service delivery systems, for human welfare'.[1]

Three key issues emerge from this interpretation of the 'human settlements' approach: first and foremost, that of development itself; subsequently its 'human' nature; and finally the related emphasis upon a holistic outlook while dealing with the transformation of both natural and man-made settings. Evidently, the transformation of natural and man-made environments and settlements is inextricably tied to architecture, urbanism and planning – and with that the circle is round: urbanism is about development and development is about urbanism. Architecture, urbanism and planning are simultaneously instruments and objects of development and vice versa.

In the 1970s, the argument was made that, in order to improve this cycle, the transformation process should be integrating and humanized. Integration would be enhanced by a constructive interplay between resources, institutions and form (design). Normative, regulatory-driven architecture, urban design/urbanism and planning principles were challenged. This is a significant juncture of the human settlements paradigm. Such a nutshell characterization aside, the definition of the human settlements approach has always remained fluid. The resulting ambiguity has contributed to its capacity to integrate (at least discourses and concerns) and assemble work-on-the-ground which attempted to address the fast urbanization

1/ Eric Carlson (1976), 'Preface', in: Gwen Bell, *Strategies for Human Settlements: Habitat and Environment.* Honolulu: University Press of Hawaii, p. xvii.

2/ Paola Berenstein-Jacques (2003), *L'Esthétique des Favelas.* Paris: Harmattan.
3/ WL. Thomas (ed.) (1956), *Man's Role in Changing the Face of the Earth.* Chicago: Chicago University Press.
4/ On 'glocalisation', see Erik Swyngedouw (2001), 'Neither Global Nor Local: "Glocalization" and the Politics of Scale', in: B. Jessop (ed.), *Regulation Theory and the Crisis of Capitalism.* Cheltenham, Glos/Northampton, MA: Edward Elgar, pp. 196–225; (2003), '"Glocal" Urban Modernities: Exploring the Cracks in the Mirror', in: *City*, Vol. 7, No. 1, pp. 5–21; (2004) (with M. Kaika), 'Globalisation or "Glocalisation"? Networks, Territories and Rescaling', *Cambridge Review of International Affairs*, Vol.17, No. 1, pp. 25–48; (2005), 'Exit "Post" – The Making of "Glocal" Urban Modernities', in: S. Read, J. Roseman, and J. van Eldijk. (eds.), *Future City.* London/New York: Spon Press, pp. 125–144.
5/ E.A. Gutkind (1946), *Revolution of Environment.* London: Kegan. See also E.A. Gutkind (1953), *The expanding environment. The end of cities – The rise of communities.* London: Freedom Press; E.A. Gutkind (1952), *Our world from the air. An International Survey of Man and the Environment.* New York: Doubleday.
6/ Gutkind, *Revolution of Environment*, p. 3.

in what was then labeled as the 'Third World'.

Human settlements – long before the deconstructivist fascination for the informal[2] – can be characterized as the first urbanism paradigm that was (at least partially) constructed from, for and with the Third World (with all the nuances, ambivalences and tensions co-productive processes entail). As far as paradigms go, the human settlements one replaces earlier and outdated frames and approaches which were no longer capable to offer a coherent and convincing set of concepts. As far as paradigms go, the human settlements one distorts a pre-existing one, recombines and introduces new elements into what then becomes a new conceptual framework. In this sense, human settlements as a paradigm is built upon the ruins of modernism.

Obviously, this new conceptual framework was informed by a wide variety of intervention practices and a diversity of knowledge that focused on the rapidly urbanizing societies of the Third World. Its construction was intertwined with (and simultaneously dissociated from) the turbulent trajectories of modernist architecture and urbanism. Human settlements emerged from a multitude of surveys, fieldwork sessions, mission reports and publications, programs, plans and projects, as well as through international meetings, encounters and events which were experienced, produced and attended by both development experts and modernist architects and planners. In fact, the conceptual and practice-based frame of human settlements was perhaps one of the first internationally produced and interdisciplinary ventures which made use of the amplifying force of newly created international organizations such as the United Nations (UN) – which was fundamental in the spreading and internationalization of human settlements concepts and projects. Consequently, human settlements became, quite early on, a universal practice. As such, it incorporates all the strengths and vices of global activities which are embedded within various types of international organizations and cooperation bodies.

When set side-by-side along key terms like 'habitat' and '[built] environment', the fluctuating notion of human settlements (as dwelled upon by Carlson) was at the very core of several postwar debates within the Congrès Internationaux d'Architecture Moderne (CIAM), the UN and the larger, global architectural and planning community that increasingly engaged in the betterment of so-called developing countries. Coalesced around figures such as Jacqueline Tyrwhitt and Margaret Mead, academics and practitioners from a variety of backgrounds appropriated the term, embodying the growing attention on the comprehensive study of man-made settlements, including their physical settings and daily-life activities.

NEW TERMINOLOGY FOR AN EXPANDING FIELD

The nebulosity of the field – and the aspiration for it to become 'con-disciplinary' (a term used by Constantinos A. Doxiadis) – lead to the creation of a discipline entirely devoted to the examination of 'human settlements'. Human settlements absorbed inputs from various applied social and environmental fields such as sociology, anthropology, environmental engineering, geography and regional science. In this manner, human settlements appropriated the agenda of architects, urbanists and planners such as Erwin Gutkind and geographers such as Karl Sauer – who incidentally chaired the 1956 conference entitled *Man's Role in Changing the Face of the Earth*.[3] In the early 1950s – decades before glocal (global-local)[4] became a catchword in development discourses – Gutkind diagnosed in his book *Revolution of Environment*[5] the need for a 'flexible adaptation of environment all the world over to changing conditions, and for this end to take into account not only international links such as trade, transport and other forms of international exchange, but also the impact of these factors on the social and economic structure of individual countries and the correlation of their internal pattern of living'.[6] Similarly, the conference *Man's Role in Changing the Face of the Earth* also proclaimed the need for flexible adaptation in transforming the built environment, underscoring the importance of cultural differences in the interpretation of issues related to development and

urbanization. Urbanism and urbanization became prime anthropological topics.[7] Great emphasis was given to various aspects of 'process' and quite a few of the (big and small) notions that continue to dominate today's debate and practices. Already then, the discourse included climate change and technologies of waste, for example. Other hot topics included the 'limits of man and the earth' and the 'unstable equilibrium of man in nature'. In short, in such a limited genealogy of the human settlements approach, there emerges quite a substantial history of ideas on contemporary and global agendas – such as sustainability and climate change.[8] This foresight was also combined with a very up-to-date awareness of the importance of cultural differences and other contextual and local characteristics.

It should be clear by now that while architecture, urbanism and planning were embroiled in such a process of enlarging their scope and simultaneously attempting to allow for flexible adaptation to cultural and other variations, the terminology had been shifting. All of a sudden, the object of architecture, urbanism and planning was no longer 'the city', but 'the environment'.[9] Indicative, as well, was the shift from (modern) architecture's concern for 'housing' towards an obsession with 'habitat'. Nevertheless, the new vocabulary did not imply that architecture ceased to remain a central discipline. In the early days of the human settlements approach, the spatial distribution and organization of human activity as a single and integrated focus, with a concern for patterns of how people use, organize and create spaces remained primary and constitutive elements for development experts. Architecture played a central role in the field's attempt to incorporate use patterns and experience into design interventions. The attentiveness towards socio-cultural aspects, observable at the micro-scale, went hand-in-hand with a broadening of the scope of investigations. Both rural and urban systems were treated as an interdependent environment. Consequently, committed practitioners were forced to engage other disciplines for the design of more humane environments at a number of different scales.

Ultimately, all this brings one back to a set of basic questions: What did the concept of human settlements – with its various scopes, scales and sensitivities – actually stand for? How did human settlements renew approaches to architecture, urbanism and planning? What implications did the human settlements paradigm have for architects, urbanists and planners in their revisited positions of city-making processes? Below, a number of representative concepts and the delineation of their shifts in meaning through time are developed as rudimentary tools for navigation amidst the nebulous notion of human settlements.

DE-CONSTRUCTING AND RE-GROUNDING MODERNISM

The debates on the fate of modern architecture and urban planning, from the early 1950s onwards, reflected the anxiety of 'displaced' practitioners vis-à-vis the changed settings of a postwar and postcolonial world.[10] In Europe and North America, the survival of cities itself was questioned. At the same time, modernist tenets were hybridized when placed in contact with the so-called periphery, simultaneously displaying the cultural and socio-economic side-effects of development efforts in city-making practices. Within such a context, the emergence of human settlements as a field of application became tacitly integral to the process of [de]constructing modernism and its related disciplinary [re]foundations.[11] More specifically, for architects, urbanists and planners, it provided the opportunity – as the adjective 'human' underscored – to reconcile earlier functionalist tenets with more humanistic concerns which had begun to surface in the CIAM sessions following World War II.[12] In parallel with the growing concern to 'safeguard' the 'human scale' in rapidly transforming cities, handbooks produced by UN-related training centers, as in the case of the Inter-American Housing and Planning Center (CINVA),[13] underscored the importance of the 'human factor' in the upgrading of derelict areas.[14] Amongst the figures most involved in setting the agenda for leading international agencies and involved in academia, the rhetoric centrality of 'man' surfaced – especially after 1965 – in a range of key publications such as *Matrix of Man* by Sibyl Moholy-Nagy (1968) and *The Home of Man* by Barbara Ward (1976), or other contributions such as *The New World of Urban Man* (1965) and *The Human Element in Settlement Planning* (1976) by Constantinos A. Doxiadis and Margaret Mead respectively.

Before its appropriation at a wider and international scale, the investigation of the human environment in relation to specific dwelling practices was picked up as a theme by the younger CIAM participants. They furthered Le Corbusier's intentions to develop a 'Charter of Habitat', which he expressed during CIAM VII (Bergamo, 1949). From the onset, the term 'habitat' embodied different connotations, but nevertheless marked a shift towards the re-conceptualization of architecture and urbanism as part of a larger environment, including the broader sphere of everyday and indigenous dwelling practices.[15] The main *raison d'être* of architecture was no longer, as it had been for modernism, the production of mass housing. The central issue of architecture became focused on how to contribute to the construction of a 'habitat'. The fascination of Team X's future members with primitive societies and sets of cultural systems that configure the non-designed built environment was pushed to an extreme by the GAMMA (*Groupe d'Architectes Modernes Marocains*) group's work (directed by Georges Candilis and Shadrach Woods) and Aldo Van Eyck's research on Dogon villages in Mali. The tools for urban analysis presented at CIAM IX on 'Habitat' (Aix-en-Provence, 1953), namely the Smithsons' 'Urban Re-Identification' grid and the ATBAT-Afrique/GAMMA-grid on the 'habitat for the greatest number', underscored such an epistemological shift at each scale level of their respective studies.[16] The notion of 'habitat for the greatest number' announced a new, more holistic approach, while still echoing the credos of modernism. They were reactions against CIAM's abstractive tendency that detached architectural questions from their cultural matrix. The everyday environment was believed to contain valuable lessons for the realm of contemporary architecture and urbanism. Amongst the other Team X members who contributed to the new paradigm was Giancarlo De Carlo who would later establish two platforms for the emerging discourse, the publication *Spazio e società* (*Space & Society*) (1978–2000) and the International Laboratory of Architecture and Urban Design (ILAUD) (1974–2004).

Patterns of association, the use of concepts imported from the social sciences and further qualified in architectural terms, and the related documentation of (the ingenuity of) informal settlements – more particularly the *bidonville* – were central to CIAM IX. Upon the latter's dissolution, the quest for developing the Habitat Charter was intermittently pursued by José Luis Sert, Jacqueline Tyrwhitt and Sigfried Giedeon at Harvard and continued until the 1976 Vancouver conference, where the former's collaboration with the Iranian government was presented under the form of a 'Habitat Bill of Rights'. Last but not least, the United Nations Centre for Human Settlements picked up the term in its appellation. It was the culmination of an itinerary which, within the specific framework of architecture and urbanism, began with a term borrowed from sociologists and geographers and was underscored by the fact that practitioners took increasingly into account institutional frameworks and the self-regulatory practices of city-making. Time-wise the shifting of the object of architecture and urbanism went hand-in-hand with the saturation and earmarking of a new global institution – 'Habitat'. While the UN organization for technical assistance concentrated in its early days on (low-cost, low-income) housing, the increasing relevance of contextual and cultural specificities – including the use of 'human settlements' as a reference term – reflects the tentative broadening of its scope.[17]

THE 'SCIENCE' OF HUMAN SETTLEMENTS: EXPANDING DEFINITIONS AND INSTITUTIONAL FRAMEWORKS

Indeed, this earmarking of the new global institution of institutions on human settlements also highlights an

[7] N. Anderson (1964), *Urbanism and urbanization*. Leiden: International Studies in Sociology and Social Anthropology, vol. II; Gerald Breese (1972), *The City in Newly Developing Countries: Readings on Urbanism and Urbanization*. New Jersey: Prentice-Hall; P. Meadows and H.M. Ephraim (1969), *Urbanism, Urbanization and Change: Comparative Perspectives*. Reading, MA: Addison-Wesley; P.C.W. Gutkind (1974), *Anthropology: Perspectives on Third World Urbanization and Urbanism*. Assen: Van Gorcum.

[8] Thomas, *Man's Role in Changing the Face of the Earth*, p. 963.

[9] See, for example, W.R. Ewald Jr. (1968), *Environment and Policy. The next fifty years*. Bloomington/London, Indiana University Press & American Institute of Planners.

[10] In the postwar and postcolonial combination of positivism, Cold War tension and nation-building processes, the trajectories of several architects and planners became emblematic of a professional shift from 'modernists in exile' (Bernd Nicolai) to 'nomadic experts' (Eric Verdeil). On the anxious nature of postwar modernism, see also Sarah Williams-Goldhagen and Réjean Legault (eds.) (2001), *Anxious Modernisms: Experimentation in Postwar Architectural Culture*, Cambridge: MIT Press.

[11] The complex spatial and intellectual reconfigurations underwent by a significant number of modernist practitioners 'on the move' – in association with the disintegration of CIAM – contributed to the formation of a number of sub-disciplines within the ever-changing field of urbanistic knowledge and practice, namely Tropical Architecture (1953), Urban Design (1956) and Ekistics or the Science of Human Settlements (1958). The last two of them explicitly picked up on the CIAM legacy and aspiration to produce a 'Charter of Habitat'.

[12] For the 'humanist' component of postwar modern architecture and urbanism, see (amongst others) Tom Avermaete (2005), *Another Modern: the Postwar Architecture of Candilis-Josic-Woods*. Rotterdam: NAi; Eric Mumford (2009), *Defining Urban Design: CIAM Architects and the Formation of a Discipline, 1937–69*. New Haven: Yale University Press.

[13] The CINVA, the Inter-American Housing and Planning Center, was established in 1951 in Bogotà, Colombia upon the initiative of the Organization of American States (OAS). The school, headed by Eric Carlson, was to become a regional centre for training in low-cost housing for architects, engineers, social workers, etc.

[14] See, for instance, Josephina Albano (1957), *El factor humano para la rehabilitación dos tugurios*. Bogotà: CINVA.

[15] For more on the concept of 'habitat' and its relationship to modern architecture and urbanism, see Jean-Louis Cohen (1992), 'Il Gruppo Marocchino e il tema dell'habitat', in: *Rassegna*, No. 52, pp. 58–67; Tom Avermaete (2005), *Another Modern: the Postwar Architecture of Candilis-Josic-Woods*. Rotterdam: NAi, pp. 134–170; Jean-Louis Bonillo, Claude Nassau and Daniel Pinson (eds.) (2005), *La modernité critique: autour du CIAM 9 d'Aix-en-Provence – 1953*. Marseille: Éditions Imbernon.

[16] For a detailed description of the CIAM and Team X grids and grilles as urban analysis tools see Volker Welter (2004), 'Talking Squares: Grids and Grilles as Architectural Tools for Analysis and Communication', in: Dirk van den Heuvel and Gijs de Waal (eds.) (2004), *Team 10 between Modernity and the Everyday*. Delft: Technische Universiteit, pp. 181–189.

[17] A case in point is demonstrated by some of the publications produced by the UN concerning housing in the African region: whereas *Housing in Africa* (1965) focused primarily on the 'universal ingredients' of funding, finance and construction materials, *Economic Housing in Africa* (1976) and, to a lesser extent, its companion *Human Settlements in Africa: the Role of Housing and Planning* (1976) place an emphasis – through case studies – on the wide range of dwelling types and housing projects registered throughout the continent. In the former case, the impact of cultural features is circumscribed to the use of space in grouped housing, whereas in the latter cases, the explicit intention was to provide a variety of solutions 'so as not to let the reader, or rather, the viewer forget the size, variety and beauty of the African continent as well as its people and traditional handicrafts'.

Urban Re-identification Grid — Presented at CIAM IX in 1953, Alison and Peter Smithson's urban analysis tool replaced the four interpretative categories of residence, work, transport and leisure championed by the CIAM. The grid set the Golden Lane project in London (right) side by side with photographs of street life in a working-class neighborhood (left). By highlighting the importance of "patterns of human association", the everyday and the relationship between activities and scales were presented as crucial components for re-articulating modern architecture and urbanism.

important aspect of the human settlements paradigm: it not only recognizes the importance of institutions in the development process of human settlements, but also places them at the core of the development process. The paradigmatic shift intertwined this institutional set up – ranging from community-based organizations to national ministries to UN-Habitat, incorporating public authorities, civil society and market – with the design process. If at the first world conference on cities (held in Ghent in 1913 and organized in concomitance with the World Exhibition[18]) urbanism and administration were already defined as complementary, but parallel operating disciplines supporting urban development. From this episode onwards, the development of human settlements was seen as actively underpinned by the intimate intertwining of urban design and institutional configurations.

A wide-ranging and versatile concept of human settlements became instrumental for negotiating the position of modern architecture and urbanism in the changed setting of postwar and postcolonial territories. In the late-colonial, postwar period, colonial regimes set up huge welfare programs – housing, education, health care, infrastructure – in a desperate attempt to safeguard their grip on their previous colonies. Winning hearts and developing population-oriented programs often went hand-in-hand with catastrophic colonial wars. It is in such contradictory scenes where a number of humanitarian-labeled concerns set the modernist agenda of authoritarian colonial regimes. In the postwar period, massive housing projects formed the cornerstone of many (late-colonial) development programs, which were, without many exceptions, modernist expressions – in the north or the south, east or west, as shown by the interventions implemented, for example, by the *Service de l'Urbanisme* in Morocco, the *Office des Cités Africaines* (OCA) in Congo, and (to a somewhat different extent) the *Taller de Arquitectura del Banco Obrero* (TABO) in Venezuela. By the mid-1960s, early 1970s, the vast majority of these colonies would be independent states and they would, also without too many exceptions, thereafter struggle with the heritage of the unaffordable modernist experiments of the postwar period.

Over time, the modernization agenda became more and more synonymous with a development agenda, often intertwined with nation-building objectives. While this re-labeled modernization was being implemented across the so-called Third World – successfully married to post-independence ambitions and neo-colonial interests – the notion provided an overarching framework for projects of all sorts to comfortably fall into. By stressing the 'human' side, boundaries between origin, geo-political location and morphological configuration faded, together with colonial memories, into the background when confronted with the global scope of development seen as a response to the 'international urgency of the uncontrolled crescendo of urbanization'.[19] Concurrently, however, the same term proved useful to advocate for the relevance of local specificities and thereby set a strong frame for architecture and urbanism to acknowledge and make manifest the particular conditions of sites. Therefore, the Third World urban contexts not only maintained their status as laboratories for the re-conceptualization of modernism all together, but were also the primary sites for (reformulated and recalibrated) modern architecture and planning's growing bond with international development strategies.

Ekistics, coined in the mid-1950s by Doxiadis as 'the science of human settlements', systematically extended some of these preoccupations by establishing a new terminology that coded the interconnections between the basic components of the built environment.[20] These interactions were structured by an analytical matrix of man, society, shells, networks and nature. The matrix took into account the complete spectrum of human settlements, ranging from the single man to the world-encompassing Ecumenopolis.[21] The need for an Ekistic taxonomy was premised on the lack of classification methods that took dynamic morphologies into account. It strived to produce a system that considered the evolutionary phases of human settlements. The matrix allowed categorizations by Ekistic units, elements, functions and evolutionary forces, which could be inscribed – two at a time – within

[18]/ *Congrès International des Villes*, Ghent, 1913.
[19]/ United Nations (1960), *Planning of Metropolitan Areas and New Towns*. New York: United Nations, p. III.
[20]/ For more on the coinage and conceptualization of the 'Ekistics' term and discipline, see Constantinos Doxiadis (1946), *Ekistic Analysis*; (1968), *Ekistics: An Introduction to the Science of Human Settlements*.
[21]/ Gwen Bell and Jacqueline Tyrwhitt (1972), 'Introduction', in Gwen Bell and Jacqueline Tyrwhitt (eds.), *Human Identity in the Urban Environment*. Harmondsworth: Penguin Books, pp. 27–28.
[22]/ Constantinos Doxiadis (1968), 'Classification and Order', in: *Ekistics*, pp. 31–41. See also Jacqueline Tyrwhitt (1985), 'Planning tools and grids', in: *Ekistics*, Vol. 52, No. 314/315 (Sept./Oct.–Nov./Dec.).
[23]/ The foundation of UNCHS (HABITAT) manifested the reaction to critiques moved by Doxiadis and other figures at the establishment of the Centre for Housing, Building and Planning in the first half of the 1960s. From its inception the latter was seen to misrepresent the three components making its name by interpreting them as separate entities rather than interdependent domains strictly related to social and economic improvement.
[24]/ In his 1964 contribution on Action Planning, Otto Koenigsberger – who would be one of the most influential participants at the Vancouver Conference – listed New Towns amongst other solutions as inefficient strategies to cope with rapid urbanization in the developing world, epitomizing the shift of confidence in such planning tools. See Otto Koenigsberger (1964), 'Action Planning', in: *Architectural Association Journal* (May issue), summarized in *Ekistics*, 1964, Vol. 18, p. 416; See also Otto Koenigsberger et al. (1971), *Infrastructure problems of the cities of developing countries*. International Urbanization Survey New York: Ford Foundation; Otto Koenigsberger (1975), *The absorption of newcomers in the cities of developing countries*. New York: United Nations.
[25]/ Constantinos Doxiadis (1967), *Emergence and growth of an urban region. The developing urban Detroit Area.*

Detroit: Edison Company, 3 Volumes (*Analysis, Future Alternatives, A Concept for Future Development*).
[26]/ Roberto Chavez and Julie Viloria (2000), *Interview to John Turner by the World Bank*, 11 September 2000, Washington D.C. Available at http://siteresources.worldbank.org/INTUSU/Resources/turner-tacit.pdf.
[27]/ Michelle Provoost (2006), 'New Towns on the Cold War Frontier: How modern urban planning was exported as an instrument in the battle for the developing world', in: *Lettre Internationale* No. 11, Denmark. Also available at http://www.eurozine.com/articles/article_2006-06-28-provoost-en.html.
[28]/ The *Unidades de Mejoramento Urbano Progresivo* (UMUP) were progressive development projects where tracts of lands were subdivided and progressively serviced with the inhabitants' participation. The concept of UMUP proposed that, starting from minimum services, individual dwellings and public services be progressively improved in a government-user effort. For a more detailed account of the UMUP strategy, see Rafael Corrada (1966), *The Housing Development Program for Ciudad Guayana*. Mimeograph, Housing Policy Seminar. San Juan, Puerto Rico: University of Puerto Rico; Carlos A. Reimers (1992), *Evolution of Dwellings in Progressive Development Projects: Case Study, El Gallo. Ciudad Guayana, Venezuela*, MSc Thesis, Montreal: McGill University.

a grid and then overlapped with other combinations to eventually formulate a three-dimensional system.[22]

The frequent affiliation of human settlements with biological and anthropological concepts also reflected the increasing relevance of environmental and social aspects of rapid urbanization. 'Planetary housekeeping', as Lady Jackson (Barbara Ward) called it at the 1976 Vancouver event, was first and foremost a question of perspective; the interconnectedness of human activities should not only be recognized, but also be deconstructed in order to measure the impacts of each sector on the state of the global environment.

FROM HUMAN TO SQUATTER SETTLEMENTS

The importance of 'habitat'' and the 'human settlements' approach was confirmed in the 1976 international conference in Vancouver. At the conclusion of the event, the peer-reviewed, scientific journal *Habitat* was established and, more importantly, the United Nations Centre for Human Settlements (UNCHS) was founded in 1978 (with its headquarters in Nairobi). As an integrating notion emerged from within Doxiadis' *entourage*, 'Human Settlements' was finally reflected in the UN's institutional history.[23] In practice however, the Greek architect's design-based approach for guiding rapid urban growth was less accountable for the development agenda in the UNCHS' foundation. In that sense, Doxiadis' brief but intense appearance with his amended form of modernism on the world map of urbanism is exemplar for a short interlude in-between the more hard-core implementation of modernism and the emergence of the human settlements paradigm. It was fuelled by modernist convictions and the financial opportunities that the Cold War dynamics generated. Indeed, the new town and urban renewal schemes produced by Doxiadis Associates for several areas around the globe, including Port Sudan, Sudan (1959); Iraq (1959); Eastwick, USA (1959–63); Lebanon (1959–61); Islamabad, Pakistan (1959–63); Homs and Hama, Syria (1960); Dacca, Bangladesh (1960); Cincinnati, USA (1961); Washington D.C., USA (1961–63); Louisville, USA (1961); Libya (1963); Accra-Tema, Ghana (1961–1969) and Rio de Janeiro, Brazil (1964–65) amongst others, were in opposition to the more flexible and less costly approaches resulting from the emergence of the self-help housing and action planning paradigms.[24] A case in point is the finalization of Doxiadis' massive study and master plan for Detroit,[25] which more-or-less coincided with dramatic race riots in the city and subsequently catapulted his concepts for the future development of Detroit into irrelevance. While the master planning approach began to collect dust, new development strategies – community development, educational programs and equal right policies, etc. – were put on track as more adequate responses to the development challenges of the vanishing capital of the car industry. Analogously dramatic and deviating experiences can be mentioned in developing contexts where Doxiadis was trying – as energetically as in vain – to introduce his amended modernism, under the camouflage of the 'Ekistics' label.

Indeed, as early as 1962, progressive development and incremental housing experiments were being tested in Ciudad Guayana, Venezuela on the basis of John Turner's previous experience in Peru and contact with Lloyd Rodwin from the MIT-Harvard Joint Centre for Urban Studies, which the former would join as associate researcher shortly after.[26] 'Progressive Urban Improvement Units' were introduced in the Venezuelan new town to speed up and improve the upgrading process of squatter settlements. On the other hand, in the case of Doxiadis' schemes, the notion of an 'integrated human community' came from the construction of minimal but 'complete' dwellings built in community-oriented layouts, where the transition from rural to urban living conditions was supposedly facilitated through the provision of 'emancipation packages'[27] and echoes of vernacular building. The Ciudad Guayana project had very different priorities when compared to some of Doxiadis Associates' housing interventions set forth in the same time period,[28] where 'guided' self-organization was seen as the guarantee for qualifying urbanization and enabling the integration of the urban poor into urban systems straight from inception. For example, in Doxiadis' experimental

low-cost housing project in Tema (1961–64), the use of 'universal' components such as verandahs was more of an issue than a process-based intervention. It is almost unnecessary to say that the experience with the Greek firm's Accra-Tema masterplanning later stimulated local architects and planners in their quest for more culturally-embedded architectural and urbanistic strategies. For instance, the curriculum of Ghana's Kumasi-based University of Science and Technology, intended to be the 'educational basis for development',[29] was structurally revised to cater towards more specific cultural requirements. The traditional history of architecture was completely discarded in favor of a detailed documentation of the country's environmental features and settlement structures – complemented with social surveys – so as to determine specifically Ghanaian design problems.[30] As one of the faculty members involved in the process would later affirm, it was thus possible, forty years ago, to find a new school of architecture in the Third World which was actively involved in solving the problems of its context and where staff was actively involved in seeking a cultural base for the region 'in the view of architecture as concern for the totality of human habitat'.[31] The reports produced by the staff and students reflect the quest for documenting the built environment in its various forms. Detailed surveys and environmental studies of traditional settlement forms gained a prominent place in this series of 'occasional reports',[32]

As the Detroit Master Plan (and all it represented) was overruled by race riots, industrial decay, unemployment and environmental catastrophe, the 'dirty reality' of squatters in the developing world began to outweigh the futuristic projections of Doxiadis' Ecumenopolis – the global web of human settlements served by high-level infrastructure to which all man-made environments would, in his view, eventually become part of. Quite significantly, in 1968 both *Ekistics: An Introduction to the Science of Human Settlements* and the book *Urban Dwelling Environments: an elementary survey of settlements for the study of design determinants* were published. The one formed the final culmination of a project on the 'City of the Future' sponsored by the Ford Foundation,[33] the other formed rather the start of a new approach that convinced the Ford Foundation to nevertheless continue sponsoring architectural and urbanistic research on urban development. While *Ekistics* can be read as the dead-end to which the amendment of modernism led, *Urban Dwelling Environments* advocated a new approach and transpired the freshness of a promise. The books were similar in their documentation of settlements at various scale levels and the abundant iconographic material. However, they differed significantly in ideology: the Ekistics' approach highlighted spatially significant relationships of successful past settlement typologies – which were deemed appropriate in an urbanizing milieu. Meanwhile, the 'Ekistics grid' – composed of the over-arching categories of nature, anthropos, society, shells and networks – did not convincingly integrate the elements in relation to one another. The MIT threesome of Caminos, Turner and Steffian (by then involved in the running of a Ford Foundation-funded Urban Settlement Design program[34]), concentrated on the existing conditions of eight squatter settlements in Lima, which were comparatively examined with an equivalent number of residential areas in Boston. On-site surveying was given precedence over the formulation of abstract frameworks. A set of different scales was considered sufficient as such. The intentions of the authors of *Urban Dwelling Environments* were first and foremost to expose the correlation between settlement structure and the two contexts in question: that of the rapidly urbanizing world and that of the so-called 'developed' one. As well, their compendium aimed to investigate – by means of an apparently neutral comparative system – the varying housing conditions of the two cities. The underlying aspiration, as the title itself affirmed, was to elaborate a more comprehensive approach to settlement development and design and, in order to attain this objective, a systematic graphic representation was developed for different scales of information, from dwelling, to dwelling group, to locality segment, to locality.

In terms of strategies to be adopted for contrasting

[29]/ See Charles K. Polonyi (1992), *An Architect-Planner on the Peripheries: Case studies from the Less Developed World*. Budapest: Lázló Horváth.

[30]/ See Mark Crinson (2003), 'Dialects of internationalism: architecture in Ghana, 1945–66', in: Mark Crinson, *Modern Architecture and the End of Empire*. Aldershot: Ashgate, pp. 127–156. See also R.L. Barclay (1968), 'École d'Architecture Kumasi Institute of Technology, Ashanti, Ghana', in: *L'Architecture d'Aujourd'hui* No. 140 (October-November), 'Tiers Monde' Issue, pp. 8–11; and Michael Lloyd (1983), 'Design Education in the Third World', in: *Habitat International*, Vol. 7, No. 5/6, pp. 367–375.

[31]/ Lloyd, 'Design Education in the Third World', p. 370.

[32]/ See, for instance: *Kumasi Study. Report on the Postgraduate Urban Planning Course given by B.T. Fewings and C.K. Polonyi* – Occasional Report No. 7, Faculty of Architecture, University of Science and Technology, Kumasi, 1966; *Tamale/Kumbungu Survey* – Occasional Report No.12, Faculty of Architecture, University of Science and Technology, 1969; *Anyako: Studies of an Ewe Village* – Occasional Report No.14, Department of Architecture, University of Science and Technology, 1971.

[33]/ For more on the relationship between Constantinos Doxiadis, the Ford Foundation and the 'City of the Future' research project see 'A tri-logue: "Ford Foundation/HAG – Doxiadis – Ayub" Nexus' and 'Capital Project – II – Islamabad: A "City of the Future" in the context of Development', in: Ahmed Khan Zaib Mahsud (2008), *Constantinos A. Doxiadis' Plan for Islamabad: the Making of a 'City of the Future 1959–63'*. Leuven, PhD dissertation, pp. 130–157.

[34]/ The MIT Urban Settlement Design Program at the School of Architecture and Planning was founded in 1965 with a grant from the Ford Foundation and was headed by Horacio Caminos (1914–1990).

[35]/ At the Vancouver event, both John F.C. Turner and Otto H. Koenigsberger presented position papers and played an active role in the writing of the recommendations. For more on the subject see 'Perspectives on Habitat: the United Nations Conference on Human Settlements', in: *Ekistics*, Vol. 42, No. 252, November 1976.

[36]/ H. Peter Oberlander (1985), *Land: the Central Human Settlements Issue*. Vancouver: University of British Columbia Press.

[37]/ Both Ray Bromley (2003) and Richard Harris (2003) have explored the influence and originality of John F.C. Turner's ideas in relation to his Peruvian experience. They both highlight how his innovativeness was relative with respect to on-going experimentation in Lima's squatter settlements and consequently underscore the timeliness of his dissemination vis-à-vis the reception of his ideas in the West. See Ray Bromley (2003), 'Peru 1957–1977: How time and place influenced John Turner's ideas on housing policy; and Harris, Richard (2003) 'A double irony: the originality and influence of John F.C. Turner', in: *Habitat International*, No. 27, pp. 245–269.

[38]/ Hashim Sarkis (1998), 'Dances with Margaret Mead: Planning Beirut since 1958', in: Peter G. Rowe and Hashim Sarkis (eds.), *Projecting Beirut: Episodes in the Construction and Reconstruction of the Modern City*. Prestel: Munich, pp. 187–201.

[39]/ By 1973 the World Bank had in any case begun a number of large-scale site-and-services projects, endorsing what, in architectural discourses, often became labelled as the 'Turner school's contribution. For more details on the shifts in international housing policy and the particular contribution of John F.C. Turner see Richard Harris and Ceinwen Giles (2003), 'A mixed message: the agents and forms of international housing policy, 1945-1973' and 'A double irony: the originality and influence of John F.C. Turner', in: *Habitat International*, No. 27, pp. 167–191 and pp. 245–269.

[40]/ F. Grévisse (1951), *Le Centre Extra-Coutumier d'Elisabethville. Quelques aspects de la politique indigène du Haut-Katanga industriel*. Brussels: ARSC; B. De Meulder (1994), *Reformisme, thuis en overzee. Een geschiedenis van de Belgische koloniale planning* (1880–1960). PhD dissertation, Leuven.

[41]/ See Juan Busquets (1999), *La urbanización marginal*. Barcelona: Edicions UPC, and Peter Ward (ed.) (1982), *Self-Help Housing: A Critique*. London: Mansell.

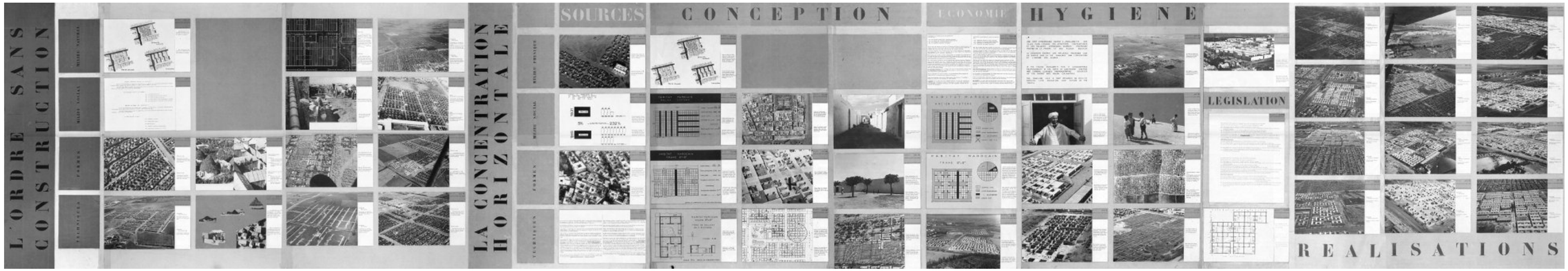
rapid urban growth in the so-called developing context, the resonance of what came to be called the 'Turner school' was considerable: though the Vancouver outputs drew strongly on Doxiadis', Turner's and Koenigsberger's contributions, they mostly mirrored the recent shift in housing practice.[35] While the conference Declaration described human settlements as an 'instrument and object of development', the concomitant Action Plan emphasized land issues, participation, institutions and management and some basic elements of the physical environment. Shortly following the conference, H.P. Oberlander, one of the local key figures on the Human Settlements Vancouver scene, simply labeled 'land' as the prime issue of Human Settlements.[36] The Vancouver conference recommendations included aided self-help and the reorganization of spontaneous urban settlements. The role of the informal sector in the supply of housing as an undeniable contribution to city-making was also strongly underscored. The 'Self-Help and Low-Cost Housing Symposium' which ran parallel to the conference, developed guidelines for action which distinguished shelter, infrastructure and services as the main spatial components to concentrate on in order to improve human settlement fabrics.

This position was in some measure perhaps due to Doxiadis' ill-timed death a year before the 1976 international event. However, it more significantly echoed the increasing reverberation of reports produced by development experts such as Otto H. Koenigsberger (1964), Charles Abrams (1966), John F.C.Turner (1966) and Aprodicio A. Laquian (1971) on the basis of their respective fieldwork experiences as housing consultants for the United Nations Technical Assistance Administration (UNTAA) and the Centre for Housing, Planning and Building (CHPB). Therefore, the influence of the previously mentioned mid-1960s anthropological studies centered on life in squatter settlements, Turner and Mangin's timely diffusion of findings stressing slums' potential for self-development,[37] and Doxiadis' own 'dances' with the social sciences,[38] all contributed to the undermining of the spatial aspects of human settlements development. Design's synergetic and synthesizing qualities appeared to lose their relevance as the principal international agencies drafted their Vancouver-based development agendas, which were very often labeled 'sites and services' programs.[39] Evidently, sites-and-services were nothing new. In many western countries, they would simply have been labeled allotments. In the so-called developing world, they often would have had a colonial prehistory – as in the case of Congo, where such development was labeled as 'système Grévisse' after the administrator who rationalized the system already in place since the 1930s.[40] Sites-and-services reconfigure the division of labor between public authorities (site and service providers) and dwellers (the construction laborers) and consequently imply a design that concentrates on structural lines. Self-help and sites-and-services anyway became classic instruments in the urbanistic register.[41] They surely required other forms of design than the blue-print planning that Doxiadis and his generation were still practicing and advocating for.

Ultimately, the shortcoming of the Human Settlements approach remains the fact that it originated from an attempt of architecture and urbanism to enlarge their disciplinary spectrum in order to address the growing challenges of settlement in the developing world. Soon after the establishment of the approach, other disciplines behaved as Trojan horses and undermined architecture and design itself. The spatial dimension of projects took a back seat – a loss for the field, since space remains indeed the medium that allows the integration of social, economic, cultural and ecological dimensions of development. The initial credo of the Human Settlements paradigm was diluted as planning became policy and so forth.

THE MIDDLE POSITION OF DOUBLE-CODING

Nonetheless, the 'original' human settlements thinking still had followers. At the same time, from the perspective of architecture and urbanism, there was an attempt to synthesize physical manifestations with active user participation. The development of self-help



GAMMA-Grid, "Habitat for the Greatest Number" — Together with CIAM-Alger's "Bidonville Mahieddine Grid", the work of GAMMA Architects shifted the focus from sophisticated architectural considerations to the poor environment of the shantytown. Dwelling practices and vernacular building were referred to not only as activities stricken by misery, but also as means of reinforcing the adaptive power of the shantytown, making the settlement a vital source of inspiration for modern architects and urbanists.

components was complemented by the formulation of pro-active strategies mimicking the process of squatter development (incremental development). As well, an inherent twin imperative was strengthened – the reliance of self-organization by in-migrant groups and the concentration on developing new building technologies in order to bridge the gap between standardization and self-build processes. At the international scale and within the framework of the UN, the PREVI and Manila Tondo international competitions of 1969 and 1975 respectively, demonstrated the potentials of such an approach, though differing widely in the extent to which 'formal' architecture and urban design were charged with relevance throughout the process.[42]

During this time, the question of the critical role of architecture and planning was not limited to the so-called Third World countries, but was also evident in the West, as 'the slum' and 'the strip' categorizations gained decisive importance.[43] Indeed, the reflection occurred in both the 'developing' and the 'developed' worlds on the basis of what had by then become a generally valid recognition: that the act of building as a means of self-expression was as relevant as the physical result. While in the 'developing world' incremental housing, land subdivision and the attendant provision of infrastructure and services became the action points for the UN and World Bank housing programs (sometimes acting as substitutes for public authorities), debates within the 'developed world' revolved around the creation of alternatives to mass housing by looking at possibilities for encompassing both formal and informal city-making practices. John N. Habraken and Christopher Alexander, amongst others, investigated how the housing issue could be solved by combining standardized building components with individual and eventually self-build insertions. They developed design methods which aimed towards a restructuring of the entire decision-making process

[42]/ Differences also derived from site conditions: if PREVI was a peri-urban pilot project, Manila-Tondo dealt with squatters inhabiting prime shore land. PREVI focused on a low-cost neighbourhood with emphasis on new and improved design. The 1975–76 Manila Tondo Foreshore International Architectural Competition challenged professionals to come up with new ways of approaching community, housing, and low-income issues. The result of the Tondo competition would be the first large-scale urban upgrading project.

[43]/ Both Jencks and Tzonis referred to the fascination of the squatter settlement in Western architectural milieus and their interpretation as sites of self-determination and radical activism. For more information see Charles Jencks (1971), *Architecture 2000: Predictions and Methods*. New York: Praeger; and Alexander Tzonis and Liane Lefaivre (1976), 'In the name of the people', in: *Forum*, No. 3, pp. 5–33.

See also: Didier Drummond (1961), *Architectes des Favelas*. Paris: Dunod.

[44]/ The SAR (Foundation for Architects Research) was founded in 1964 following several meetings on the Dutch post-war reconstruction program, industrialized housing and the role of the architect. As its director, John N. Habraken was charged with organizing research as to directly influence the future of housing construction. For more on the subject see Koos Bosma et al. (2000), *Housing for the Millions: John Habraken and the SAR (1960–2000)*. Rotterdam: NAi.

[45]/ For more on the Habraken-Alexander convergences and differences see 'Patterns', in: Bosma et al., *Housing for the Millions*, pp. 138–141.

[46]/ See John N. Habraken (1980), 'Design for Adaptability, Change and User Participation', in: Linda Safran (ed.), *Housing: Process and Physical Form*. Philadelphia: Aga Khan Award for Architecture, p. 23.

related to housing construction.

The SAR (Stichting Architectuur Research), initiated in 1961 in Eindhoven, the Netherlands, premised its investigations on the working hypothesis that a distinction could be made between 'support structure' and 'infill package'.[44] Habraken's team explored a range of possibilities within which 'carcass' and 'finish' were, in turn, treated as two distinct products, and suggested strategies for future occupants to assemble their own house inside the support. Habraken aimed to 'engage the commonplace' by erecting the support structure on the building site and leaving room for future inhabitants to fit the dwelling into the structure, aided by a catalog of building components. The resulting urbanism, which would not be abstractly predetermined as Alexander's 'pattern language', would emerge out of group consensus.[45] As he himself stated, 'to build is to exercise power and to change the environment […]. SAR has formalized this concept of power invested in the users by introducing the dual concepts of "support" and "detachable units"[46].' The PSSHAK (Primary Support Structures and Housing Assembly Kits), for example, developed by Architectural Association students Nabeel Hamdi and Nick Wilkinson in consultation with the SAR, gave future occupants of housing accommodation in Camden Town the opportunity to design the layout of their own dwellings within an already determined building envelope. Initial reflections (SAR 65, SAR 67) were later extended beyond the dwelling unit to include the surrounding built environment and the collective scale (SAR 73). The development of SAR 73's tissue methodology – the next step in systematizing design-related decisions – compared samples of old and new urban fabrics in terms of function and morphology as to provide a constructive definition of 'tissue'. The latter would then function as a tool used for the formulation of urban plans.

On the other side of the Atlantic, Alexander's books *The Timeless Way of Building* (1979), *A Pattern Language* (1977) and *The Oregon Experiment* (1975) developed the theory, tools and a case-study for a new traditional post-industrial architecture where inhabitants themselves could create any scaled part of the built environment in a guided frame that was premised on re-occurring patterns in the existing built environment. His work was also tested in Latin America, as part of the PREVI international competition. In his competition entry, the synthesis of the two scales is registered in the development of 67 general design principles to be endlessly re-used for generating an almost infinitely rich variety of housing solutions. In his view, patterns of quality could be used to define a new, context-specific, indigenous architecture for Peru.[47] Rather than separating the formal and the informal into two different systems, Alexander's approach merged them into a structure of double-coded urban architecture. For Alexander, it was not a matter of staging transition, but to simultaneously guarantee the two levels and to provide the future inhabitants with layout choices while maintaining the structuring capacity of fabric. Technologically speaking, the dwellings reflected a coexistence of low-tech solutions within industrially-manufactured building components in response to the challenge of 'producing modernization without Westernization'.[48] The 67 PREVI patterns would later become #253 in *A Pattern Language*, further enriching Alexander's manual for a 'do-it-yourself city'.[49] Complementing it with patterns of on-site construction as successively tested in the Builders' Yard project in Mexicali, Alexander proposed ultra-lightweight techniques for building structural components combined with a flexible realization and positioning of openings, enclosures, niches and alcoves.

In the late 1970s, many investigations focused on 'appropriate' building techniques and 'intermediate' technology concepts. Both aimed for a less negative impact on the environment and society, entailed by a more localized – though not necessarily low-tech – use of resources within the building process. They were rooted in the growing concern for enhancing strategic resource management. Though usually more expensive than traditional methods, 'appropriate' technology was significantly more effective, but also more expensive than the importation of developed world technology. John Turner's take on such an approach placed particular emphasis on the relationship between appropriateness of and independence from production systems and industrialization processes over which local communities could not have control. In his determination of housing policies and projects – delineated according to the hierarchical sequence of 'institutions', 'resources' and 'forms' – he cited E.F. Schumacher's *Small is Beautiful*[50] towards the [mis-]use of non-renewable, polluting and inflationary supplies.[51] For Turner, 'forms' were the least important aspects of projects due to their indirect capacity to induce social transformation, in spite of their being the easiest of the three categories to be acted upon. The prominence of 'institutional change' would consequently become a main consideration throughout the implementation of numerous sites-and-services schemes. In 1972, Turner co-authored with Robert Fichter the book *Freedom to Build: Dweller Control of the Housing Process*. In the book's seminal chapter, 'Housing as a Verb', Turner asserted that self-built housing not only met the pressing need for low-cost shelter for the poor, but also, and with equal importance, provided opportunities for expressions of personal and social identity which come from having control over one's own home and neighborhood: 'When dwellers control the major decisions and are free to make their own contributions in the design, construction or management of their housing, both this process and the environment produced stimulate individuals and social well-being. When people have neither control over nor responsibility for key decisions in the housing process, on the other hand, dwelling environments may instead become a barrier to personal fulfilment and a burden on the economy'.[52] Turner, during a World Bank interview in 2000 reflecting back on his early work, reconfirms that personal and locally particular activities, like housing, are potential vehicles for growth, not just mere essen-

[47]/ Dorit Fromm (1985), 'Alternatives in Housing I – Peru: PREVI', in: N. Hamdi and E. Robbins (eds.), '3rd World', *Architectural Review* (August), pp. 48–53; For a more recent re-evaluation of the PREVI project including Christopher Alexander's intervention see Fernando García-Huidobro et al. (2008), *¡El Tiempo Construye! Time Builds! The Experimental Housing Project: Genesis and Outcome*. Barcelona: Gustavo Gili.
[48]/ Fromm, 'Alternatives in Housing I – Peru: PREVI', p. 48.
[49]/ See Bosma et al., *Housing for the Millions*, p. 140.
[50]/ E.F. Schumacher (1973) *Small is Beautiful: Economics as if People Mattered*, London: Blond & Briggs.
[51]/ John F.C. Turner (1980), 'Housing – Its Part in Another Development', in: Linda Safran (ed.), *Housing: Process and Physical Form*. Philadelphia: Aga Khan Award for Architecture, pp. 8–19.
[52]/ John F.C. Turner (1988), 'Introduction', in: Bertha Turner (ed.), *Building Community, A Third World Case Book*. Berlin: Building Communities Books/ Habitat Forum, p. 15.

[53]/ Roberto Chavez and Julie Viloria (2000), *Interview to John Turner* (note 26), p. 10.
[54]/ Reinhard Goethert (1985), 'Sites and Services', in: N. Hamdi and E. Robbins (eds.), '3rd World', *Architectural Review* (August), pp. 28–31.
[55]/ For more on the genesis and persistence of terms such as 'participation' within international agency strategies and their intertwinement with architecture, see Ijlal M. Muzaffar (2007), *The Periphery Within: Modern Architecture and the Making of the Third World*. PhD dissertation, MIT, Cambridge, MA.
[56]/ See Barbara Ward (1972) (with R.J. Dubos), *Only One Earth: The Care and Maintenance of a Small Planet*. New York: WW Norton & Co.; (1976), *Human Settlements: Crisis and Opportunity*. An unofficial report based on a meeting of experts preparing for the United Nations Conference/Exposition on Human Settlements, to be held in Vancouver, B.C., Canada, May 31–June 11 1976, Ottawa; (1966), *Spaceship Earth*. New York: Columbia University Press; (1979), *Progress for a small Planet*. London: Maurice Temple Smith.
[57]/ Jorge E. Hardoy and David Satterthwaite (1989), *Squatter Citizen: Life in the Urban Third World*. London: Earthscan; Jorge E. Hardoy, Diana Mitlin and David Satterthwaite (1992), *Environmental Problems in Third World Cities*. London: Earthscan.

tials.[53] His pioneering work significantly informed the self-build and community participation movement in development that peaked in the 1970–80s. At the same time, however, advocates of a more spatial approach remained. Reinhard Goethert was a relatively strong critic of Turner, insisting on the profound consequences of insufficient care in design issues which impeded one of the basic principles of the approach to housing, namely 'change and flexibility'.[54]

THE LARGER FRAME OF DEVELOPMENT LOGICS

As has become evident, the human settlements paradigm moved (quite early from its inception) from a spatially-based way of (re)aligning the disciples of architecture and urbanism to the pressing needs of housing in the developing world towards a mode of intervention that was based on planning, policy and participation. There came into being a whole set of concepts – 'development', 'underdevelopment', 'structural adjustment', 'good governance', 'sustainability', 'community development', 'participation' – which have subsequently overshadowed the possibility to structurally guide future spatial development and neglected the capacity of spatial structures to embody development.[55] As was characterized in the introduction of this text, at the inception the paradigm of human settlements urbanism stood for development and vice versa. Concerns of urbanism and of development converged and were denominated human settlements.

However, user participation was strongly boosted by the 1972 establishment of the International Institute for Environment and Development (IIED), an independent non-profit organization headquartered in London. The IIED was founded by environmentalist/ political scientist Barbara Ward[56] and its Human Settlements program (1974) was founded by Argentinean urban planner Jorge Hardoy (and presently run by David Swatterthwaite). IIED was mandated to publicly debate the shape of the future, rather than leaving it to chance and the 'experts'. Yet, the IIED treads a fine line in that it informs policy, but rarely implements. Hardoy and Swatterthwaite have, independently and together, written several important books and numerous articles that have synthesized applied research and grass-roots experience concerning issues of economic, social and income exclusion as well as the ecological/ environmental consequences of urban encroachment on the territory.[57] Unlike many publications concerning sustainability, the institute's journal, *Environment and Urbanization*, is dominated by developing country contributors. The IIED has been a major influence in participatory planning, while it has also developed a strong conviction that corporations and business are the third 'corner' of the sustainability triangle alongside government and citizens' groups.

In addition to such non-profit organizations, there were established a whole host of educational centers (the majority of which offered specialized, post-graduate degrees) which focused on developing and teaching human settlements. Besides those institutions whose staff had provided expertise from the outset of the development decades, as in the case of the Architectural Association/Development Planning Unit (DPU) (London) and the MIT (Cambridge, Massachusetts), several others picked up the challenge of coding and disseminating tools and strategies through the specific lens of human settlements. In Canada, the University of British Columbia (Vancouver), for instance, set up the Centre for Human Settlements, a unit within its School of Community and Regional Planning (SCARP), as a legacy of the 1976 United Nations Conference. In Montreal, the School of Architecture at McGill University created the Minimum Cost Housing Group (MCHG), a research unit with a focus on housing and concentrating on the human settlement problems of poor nations. In Europe, the Post-Graduate Centre for Human Settlements (PGCHS) at the KU Leuven, Belgium, was also set up after the 1976 United Nations Conference and offered (and continues to offer) training in 'Housing and Development' for mid-career professionals from the developing world under the umbrella of the UNCHS. Sweden's University of Lund changed the theme of the chair of architecture to 'Internationalism, Solidarity and Education' at the end of the 1960s, and some two decades later

created the Lund Center for Habitat Studies (today the Lund University Center for Sustainability Studies). After the creation in 1991 of the Center for Development and Emergency Practice (CENDEP), the evolution of programmes at Oxford Brookes (formerly Oxford Polytechnic) devoted to the Third World environment paralleled the growing relevance of sustainable development. This was reflected in the recent establishment of the Oxford Institute for Sustainable Development (OISD), based within the School of the Built Environment. As one of the affiliated programmes, the master's degree in Development and Emergency Practice, run by the CENDEP, tackles poverty, international development, and conflict and disaster management. The Bouwcentrum in the Netherlands, on the other hand, established a training program as early as 1958 to provide international education and transfer knowledge and expertise to professionals from developing countries before setting up an independent institute – the Institute for Housing Studies – in 1982. In 1996, the London School of Economics (LSE) established The Cities Programme with the goal to link the social sciences with the built environment. In addition to a post-graduate course, they also run (with Deutsche Bank's Alfred Herrhausen Society) the high-profile Urban Age Project (begun in 2004), which has activated the debate on cities with a wide-range of actors.[58] Meanwhile, in Thailand, the Asia Institute of Technology started a Human Settlements Development Program in 1973 and specifically framed human settlements for the Asia-Pacific. In Ghana, from the very first moments of its independence onwards, the UN was involved in the establishment of an independent center for research and development in housing, planning and building in the country.[59] This center, established in 1959 as the Building Research Group, was later transformed into the Department of Housing and Planning Research (DHPR) of the Faculty of Architecture at the University of Science and Technology. During the latter's restructuring in 2005, the Department was renamed the Centre for Settlements Studies (CSS), one of the two centers comprising the Institute of Human Settlements.

TOWARDS SUSTAINABILITY, GOVERNANCE AND CLIMATE CHANGE

The whole notion of 'sustainability', latent in the mentioned work of figures such as Erwin Gutkind and Karl Sauer in the 1950s, received its first big boost in the 1960s, when the Club of Rome, an international think-tank of scientists, economists, businesspeople, international civil servants and politicians sought to publicize their beliefs that neither the market (as the capitalist world believed) nor technology (as the then communist world believed) could function as a way of solving environmental problems. They eventually commissioned a research to a group of computer scientists from Massachusetts Institute of Technology. In their famous 1972 report the notorious 'limits to growth' were defined and computer models used to show how (especially non-renewable) natural resources were gradually running out as a result of economic and industrial growth.[60] The UN took on the cause and has continued to legitimize the world's ecological movement.

A significant step was made in 1983, when the Brundtland Commission (World Commission on Environment and Development) considered the environment and development together. A dilemma arose by coupling the two opposite concepts: on the one hand, it was precisely human activities – especially those stemming from the mode of industrial production synonymous with 'development' – which lay behind the deterioration of the environment, and, on the other hand, it was deemed inconceivable to hasten the development of people who did not have access to decent living conditions. The commission's 1988 report, 'Our Common Future', to which the IIED made a large contribution, proposed the concept of 'sustainable development': 'Humanity has the ability to make development sustainable – to ensure that it meets the needs of the present without compromising the ability of future generations to meet its own needs. The concept of sustainable development does imply limits – not absolute limits but limitations imposed by the present state of technology and social organization on environmental resources and by the ability of the biosphere to absorb the effects of human activities. But technology and social organization can be both managed and improved to make way for a new era of economic growth. The Commission believes that widespread poverty is no longer inevitable. Poverty is not only an evil in itself, but sustainable development requires meeting the basic needs of all and extending to all the opportunity to fulfill their aspirations for a better life. A world in which poverty is endemic will always be prone to ecological and other catastrophes.'[61] Nonetheless, the report, although not short on good intentions, failed to give clear policy options. Despite the shortcomings, however, the Brundtland Commission did trigger a series of international summits and more generally placed environment on the agenda in the development discourse.

The 1992 'Earth Summit', the UN Conference on Environment and Development in Rio de Janeiro and its unofficial accompaniment, the 'Global Forum', were huge media successes, despite the fact that two of its important conventions (on climate change and biodiversity) were not signed by the United States. However, the Rio Declaration – which proclaimed 27 principles relating to the environment – and Agenda 21, an 800-page 'bible of sustainable development', were widely embraced. Agenda 21 recognized that urban development, coupled with scarcity of resources, often accelerates environmental degradation, leading to loss of quality of urban living conditions, especially for the urban poor. Chapter 28 of Agenda 21 shifted a large part of the communal goal/global problems to local governments – in recognition of the fact that many of the problems and solutions regarding sustainable urban development reside in local activities and local political will. UN-Habitat made LA21 one of its flagship programs in 1999. In 1996, the Habitat II Conference in Istanbul built upon the previous conferences and highlighted the role of urbanization in sustainable development. The Habitat Agenda established explicit links between key city-issues such as poverty, social exclusion, gender equality, issues of governance and the management of human settlements.

Since Brundtland, the 1992 Rio Summit and the 1996 Habitat II Conference, many of the subsequent commissions and conferences can be criticized for the compromises (deemed necessary to reach regional and international consensus). Lip service is paid to all the politically correct mantras of the moment, and yet development forges ahead and resources are ever more exploited in the name of growth. Small-scale successes can be claimed in isolated projects and initiatives; however, the underlying fundamental dynamics driving patterns of production and consumption have an unyielding hold upon resultant systems of the built environment. Nevertheless, innovation has appeared regarding the measurement of development. Beginning in 1990, the United Nations Development Program (UNDP) elaborated a series of annual 'human development reports', which aimed to escape the tyranny of the GNP and to keep the focus on people.

Globally, UN-Habitat has a large number of programs working to marry sustainability and urbanization as well as the twin goals of modernization and development. Indeed, it is mandated to promote socially and environmentally sustainable towns and cities with the aim of providing adequate shelter for all. However, despite the Habitat Agenda's stated focus on sustainable urban form and design, few of their present campaigns explicitly address spatial issues. As well, their monitoring/evaluation of cities do not penetrate deeply into the strengths and weaknesses, opportunities and challenges of existing spatial structures. Instead, they tend to primarily advocate – along with the majority of those institutions concerned with sustainable development – the environmental, social and governance aspects of development. To a large extent, spatial issues are sidelined and left to be mere consequences of more pressing concerns. Logically speaking, however, sustainability needs to constantly address issues of density, carrying capacity and ecological footprints.

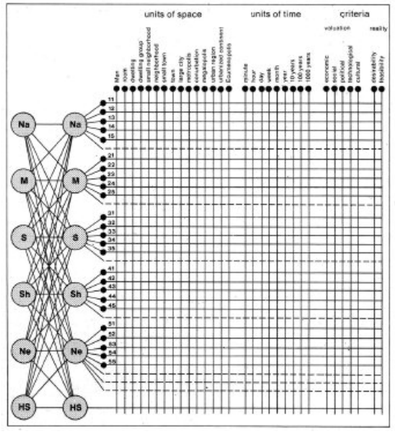
Instead of actively promoting the enlargement of a legitimate and spatially materialized public realm and strengthening existing (man-made and natural)

58/ The Urban Age project operates as a series of worldwide conferences investigating the future of cities. Thus far there have been conferences in Shanghai (2005), London (2005), New York (2005) Johannesburg (2006), Berlin (2006), Mexico City (2006), Mumbai (2007), São Paulo (2008), Istanbul (2009). The first conference in 2010 will be held in Chicago. The results of the first six conferences (until 2006) are available in: Ricky Burdett and Deyan Sudjic (eds.) (2007), *The Endless City*. London: Phaidon Press.

59/ In 1957, a United Nations technical assistance team (composed of Otto H. Koenigsberger, Charles Abrams and Vladimir Bodiansky) reported on housing to the Government of Ghana and recommended the establishment of an independent center for research and development in housing, planning and building in the country. A subsequent team, invited by the Council of the Kumasi College of Technology (now Kwame Nkrumah University of Science and Technology, Kumasi) to advise on architectural education, supported the United Nations team's recommendation and further suggested the center's intimate functional association with the Department of Architecture of the University. See Charles Abrams, Vladimir Bodiansky and Otto H. Koenigsberger (1956), *Report on Housing in the Gold Coast*. New York: United Nations.

60/ See Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, and William W. Behrens III (1972), *The Limits to Growth*. Washington, D.C.: Potomac Associates, New American Library.

61/ World Commission on Environment and Development (1988), *Our Common Future*. Oxford: Oxford University Press, p. 8.



Ekistics Grid —— The matrix conceived by C.A. Doxiadis for analyzing the environment placed settlements of all scales and sizes in relation with dynamic growth and functional considerations. The grid allowed for the five ekistic elements (Nature, Anthropos, Society, Shells and Networks) to interact with units of space, time and criteria of evaluation, consequently generating important information for creating a balanced anthropocosmos (world of man). (© Constantinos and Emma Doxiadis Foundation)

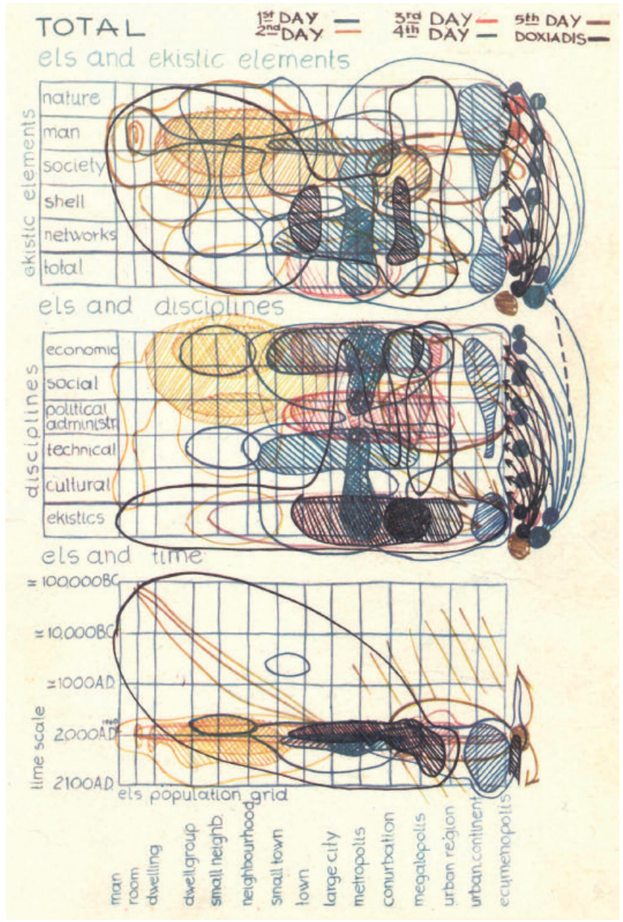
spatial structures, the accepted definition of physical sustainability treads modestly and seeks to maintain the status-quo. Missing from the equation is the larger, territorial scale of spatial organization, which needs to be developed in parallel with interventions in specific urban sites in order to address sustainability from the point of view of structuring ecological systems and balancing the productive and consumptive landscapes. Unfortunately, in general within 'development logics', spatial issues are rarely discussed and so-called experts which are occasionally brought into the discourse are not those necessarily internationally recognized within the professions of urbanism. There is an obvious gap that needs to be bridged for the development discourse to further 'develop'. The development discourse has finally discovered the link of development and the environment but has yet to realize the potential of space and its management as a primary resource regarding sustainability.

SOUTH IN THE SOUTH EXPERIMENTATION

The bulk of the more well-known 'human settlements' literature has been written by Westerners, however there is also a host of architects from the South who have been fundamental to the definition and forwarding of the field. Architects such as Kenzo Tange and Kazuo Shinohara in Japan, William Lim in Singapore, Balkrishna Doshi[62] and Charles Correa in India, Arif Hasan in Pakistan, Hassan Fathy[63] in Egypt, Simon Velez and Rogelio Salmona in Colombia, Jaime Lerner in Brazil, Anthony Almeida in Tanzania and David Aradeon in Nigeria – to name but a few – have circumnavigated the inflexible dogmas of modernism and built-up alternative methods which engage in a critical interplay between canonic and non-canonic models of architecture and city forms.

While Westerners strove to imbue the modernist discourse with the common knowledge of everyday architectural and urban environments, architects in the developing context strove to adapt the modernist project to the local demands of climate, topography and indigenous culture. For instance, Doshi, who

[62]/ James Steele (1998), *Rethinking Modernism for the Developing World: The Complete Architecture of Balkrishna Doshi*. New York: Watsun-Guptill.
[63]/ James Steele (1997), *An Architecture for People: Complete Works of Hassan Fathy*. London: Thames & Hudson.



Ekistic Logarithmic Scale (ELS) —— The Ekistic grid became an instrument for measuring the capacity of events and projects to examine human settlements from a wide range of viewpoints. At the end of the 1967 second Ekistics Month organized by the Athens Center of Ekistics, the sum total of subjects covered during the seminar was summarized in three colourful ELS-based grids.
(© Constantinos and Emma Doxiadis Foundation)

worked with both Le Corbusier and Louis Kahn, valued modernist architecture, but believed it should be adapted to an Indian way of life; modern forms could renew traditions and sustain the vitality of traditional values.[64] Doshi developed an expanded concept of participation and sites-and-services in his extensive low-rise, high-density Aranya Low Cost Housing (1983–86) for 40,000 residents in Indore, India.[65] Basic utilitarian amenities (a sanitary core with pluming for bathrooms and kitchens plus one room) were constructed on 6,500 plots and particular attention was paid to the creation of meaningful and multi-scaled communal space. Several prototypes were designed by the Indian architect and built to demonstrate varying ways in which plots could be developed; thereafter, residents built their own units according to their needs and means. Aranya has become a well-known project not only for its redefining the role of the architect in mass-housing – promoted by intelligent site planning combined with designed mechanisms for organized self-building – but also for advocating an understanding of the motivations and achievements of vernacular builders.[66] Fathy – who later worked with Doxiadis for a time on projects in Pakistan and Iraq – developed re-established adobe technology and traditional courtyard forms as most appropriate means for constructing Egypt's housing. His ideas and methods became popularized in 1973, with the publication of his book *Architecture for the Poor*.

In Brazil, Jamie Lerner embraced critical policy innovations and devised new strategies towards urban revitalization – and his work has become a worldwide model. In 1971, Lerner, an architect and engineer by education, became mayor of Curitiba – Brazil's seventh largest city with a 2003 population of nearly 1.7 million – after having found and worked for the Urban Planning Institute of Curitiba (IPPUC). In the 1970s, IPPUC scrapped plans to demolish much of the historic center and Rua Quinze do Novembro, in the heart of the city's commercial district, was made Brazil's first pedestrian-only street. The city also adopted a road system whereby a central two-lane street is restricted to buses and local car traffic between wide, fast-moving one-way streets. These larger infrastructure works were complemented by a series of smaller, quick and simple solutions aimed at improving the inhabitants' everyday life. For example, the inability of rubbish collection carts to reach the narrow alleys of low-income settlements was resolved by persuading residents to carry their rubbish to collecting points in exchange for free vegetables. The city's street children have been 'adopted' by shops, industries and institutions, providing them with a daily meal and small wage in exchange for simple maintenance gardening or office chores. The city bought and citizens planted (and care for) 1.5 million trees along city streets. Builders are given tax breaks for projects that include open space – and green space has increased from 1 square meter per person in 1970 to 52 square meters per person in 1996.[67] The ring of squatter settlements on the periphery have not been destroyed (and residents relocated), but a participatory upgrading project has turned them into decent housing neighborhoods. Flood waters have been diverted into new lakes in parks to solve the problem of dangerous flooding, while also protecting valley floors and riverbanks, acting as a barrier to illegal occupation and providing aesthetic and recreational value to the thousands of people who use city parks. Strong political leadership and continuity (Lerner was mayor for three terms) has been essential to the long-term development of the city's initiatives. Today, Curitiba is a world-renowned example for its extensive, all-bus, integrated urban transportation system, that has more than 500 kilometers of interlinking routes and a fare system that favors the poor. However, it is the comprehensive strategies for the city that are particularly noteworthy.

An important vehicle for dissemination of developments in the south was the magazine *Mimar: Architecture in Development*, which was first published in 1981 and had a print run of 43 issues. At the time of *Mimar*'s inception, it was – besides *Ekistics* (a Doxiadis heritage that by now had lost its inspirational and experimental drive)[68] – the only international architecture magazine focusing on architecture in the developing world and human settlements issues.[69]

[64]/ James Belluardo (1998), 'The Architecture of Kavinde, Doshi and Correa in Political and Social Context', in: Kazi Khaleed Ashraf and James Belluardo (eds.), *An Architecture of Independence: The Making of Modern South Asia, Charles Correa, Balkrishna Doshi, Muzharul Islam, Achyut Kanvinde.* New York: The Architectural League, p. 16.

[65]/ *Aranya – An Approach to Settlement Design. Planning and Design of Low Cost Housing Project at Indore, India.* Vastu-Shilpa Foundation for Studies and Research in Environmental Design, 1990.

[66]/ Paul Oliver (2003), Dwellings: *The Vernacular House World Wide.* London/ New York: Phaidon Press, p. 13.

[67]/ International Council for Local Environmental Initiatives (2003), *Orienting Urban Planning to Sustainability in Curitiba, Brazil*, available at http://www3.iclei.org/localstrategies/summary/curitiba2.html.

[68]/ The journal *Ekistics* was founded in 1955, following the encounter of C.A. Doxiadis and Jaqueline Tyrwhitt in Delhi at the first UN International Symposium on Housing and Community Planning (1954). They agreed there was need for a journal directly aimed at keeping architects and planners in developing countries up to date with relevant professional expertise elsewhere in the world. Jacqueline Tyrwhitt was the journal's first editor from its initial issue in October 1955 (as the *Tropical Housing & Planning Monthly Bulletin*) to June 1969, year in which she became co-editor with Gwen Bell, and was involved in the journal's editing until her death in 1983. Today the journal circulates in 140 countries and has reached beyond the impressive print run of over 450 issues.

[69]/ For an example of journals focusing on architectural, urban design and planning projects in the developing world, see Association of Architects, Engineers & Townplanners of India (ed.) (1964), *Annual of Architecture, Structure and Town Planning*, Vol. 4. Calcutta: Publishing Corporation of India.

[70]/ Nabeel Hamdi (1985), 'Low-Income Housing: Changing Approaches', in: Nabeel Hamdi and E. Robbins (eds.), '3rd World', *Architectural Review*, August 1985, pp. 42–47.

[71]/ See, for instance, the projects of 'Ditch Urbanists' as have been described by Michelle Provoost and Wouter Vanstiphout as a renewed approach to urban intervention. The disparate collection of professionals it is composed of are seen as followers of Georges Candilis, Jaqueline Tyrwhitt and Constantions Doxiadis amongst others, and share the emancipatory, collectivist, breakthrough élan of 'heroic' Modernism, but are driven by context-specific civic goals without passively adhering to bottom-up advocacy. For more on the topic see Michelle Provoost and Wouter Vanstiphout (2009), 'Facts on the Ground: Urbanism from Midroad to Ditch', in: Alex Krieger and Wiliam S. Saunders (eds.), *Urban Design.* Minneapolis: University of Minnesota Press.

[72]/ See Andrés Iacobelli and Alejandro Aravena (2008), 'Elemental Housing as an Investment, not a Social Expense', in: Ilka & Andreas Ruby (eds.), *Urban Transformation*, Berlin: Ruby Press, pp. 344–357.

[73]/ For the relationship between the Elemental *Do Tank* and sustainability see Alejandro Aravena (2009), 'Mas con lo mismo [Faire Mieux avec Autant]', in: *Habiter Ecologique: Quelles architectures pour une ville durable?* Paris: Actes Sud, Cité de l'Architecture et du Patrimoine & Institut Français d'Architecture, pp. 148–153. See also 'Elemental', in: Marie-Hélène Contal and Jana Revedin (eds.) (2009), *Sustainable Design: Towards a New Ethic in Architecture and Town Planning.* Basel: Birkhäuser, pp. 112–127.

[74]/ Kristin Feireiss & Lukas Feireiss (eds.) (2008), *Architecture of Change. Sustainability and Humanity in the Built Environment.* Berlin: Gestalten; Kristin Feireiss and Lukas Feireiss (eds.) (2009), *Architecture of Change 2. Sustainability in the Built Environment.* Berlin: Gestalten; Miguel Ruano (2007), *Eco Urbanism. Sustainable Human Settlements: 60 case studies.* Barcelona: Gustavo Gili (5th edition); Cathérine Charlot-Valdieu and Philippe Outrequin (2009), *L'urbanisme durable. Concevoir un écoquartier.* Paris: Le Moniteur; James Steele (1997), *Sustainable Architecture: Principles, Paradigms and Case Studies.* New York: McGraw-Hill.

THE HEREAFTER OF HUMAN SETTLEMENTS

The multiple approaches and practices that occupied a central position in the Vancouver 1976 event, subsequently led to both the establishment of UNCHS/ UN-Habitat and to consolidating the term 'Human Settlements'. At the time, the agency of the disciplines of architecture, urbanism and planning were intensely questioned and, in the process, the role of design was significantly diminished. Human settlements took on a life of its own. As an approach, it featured both grand moments and irrelevant events – culminating in the rather obscure position it holds in today's practice and theory. Unfortunately, the inability of the approach to condense its performances into a cohesive field and the incapacity of the institutions charged with the responsibility of embodying it propelled it to the margins of the disciplines. The warning set forth by Nabeel Hamdi some twenty years ago, concerning the architect's loss of specificity due to the massive involvement with social issues and the fact of having to manufacture solutions within very narrow technical and economic limits when operating in low-cost development,[70] has been quenched by the promise of several recent interventions.[71] Indeed, both the formulations and recalibrations of the human settlements agenda in the mid-1970s and of today take place in a period of (economic) crisis, serious criticism on the current premises of development policies, the foresight of booming urbanization, prospect of ever extending emergencies needs and agenda of sustainability that climate change is making no longer avoidable.

At the institutional scale, several governments have made new ministries – including the Ministry of Cities in Brazil, the Ministry of Human Settlements in South Africa, the Ministry of Works and Human Settlement in Bhutan, and the Ministry of Human Settlements in The Philippines. And, on the periphery, there are notable practices which are in the midst of rejuvenating the human settlements agenda. An exemplary case is the Elemental 'Do Tank' which seeks 'to identify, debate and concern ourselves with unexplored complex issues of social interest and public scope; specifically, in our case, the realm of the city. […] This two-fold operation of a *Do Tank* (operational towards the common good) forces one to accept all the restrictions of a given problem (economical, legal, political, social, temporary, etc.) without loosing the greater picture of general interest. To put it differently: if the Do accepts the restrictions, the Tank sets the conditions.'[72] In a certain way, Elemental *Do Tank* reincarnates many of the experiments of the 1970s, while at the same time holding a renewed promise towards sustainable development.[73] One of the most exciting aspects of Elemental *Do Tank* is that the architectural ingenuity of multiplying units simultaneously transcends the immediate target of efficient and equitable housing delivery by also contributing to the (intermediate) structuring of the city. It eloquently demonstrates how space (and architecture and urbanism as its incubators) offers a fundamental contribution, necessary for the functioning of the city.

In other recent reformulations of human settlements, the progressive, emancipatory and collectivist approach of 'critical Modernism' reappears in combination with context-specific responses which neither passively adhere to nor deny the benefits of bottom-up advocacy. This specific approach, very often produced in the south and inclusive of fundamental ecological, social, economical and cultural concerns, responds to the challenges that climate change and overall sustainability present. As was the case forty years ago at the inception of the human settlements paradigms, crises of financial, industrial and ecological nature are coupled hand-in-hand with a fundamental questioning of conventional architectonic and urbanistic paradigms. New approaches that systematically re-assign interplays of institutions and actors, fundamentally rethink and re-engineer the use of resources with an eye on sustainability and reconfigure and redesign thoroughly forms and structures of the settlements of tomorrow are required. A series of consecutive waves of propositions flying under the flag of sustainability[74] and (climate) change holds the germs of what the newest reformulated paradigm of human settlements and sustainable development might become.

John F. C. Turner in Peru: Reflections on the Development of a Practice[1]

Helen Gyger

On the cover of its August 1963 issue, *Architectural Design* presented a striking view of Lima, with its *barriadas* or squatter settlements squarely dominating the foreground. Focusing on the theme of "Dwelling Resources in South America," the issue juxtaposed modernist mass-housing blocks[2] with the resident-built housing of *barriadas* and aided self-help schemes, thereby positioning these heretofore marginal practices as equally viable solutions warranting serious consideration.

For guest editor John F. C. Turner, the aim was to shift the *barriada* and self-help housing away from the realm of technical reports and sensational reportage, and into mainstream architectural discourse. At the same time, Turner suggested that a genuine engagement with these practices would require a revision of the very definition of the architect, raising the question of what, exactly, would be the profession's "functions and responsibilities"[3] in this new mode of architectural production. Turner's own answer to this question evolved as he moved ever further away from the conventional wisdoms of his education at the Architectural Association (AA) in search of a different kind of practice. This was only fully crystallized with his move to Peru, where he gained experience and a certain expertise in aided self-help projects. Eventually, he would abandon even this minimal approach as excessively interventionist, instead advocating "housing by people" or user control over the production of housing, arguing that "who decides what for whom is the central issue."[4] This paper traces Turner's changing view of the role of the architect from his formative years in England to his work in Peru from 1957 to 1965.

By his own account, Turner's education at the AA was significant less for the influence of the official curriculum than for discussions with fellow students. Turner first enrolled in 1944 at the age of seventeen, completing just one year before being drafted into the British army for two years of national service. This proved to be a seminal experience for an unlikely reason: Turner came across a copy of the anarchist newspaper *Freedom*, which had been left behind in his barracks, and was inspired to explore the philosophical underpinnings of the movement, reading

1/ I would like to thank John F. C. Turner for his great generosity in granting me access to his papers, and sharing his thoughts in a series of oral history interviews carried out in June 2007. All unpublished materials by Turner and related images are from the Turner Papers, managed by the University of Westminster in London, and I am grateful for their assistance in accessing the holdings.

2/ The issue included an article on Carlos Raúl Villanueva's superblocks in Caracas. Turner visited the projects in late 1962 and perhaps surprisingly, his assessment was largely positive. See: "Mass Urban Re-housing Problems: Superblock Program of Banco Obrero, Caracas, Venezuela, 1954–1958," *Architectural Design* 33, no. 8, August 1963: p. 374.

3/ Turner, "The Scope of the Problem," *Architectural Design* 33, no. 8, August 1963: p. 363.

4/ Turner, *Housing by People: Towards Autonomy in Building Environments.* London: Marion Boyars, 1976: p. 3.

5/ Turner, and W. P. Keatinge-Clay, "Appendix I. Part 2. The Geddes Diagrams: The Contribution of the Diagrams towards a Synthetic Form of Thought," in: *Cities in Evolution*, ed. Jaqueline Tyrwhitt, London: Williams & Norgate, 1949: pp. 200–205.

6/ See: Richard Harris, "The Silence of the Experts: Aided Self-Help in the Developing World, 1939–1954," *Habitat International* 22, no. 2, 1998: p. 180.

Kropotkin and others. This influence is implicit in Turner's approach to aided self-help, with its emphasis on "mutual aid" and self-generated community development, but achieves its fullest expression in *Housing by People* (1976), where Turner distinguishes two approaches to housing provision: while "heteronomous" systems (centrally-administrated, and "other-determined") present a top-down dynamic familiar to traditional architectural practice, "autonomous" systems (locally self-governing, and "self-determined") imply a network of end-users making decisions for themselves, following the anarchist model.

Turner returned to the AA in 1947, and early that year came across a copy of Patrick Geddes' 1918 Indore Report, along with sheaves of his handwritten notes. This led to several months of intense study with fellow AA students Paffard Keatinge-Clay and Bruce Martin, discussing Geddes' notoriously complex diagrams and considering their applicability to their own studies. With the encouragement of Jaqueline Tyrwhitt, then preparing a new edition of *Cities in Evolution*, Turner and Keatinge-Clay developed these ideas into a short paper which Tyrwhitt then included as an appendix to the volume.[5]

Although Geddes' Indore Report has been credited as the first text to propose aided self-help housing,[6] the paper does not address this issue, but rather the "new universality" offered by Geddes' "unitary form of thought." While analysis – breaking apart phenomena into their constituent elements for closer, specialized study – is a necessary stage of thinking, a complete understanding of the "life-process" can only be achieved through synthesis – the "integration and coordination" of discrete observations into a holistic worldview. Geddes' "Notation of Life" diagram provides the paradigm: demonstrating the reciprocal actions of "place" and "folk" on each other via the medium of "work" (or of environment and organism via "function"), Geddes proceeds to elaborate these relationships through four interrelated "chambers of life" (designated acts, facts, thoughts or dreams, and deeds) which taken as a whole map the vast complexities of human life. However, the diagram is

***Barriadas* to the fore** —— A spectacular view of Lima's *barriadas* made the cover of *Architectural Design* in August 1963. Guest edited by John F.C. Turner, the issue was especially devoted to "Dwelling Resources in Latin America".

emphatically not an analytical tool; rather, its synthetic vision fulfills a longing for wholeness, relatedness, and universality – values that are repeatedly evoked throughout the paper.

In early 1948 these two key influences converged when Turner published a short article on Geddes in *Freedom*, and gave a lecture on his work at an anarchist meeting. Turner argued that the bridge connecting Geddes and anarchism was their shared understanding of the "organic nature of society"[7] – governed by the laws of nature, not the arbitrary rules of human institutions. Geddes' broad synthetic approach, his ability to think across the disciplines of economics, "bio-sociology" and "the science of region and city" gave his work both intellectual authority and wide applicability.[8]

The clearest sense of how these influences translated into Turner's ideas on architecture emerges in the AA-based student journal *Plan* no. 6 (1949). Turner served on the editorial board for this and two subsequent issues with a group of close collaborators. While no individual writing credits are given, many of the ideas draw directly on Turner's reading list of the late 1940s: Geddes, Mumford, Kropotkin, Herbert Read, and Sigfried Giedion's *Mechanization Takes Command*. The issue consists of three parallel critiques aimed at the building industry, architectural practice, and childhood education, revolving around the themes of fragmentation, isolation, and the destruction of community. The potential for recuperation appears through nature as holistic model, strongly recalling Geddes.[9] The architectural heroes of the text are Peckham's Pioneer Health Centre and the Hertfordshire schools program, which Turner worked on as a student through Bruce Martin. While conventional practice has left the architect isolated in a sea of facts, Peckham and Hertfordshire show the potential of an architecture attuned to community, human biology, and industrial techniques. To realize such projects, the new Geddesian architect must learn to study "the relationship between man and environment – a study of a living process rather than a static form," and as an "artist-technician" he must synthesize this knowledge into building.[10]

The discussion of the building industry negotiates a more complex path between a Marxist critique of work under capitalism and enthusiasm for the flexibility and variety offered by mass-produced prefabricated components. Most presciently, "building" is also considered in social terms, as a collaborative human activity: "if a man feels himself to belong to a community, he wants to work for that community." The connection to mutual self-help is explicit, as the "decentralization of work" is replaced by the "spontaneous formation of work teams" operating autonomously, their "actions ... the result of collective control and responsibility"; examples are found in guild-like clock-making communities in rural France, decentralized Czech industries, Israeli settlements, and the English Midlands, where "fifty families ... are building their own community – a work group building houses co-operatively in addition to their normal work in factories."[11]

Concurrently with his engagement with Geddes and anarchism, Turner was involved with CIAM and CIAM-affiliated architects, attending the Bergamo and Hoddesdon conferences, touring the Unité d'Habitation construction site, and undertaking a year's internship with BBPR, following which he traveled to Venice to attend the 1952 CIAM summer school. It was there that Turner met the Peruvian architect and planner Eduardo Neira, who was fresh from his own pilgrimage to the Unité, and, as it turned out, also shared Turner's interest in Geddes, having translated his 1949 paper into Spanish. On the basis of this intellectual connection, Neira subsequently suggested that Turner move to Peru to practice architecture, an offer Turner readily accepted since England offered few opportunities for the kind of work in community development that interested him. As Turner described the decision in 1972: "I felt that if I could get out from among the underbrush of technological innovations and intellectual formulations and into the much simpler situation described by Neira, I might be able to see my way."[12] Whether the situation in Peru really was "much simpler" or its unfamiliarity simply allowed Turner to work with fewer distractions, on a pragmatic level it

[7] Turner, "The Work of Patrick Geddes," in: *Freedom: Anarchist Fortnightly*, January 10, 1948: p. 2.
[8] In June 1948 *Freedom* also published two short articles by Giancarlo de Carlo outlining an anarchist approach to the problem of substandard housing. De Carlo proposed direct, collective action by residents such as the occupation of abandoned buildings; he did not, however, advocate self-building, which he believed resulted in poor workmanship and high costs. See: "The Housing Problem in Italy," June 12, 1948, and: "The Housing Problem and Planning," June 26, 1948.
[9] "Argument," *Plan* 6,1949: p. 17.
[10] "Architecture," *Plan* 6, 1949: pp. 18, 27, 28.
[11] "Building," *Plan* 6, 1949: pp. 19–21.
[12] Turner, "The Re-education of a Professional," in: *Freedom to Build: Dweller Control of the Housing Process*, ed. John F. C. Turner and Robert Fichter, New York: Macmillan Company, 1972: p. 124.

[13] Since Turner's Spanish was still fairly rudimentary, the lectures were presented in collaboration with Eduardo Neira and Ernesto Paredes, a Peruvian architect who had met Turner while a postgraduate student at the AA. Turner's range of references was wide: Patrick Abercrombie, Ludwig Hilberseimer, Percival and Paul Goodman, and the Athens Charter appear alongside Geddes. Turner, "Materials & Elements: Systems & Results," undated (c. 1957).
[14] Turner, "Inst[ituto] de Urb[anismo] lecture: Definition of Planning," May 29, 1957. Emphasis in original.
[15] Turner, "Confidential Report on the technical assistance work of the Ministerio de Fomento, Departamento de Inspección de Urbanizaciones y Obras Públicas, Arequipa from July to August 1957, an assessment of the problem and a suggested outline program of work to be carried out under the Ministerio de Salud Pública," undated (c. September 1957): pp. 3, 7.

was certainly a more receptive environment for a young architect interested in exploring new ideas.

Turner arrived in Peru in early 1957, staying briefly in Lima where he lectured on planning theory at the Instituto de Urbanismo.[13] Following Geddes, Turner defined planning as "The science of the ECOLOGY of Man and Environment" whose elements of place, work, and folk operated in "an organic process of interaction." Expanding on the theme, he explained that planning was: "a process of ordering ... the physical environment (in its present and future conditions and at all scales, from region to dwelling) for the well-being of man (at all scales, individual to collectivity)."[14] This was to be enacted through a dynamic four-phase process – survey, plan, administration, and "the plan in action" – which Turner explicitly linked to Geddes' "four chambers of life." In an environment far from the scenarios imagined in his AA studios, Turner drew on his intellectual foundations to find his way towards a new mode of architectural practice.

In mid-June Turner took up a position in Arequipa directing a government office charged with regulating and improving *barriadas*. As the second largest city in Peru, Arequipa had a population of around 125,000; by 1956 the area covered by its informal settlements was larger than the city itself. The work was not easy: the office spent much of its time embroiled in political struggles with the residents' associations that represented two dozen different settlements. Government officials were wary of the settlement leaders, convinced they were operating against the interests of ordinary residents by inflating the real estate market and misappropriating association funds. Meanwhile, officials were engaged in their own struggle for legitimacy, attempting to gain the trust of residents while lacking sufficient resources to respond to the real scale of the housing crisis.

Despite these obstacles, Turner from the outset projected an ambitious vision for the office. In a report written after three months on the job, he argued that the program should not be blinkered by short-term goals, but "must be orientated to the actual scale and the real nature of the problem and the first projects must be a conscious initiation of a process which may take a generation to mature."[15] Reflecting his Geddesian worldview, Turner's proposal consisted of four interrelated aspects which mirrored the "four chambers": survey, research, communication of information, and the design and execution of projects.

Diagnostic survey was itself a key part of Geddes' methodology, a thorough scientific examination being essential preparation for the precise implementation of any urban surgery. Turner argued that anthropological survey work was an essential part of the design process, diagnosing the social and cultural norms that should inform the development of appropriate projects. He also reported that the office was collaborating with the U.S. Geological Survey to identify nearby deposits of *sillar* (a white volcanic stone) and Roman Cement, believing that the local production of such materials could considerably reduce construction costs. As with Geddes, in this approach the city is conceived as embedded within the surrounding region, and the cataloguing of its resources in terms of both "folk" and "place" forms the basis of holistic urban planning (or in Turner's phrase, the "process of ordering ... from region to dwelling").

The functions of "research" and "communication of information" were targeted to make the most of limited resources. Although unable to implement large-scale projects, the office could still conduct valuable experiments with new construction technologies, and ensure that the results were widely disseminated. Further, by building up an indexed library of relevant materials, the office could develop itself into the key housing research centre in Peru.

The "design and execution of projects" was necessarily constrained, focused on "prototypes or patterns for the bulk of the work which will be done by local groups with no more than occasional advice and supervision." Reflecting the stance of *Plan* 6, Turner advocated standardization aimed at maximum variation and adaptability. While avoiding boiler-plate house types and urban plans, standardized components ("walls, roofs, windows and doors – plots, the relationship of house to house and of houses to open

space and roads"[16]) offered a way to economize not just on the construction site but in the design office, where a small architectural team had little time to devise individualized solutions.

In Turner's first months the office was limited to small trial programs, including an urban remodeling project and experiments with the fabrication of soil-cement blocks by and for self-builders. Towards the end of 1957, as a new national technical assistance program was introduced, the renamed Oficina de Asistencia Técnica de Arequipa (OATA) produced more detailed proposals for two key programs: a rehabilitation scheme for an existing settlement and an outline for a new satellite city.[17]

The first program followed Geddes' "conservative surgery"[18] model, using diagnostic survey as the basis for targeted interventions that minimized disruption to the urban fabric. The original grid layout was modified to improve circulation and provide additional green space; pairs of photographs were keyed to the redrawn plan to demonstrate to residents the impact of the proposed improvements.

The satellite city represented a more aggressive effort to control the direction of urban development. Believing that real estate speculation rather than actual housing needs was responsible for many land claims, Turner argued that the housing deficit could be met using "one seventh of the area actually invaded and solicited."[19] Many existing settlements were sparsely populated and poorly consolidated, making them uneconomical for the provision of even basic services, and socially fragmented; by contrast, a satellite city would be rationally conceived from the outset and designed to grow in stages as demand required. The project was to be kept secret as long as possible: "our campaign against speculation depends on publicizing such a plan widely and suddenly."[20] With a site large enough to meet housing needs for the next 25 years, accommodating 30,000 people,[21] the initial schematic plan was developed into more detailed drawings by Hernán Bedoya in 1958. These demonstrate greater specificity in relation to the topography and sensitively in the handing of the urban scheme, but are also more utopian in nature, depicting a bucolic setting with tree-lined avenues and a wide range of communal buildings (church, schools, civic and commercial centers) that in practice would have been difficult to finance and construct.

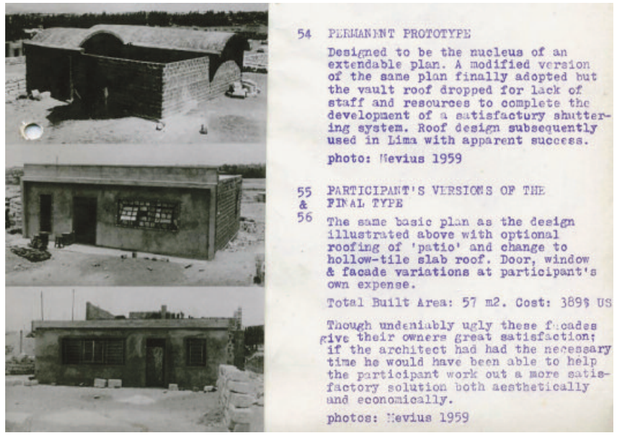
Turner's response to this project was highly ambivalent: some of his statements welcome the idea as a way to sidestep the difficulties of dealing with ill-planned settlements and their combative leaders, while elsewhere he is highly critical, regarding its "evasion" of the real situation as misguided:

> *The idea of a new town is infinitely more attractive to us as architects and administrators but I have an uneasy feeling that it is an authoritarian and dictatorial solution which might destroy the incipient new communities (and therefore the basis of democracy), divide the population and, as a result, fail. Deservedly.*
>
> *I'm shocked and disturbed by Luis Felipe's calm assumption that we can create communities as easily as we can build houses. This kind of thinking is almost enough to convince me of the unsoundness of the whole idea.*[22]

Turner's unease suggests a discomfort with planning conceived in modernist rather than Geddesian terms – as a "process of ordering" based on the tabula rasa rather than an understanding of existing conditions. Perhaps fortunately, the human and financial resources the project required were never forthcoming.

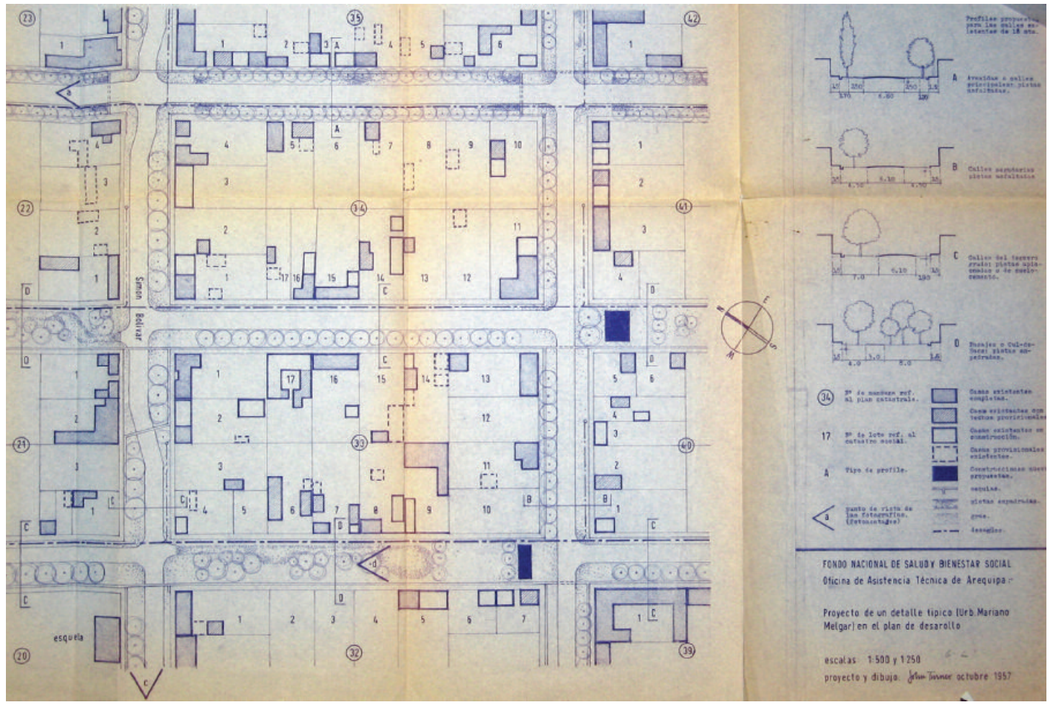
By the end of 1957, with few concrete projects in hand, Turner was pessimistic about the future of OATA, writing that relations with residents appeared to be deteriorating.[23] A massive earthquake on January 15, 1958 dramatically changed the dynamic: as Turner observed, "besides providing the necessary credit the disaster predisposed everyone concerned to accept new ideas and methods."[24] With 1,647 dwellings destroyed and 3,407 badly damaged, OATA became the centre for relief work. Turner proposed a rebuilding program using "directed mutual self-help" believing that this method would reduce costs by 30–50

[16]/ Turner, "Confidential Report," pp. 7–8.
[17]/ See "Las Urbanizaciones Populares de Arequipa: Estudio de los Origenes, Estado Actual y Propuestas para la solución del problema," November 1957.
[18]/ This quintessentially Geddesian term appears in one of the documents related to this program: Turner, "Sumario de la Programa," undated (c. 1957).
[19]/ Turner, "The Housing Problem in the City and Districts of Arequipa, Peru," 1958.
[20]/ Turner, Letter to Eduardo Neira, September 7, 1957. It is not clear whether the letter was sent.
[21]/ "Las Urbanizaciones Populares de Arequipa," November 1957.
[22]/ Turner, Letter to Eduardo Neira, September 16, 1957. Luis Felipe Calle Calle was an architect and Turner's colleague at OATA. It is not clear whether the letter was sent.
[23]/ Turner, "The Housing and Planning Problems of Arequipa, Peru: A Case Study with Particular Reference to the Application of Self-Help Methods in Relation to the Squatter Settlements," 1959–1960, p. 30.
[24]/ Turner, "The Housing and Planning Problems of Arequipa, Peru," p. 39.



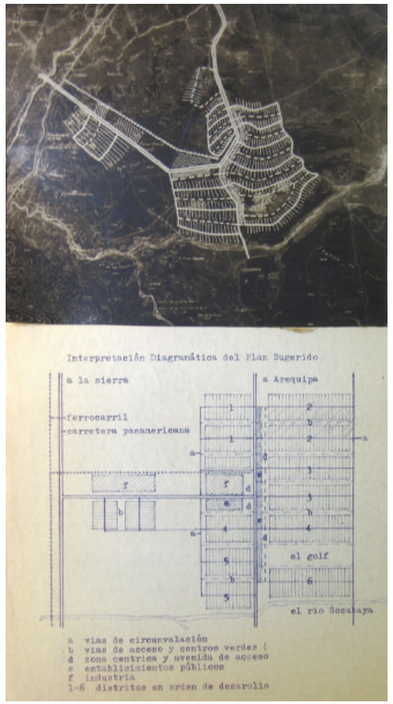
Aided self-help in Arequipa —— A standardized design for an aided self-help housing project obviated the need to spend time devising individualized solutions. Nonetheless the final dwelling types developed by participants differed from the initial prototype in terms of façade variations.

Montages for Mariano Melgar —— In Arequipa, the rehabilitation scheme for an existing settlement used diagnostic survey as the basis for targeted interventions that minimized disruption to the urban fabric. A series of photographic montages for the Mariano Melgar *urbanización* show the development and remodeling of the area that Turner was responsible for as part of the OATA.



***Barriada* upgrading vs. satellite townships** —— The project for a typical detail of the Mariano Melgar *urbanización* shows modifications to the original grid layout to improve circulation and provide supplementary greenery and open space.

[25]/ Turner, "The Re-education of a Professional," pp. 127–128.
[26]/ Turner, "The Housing and Planning Problems of Arequipa, Peru," pp. 42, 44–45.
[27]/ Turner, "The Housing and Planning Problems of Arequipa, Peru," p. 47.
[28]/ In *Housing by People*, autonomous or locally self-governing groups are characterized as egalitarian and organically balanced, as the needs of one person are limited by the needs of another, producing stability and efficiency. Turner, *Housing by People*, p. 135.
[29]/ Turner, "The Reeducation of a Professional," 138.
[30]/ Turner, "The Housing and Planning Problems of Arequipa, Peru," 17–18.
[31]/ Turner, "Esperiencias en Ayuda Mutua Dirigida en Arequipa," August 1959, 1.



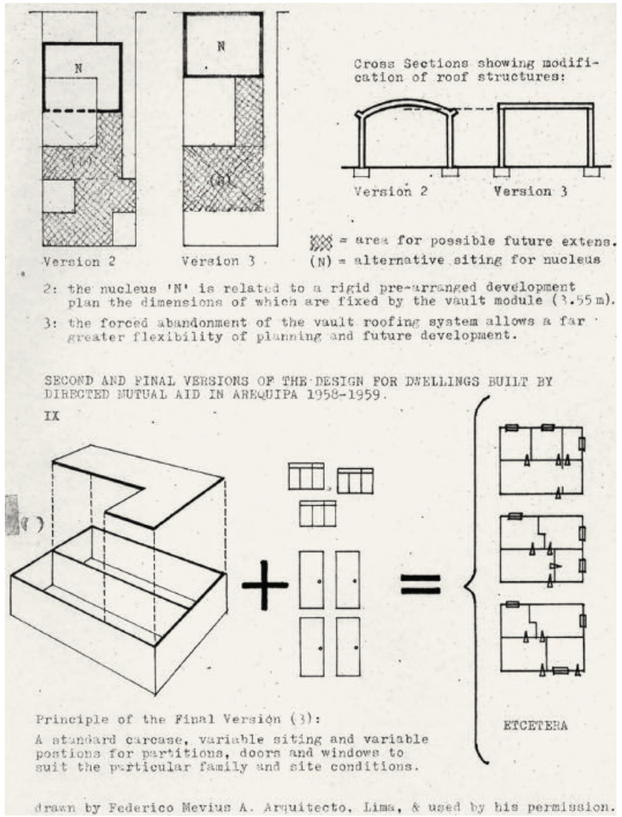
Satellite townships vs. *barriada* upgrading —— Besides existing settlement improvement, a more forceful attempt to guide urban development emerged in the project for a satellite city, produced collaboratively between the OATA and the Oficina Nacional de Planeamiento y Urbanismo. Although the 1958 proposal, developed by Hernán Bedoya of ONPU, reflected a sensitivity to site-specific considerations in line with a Geddesian approach to planning, Turner remained highly ambivalent about the project.

percent, allowing for more units to be built. In the end, 140 houses were completed for the cost of 100 contractor-built houses.[25] The design, developed by assistant architect Federico Mevius, focused on the need for flexibility within standardization, using fixed basic modules with variable internal partitions, allowing for expansion from the core unit as needs changed.

In a report written for the United Nations, Turner noted that the organization of the project followed guidelines set out in manuals based on Puerto Rican experiments, although it was "impossible to follow all the recommendations." Indeed, the administrative requirements were substantial, generating a staff of some 38 people, headed by an architect responsible for framing the overall program, producing designs, inspecting lots, and attending weekly meetings with the project participants.[26] In addition to educating participants on technical matters, these meetings also served to promote good citizenship: "for many it was their first experience of democracy."[27]

In marked contrast to his later writings, which minimize the issue of conflicting interests within communities of self-builders,[28] here Turner discusses at length the problems of internal political disputes, corruption, and speculation by settlement leaders. This critique – which Turner would subsequently attribute to his own "liberal authoritarianism"[29] – is used to emphasize the "importance of government intervention" to advocate the interests of ordinary residents and to demonstrate that the leadership of the architect-organizer is a necessary corrective to imbalances within the group; he is an engineer who recalibrates existing dynamics to ensure the smooth functioning of the social organism.[30]

Despite the success of this pilot project, OATA lost most of its staff in a political shake-up in late 1958, and Turner himself was forced to leave.[31] He continued with an aided self-help housing scheme for a sugar plantation, designing a new settlement to replace the overcrowded company town. This provided the opportunity for refining techniques used in Arequipa, making greater use of anthropological data, with an extensive social survey conducted by anthropologist



Directed mutual aid —— While in Peru Turner advocated standardization aimed at maximum variation and adaptability as a means to improve *barriada* housing. The design for dwellings built by directed mutual aid was based on considerations taking into account both the possibility for future extensions and the alternative positioning of core nuclei. Abandonment of the vault module responded to residents' calls for greater flexibility vis-à-vis the incremental development of the housing unit over time.

[32]/ Eduardo Soler and Turner, "Informe sobre la vivienda urbana en Paramonga: 1959–1960," 1960.
[33]/ Turner, "Confidential Report," p. 7.
[34]/ Turner, "The Housing and Planning Problems of Arequipa, Peru," p. 58.
[35]/ Turner, "The Re-education of a Professional," p. 144.
[36]/ For further discussion of this theme, see: Richard Harris, "A Double Irony: The Originality and Influence of John F.C. Turner," *Habitat International* 27, no. 2, 2003: pp. 245–269.
[37]/ Turner, "Housing as a Verb," in: *Freedom to Build: Dweller Control of the Housing Process*, eds. John F. C. Turner and Robert Fichter, New York: Macmillan Company, 1972: p. 158.

Participatory production in Paramonga —— In Paramonga Turner and his team had the opportunity to refine techniques developed in Arequipa by correlating his own typological surveys of existing housing with anthropological analysis. Socio-cultural particularities were adhered to more pronouncedly by developing specific types for peasants and urban dwellers. Scale models allowed self builders to better grasp the potentials of incremental dwelling development. In this image architect Diego Robles (centre) discusses the form of the house with prospective residents (c. 1960).

Eduardo Soler, and a physical survey of housing typologies by Turner. This led to increasing sophistication in spatial planning to reflect socio-cultural differences in the use of the house, leading to two distinctive plans (with architect Diego Robles), for *paisanos* (peasants) and *criollos* (urban dwellers) which nonetheless employed the same basic footprint, framework, and dimensions. Finally, the project made greater use of scale models to allow self-builders to visualize the possibilities of the "growing house."[32] In 1962 Turner helped to secure funding from the Inter-American Development Bank to extend the methodology into a national program of aided self-help projects.

Shortly after arriving in Arequipa, Turner observed: "millions of soles and hours of work are being misspent by the poorest people to create unhealthy and disorganized environments"; it was essential to convince residents that their efforts at "providing themselves with some sort of home of their own is against their own interests and to convince them to wait for alternatives to be put forward by us."[33] On leaving Arequipa, his viewpoint had changed little: "the only possible way of ordering city development is through the harnessing of the blind but powerful forces of spontaneous popular urban expansion to planned development programs."[34]

Looking back on his work in Peru, Turner wrote that the experience of trying to administer aided self-help programs had soon convinced him that the extensive administrative superstructure they required was too expensive and inefficient. Rather than attempting "to find and train the army of dedicated field workers and local program administrators"[35] such schemes required, he advocated simply providing construction funds to individual house-builders, with only basic oversight. Individuals and locally-controlled groups could more effectively direct their own development without the encumbrance of outside professionals: in the terminology of his later writings, the forces of autonomous building did not need "harnessing" by heteronomous organizations in order to produce decent housing.

After Turner left Peru in 1965, he continued to refine his ideas on user control in housing, diverging progressively further from mainstream self-help projects with their emphasis on sites and services provision and the use of resident labor to lower costs.[36] For Turner, the key point was not to leverage the user's labor, but facilitate the user's control "of the design, construction, and management of his own home."[37] This was not an economic argument, but a political – or rather, ethical – vision of how groups of people could work together to house themselves and develop their own communities. In this sense, Turner's later writings on "housing by people" strongly evoke the "work teams" envisaged in *Plan* 6. This marks the end point of Turner's gradual move away from conventional architectural practice: from the architect as "artist-technician" advocated in *Plan* 6, to the architect as technician-administrator of "directed" aided self-help, and finally to the architect as advocate-facilitator of unaided self-help or "autonomous" building.

Sibyl Moholy-Nagy and The City as *Matrix of Man*

Hilde Heynen

Sibyl Moholy-Nagy was among those who were very critical of modernism's ideal of controlling the city through master planning.[1] She abhorred the idea that planners would ultimately take control over the life of ordinary citizens by imposing upon them urban patterns that would dictate their daily lives. For her, the historic continuity of the city guaranteed freedom and flexibility for its inhabitants, and it should not be carelessly disrupted by new, 'scientific' ways of dealing with urban planning.

Her 1968 volume *Matrix of Man. An Illustrated History of Urban Environment* is a major contribution to the debate on the city.[2] The book was published in 1968 from a manuscript she developed throughout the sixties during her teaching at the Pratt Institute in Brooklyn, where she taught a very successful course on the history of human settlements. This course was initiated as part of a postgraduate program in tropical architecture, which Pratt offered to "both men and women graduate architects from tropical countries who seek advanced work in architecture and planning, and for American architects who wish to prepare for work in the tropics and other foreign areas."[3] Sibyl Moholy-Nagy had a very open mind and was an eager traveler. She had traversed not just Europe and North America, but also parts of Latin America and the Middle East. Her focus was primarily on historical remains of urban settlements, but she also had a keen interest in modern architecture. Her publications thus oscillate between historical analysis and architectural criticism, developing a position that was quite polemical vis-à-vis the major architectural voices of the time.

A self-declared historian, Sibyl Moholy-Nagy was not particularly supportive of the turn towards 'human settlements' as a distinctive area of development aid. She was even quite critical of approaches such as those of Constantinos A. Doxiadis, who wanted to tackle underdevelopment by means of carefully planned urban settlements. For her, Doxiadis belonged to the 'reductionists' – social planners and scientific technocrats who failed to understand the essence of the city because they failed to honor architectural values. She scorned him for his plea to start with utilitarian buildings to create architecture, and for his advocacy

1/ This paper is a partial result of my research on *Sibyl Moholy-Nagy and the Vicissitudes of Modern Architecture*. This research is made possible through a fellowship at the Radcliffe Institute for Advanced Study (2008–2009).
2/ Sibyl Moholy-Nagy, *Matrix of Man. An Illustrated History of Urban Environment*. New York: Praeger, 1968.
3/ *Pratt Institute. Bulletin 1964–1965*, Vol. XXVI, no. 1, March 1964.

4/ Sibyl Moholy-Nagy, "False friends and true prophets. Adress at the opening session of the 15th Northwest Regional conference of the American Institute of Architects. October 24, 1966," manuscript, AAA947 (Archives of American Art).
5/ See the introduction to *Matrix of Man*.
6/ Sibyl Moholy-Nagy, 1968: p. 12.
7/ Spiro Kostof, *The City Shaped. Urban Patterns and Meanings Through History*. London: Thames and Hudson, 1991.
8/ Sibyl Moholy-Nagy, 1968: p. 28.

of the "common man everywhere" who should "not only be served by architecture, but also decide about it" (quotes from Doxiadis's book *Architecture in Transition*). Moholy-Nagy classified him under the 'false prophets,' because his populist credo would inevitably lead to regressive solutions displaying bad taste.[4] She likewise denounced the teachings of Buckminster Fuller or the designs of Archigram, because they relied upon technological solutions to provide all answers to problems of human settlements.[5]

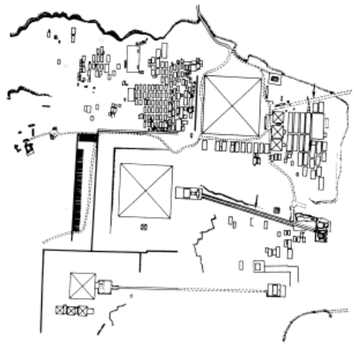
In giving her book the title *Matrix of Man* Moholy-Nagy conveyed her conception of the city as source and origin of civilization. For her, the city contained everything that was worthwhile in human culture, it nurtured and gave form to the intellectual and emotional lives of the individuals who live in it. This humanist approach targeted all those who sought recourse in science and technology to solve the city's problems. Her introduction stated clearly:

> *The technocratic illusion that man-made environment can ever be the image of a permanent scientific order is blind to the historical evidence that cities are governed by tacit agreement on multiplicity, contradiction, tenacious tradition, reckless progress and a limitless tolerance for individual values.*[6]

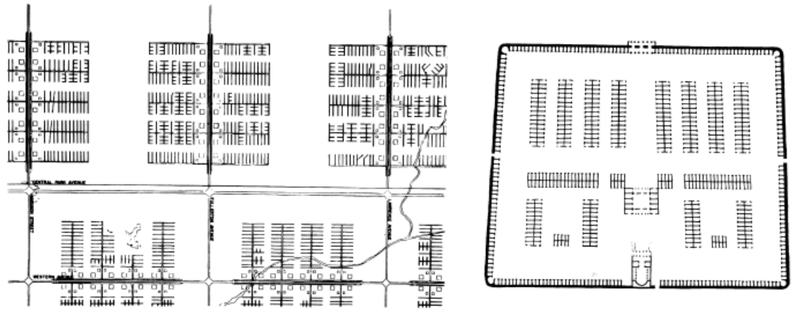
She constructed the book according to thematic categories – a construction which in all likelihood inspired later books such as Spiro Kostof's *The City Shaped*.[7] Moholy-Nagy discerned five basic concepts of human settlements, five patterns which form the *gestalt* of cities: geomorphic, concentric, orthogonal-connective, orthogonal-modular and clusters. Geomorphic patterns were determined by the shape and the climatic conditions of the earth, they had an organic structure and are based upon an interaction with the landscape. As the most impressive example of geomorphic planning she named Machu Picchu, which "achieves a total accord with the given environment because the sun worshipers conceived the city as a crown of nature, and nature as the crown of the city."[8] Concentric settlements came forth from a commitment to a

From Human Settlements to "Matrix of Man" —— Sibyl Moholy-Nagy's "Matrix of Man" reflected her world-wide travels and related study of numerous historical remains and modern architectural complexes in different areas of the globe. A contemporary village in Cameroon is placed above a Neolithic village in Germany to prove the point that the geomorphic village communities have remained conceptually unchanged despite chronological and geographic distances.

Machu Picchu, Peru: archetypical matrixes and geomorphic planning —— According to Moholy-Nagy's analysis, geomorphic urban patterns – of which Machu Picchu was considered the finest example – responded to the climatic and topographical specificities of site by fruitfully interacting with the landscape.



Giza necropolis, Ancient Egypt: proto-orthogonal concepts —— Having as precedents the settlements of Ancient Egypt or Babylon, Moholy-Nagy further categorized proto-orthogonal layouts into orthogonal-connective layouts and orthogonal-modular ones. Connection and mercantile linkages were seen as the basis for the former case, whereas the military logic of Roman camps was considered as the origin for the latter.



Hilberseimer's Chicago and Roman camps: orthogonal-modular modernism —— Modernist urban planning was considered by Moholy-Nagy as a derivative of the oppressive Roman camp, unfit to trigger urbanity and insensitive to local specificities. To support her point she associated schemes by L. Hilberseimer and others with ancient military settlement layouts.

supra-humane ideal, from a tradition that conceived of the urban form as the superimage of the ideal self. The concentric city offered an image of power, from which the influence of its ruler radiated over a vaster area. Its urban qualities derived from the interaction between public buildings and the more humble constructions that form their background.

Proto-orthogonal concepts were found in Ancient Egypt or Babylon. They developed further into orthogonal-connective cities and into orthogonal-modular ones. The first were based on a desire for communication and very much linked to the impact of merchants who see the city as a place for commerce and connecting. The second displayed the military logic of Roman camps. In this case, streets were less lines of communication than dividers of lots, and public spaces were not designed environments but voids between housing modules. "In contrast to the other types of urban foundations," she stated,

> *the modular grid plan is not generated from within the community but is predetermined from without. To the genesis of urban intentions from rural (geomorphic) to cosmological (concentric) to ecumenical (orthogonal-connective), the modular grid adds a coercive concept, whether political or religiously motivated, imposing on plan, building and inhabitant the same predetermined dimensions.*[9]

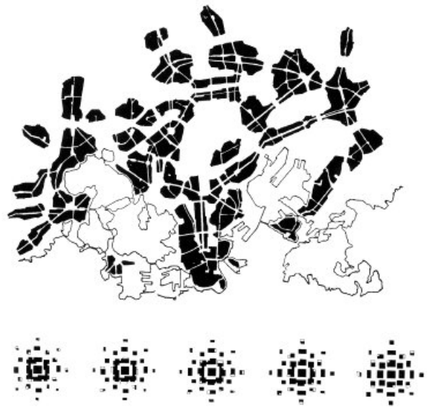
Moholy-Nagy argued that orthogonal-modular patterns were at the basis of many modernist urban plans. For that reason, she denounced José-Luis Sert's plan for Barcelona, Ludwig Hilberseimer's superblocks for the replanning of Chicago and Kiyonori Kikutake's City of the Future, which she blamed for its fascist character. The orthogonal archetype nevertheless had a very successful derivative: the orthogonal-linear plan of the merchant cities. This plan was, like the orthogonal-connective plan, based on the idea of communication. This type of plan, according to her, "gained ascendance over all other planning concepts because it offered participation in the drive for power to the majority."[10] This type of city was not the power symbol for a monarch, nor did it solely derive from the most profitable allotment of the land. It rather fused architecture, communication and real estate values into a self-conscious expression of an open, outside-oriented community.

The youngest city pattern – clusters – was seen by her as very problematical. The whole idea of clusters, and by extension the idea of satellite development, was anti-urban and tended to isolate certain social groups. "City satellites," she stated, "are clusters of buildings that belong neither to the city nor to the village, partaking of the open land and vestiges of nature, but dependent on an imitation of city life for survival."[11] She thus denounced the environmental ideals of Howard and Unwin, and the modernist urbanism that followed their suit. Most disastrous, she thought, was the influence of Le Corbusier's work as a city planner, especially in his conception of the Unité d'Habitation.

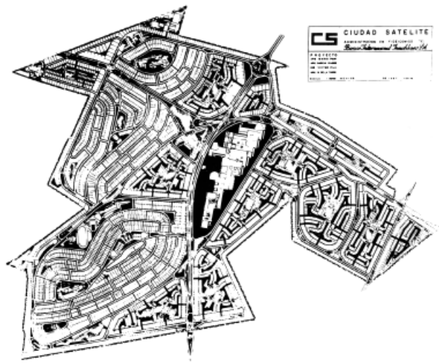
> *The target of Le Corbusier was the liquidation of the city as a compound social and architectural entity. Throughout his professional life, he worked tirelessly on the elimination of the ligaments that held the urban body together.*[12]

Modernist city planning thus did not meet with her approval, because it was either inspired by the imperious tradition of the Roman camp or by the anti-urban cluster logic. In both cases, it was not capable of guaranteeing the vibrancy and the sense of commitment that she thought essential for real urbanity. Her criticism of modernist city planning was spelled out along several lines. Firstly, she claimed that the idea of clusters, which this urbanism favored, was dissolving the city as such. In the second place, she thought that many visionary architects – and especially Le Corbusier – attributed a supra-human power to themselves as matrix makers for the common men and thus ignored the rightful claims of citizens to be involved in the making of their city. Thirdly, she argued that there is a distinction between traffic (transport) and communication (interconnection through streets and plazas), and that the CIAM-doctrine takes traffic into account without paying attention to communication.

9/ Ibid.: p. 158.
10/ Ibid.: p. 198.
11/ Ibid.: p. 241.
12/ Ibid.: p. 275



Saarinen's diffused regional planning in Helsinki: growth, decay and future of the city —— Moholy-Nagy denounced the anti-urban cluster logic of modernism which she considered accountable for the dismemberment of the city as such.



Mario Pani's *ciudad satellite*, Mexico City: alternatives from the Third World —— Moholy-Nagy's acknowledgement of the relevance of the historical city was highlighted with examples from the Latin American region, as in the case of Mario Pani in Mexico.

[13]/ James Holston, *The Modernist City. An Antropological Critique of Brasilia.* Chicago and London: University of Chicago Press, 1989.
[14]/ Sibyl Moholy-Nagy, "The Making of Non-Architects," in *Architectural Record*, October 1969: pp. 149–152.
[15]/ Book reviews were published in architectural journals (Walter Segal, "And what's her history?" in: *The Architects' Journal*, 1969; W Houghton-Evans, "Matrix of Man: an illustrated history of urban environment," *Town & Country Planning*, 1969), as well as in the more general press (Stanley Abercrombie, "Planning and Debunking," in: *Wall Street Journal*, 1968). *Matrix of Man* was used as a textbook, for example at Columbia University, where Avery library still has more than five copies of the book.
[16]/ Walter Segal, "And what's her history?" *The Architects' Journal*, 1969.
[17]/ Paul Oliver, "Evolution of cities," unidentified journal, p. 977 – a copy of this review can be found in the papers of Sibyl Moholy-Nagy in the Archives of American Art at the Smithsonian in Washington.
[18]/ André Loeckx and Kelly Shannon, "Qualifying urban space," in: *Urban Trialogues. Localising Agenda 21. Visions_Projects_Co-Productions*, eds. André Loeckx et al., Nairobi: UN-Habitat, 2004: pp. 157–168.

Throughout *Matrix of Man*, Moholy-Nagy stressed the importance of landscape, regional climate, tradition, culture and form. She repeatedly referred to the city as a symbol of power, but also a symbol of human aspiration and participation. The city for her was a generative force, capable of molding people and civilizations, bringing forth creative energies and interconnectedness. A most interesting feature in this respect is what she called 'architectural urbanity.' The term referred to the idea that urbanity was not a matter of a two-dimensional layout of streets and axes, but rather resulted from the interplay of three dimensions – the buildings along the streets and squares being a decisive element. Architectural urbanity indeed was what she considered lacking in a city like Brasilia. For the urban spaces in this city were so overdimensioned that they were not apt for communication: the buildings that surrounded them can barely give form and meaning to these vast spaces (an argument which James Holston would repeat later in a more elaborate way in his book on Brasilia).[13]

In stressing the importance of architecture and diminishing the merits of master planning, Sibyl Moholy-Nagy clearly took sides in the disciplinary battle focusing on the production of the city. She was a fierce opponent of the introduction of planning programs in architectural schools and thought that architects were selling out by minimizing the import of design and maximizing the use of 'scientific' instruments and logics. Her ardent argumentations against advocacy planners as well as against technocrats are always devoted to the defense of architecture as a conceptual-pragmatic interaction with multiple inputs that cannot be reduced to a simple algorithm. In the end, for her, "it is the ethical obligation of the architect-planner to be totally responsible for the physical matrix of society."[14] Such a mission cannot be accomplished by planning on its own or by an architectural profession disavowing its core competence – design. For her it clearly is the professional duty of architects to understand the historically crucial role of architecture in matrix making and to expand on this by claiming leadership in the future design of cities.

Matrix of Man was quite an influential book when it was first published. It was acknowledged by more than 25 book reviews and was used as a textbook in architectural schools.[15] Most of the reviewers recognized it as a major effort to offer insight in the history of the city. Some, however, were rather dissatisfied, because *Matrix of Man* did not seem to offer specific guidelines for future urban planning. It documented and described the historical developments of the city with much verve and wit, but did not carry this compelling rhetoric over into a well-formulated and clear strategy for the future. Regardless of her polemic ideas about the role of the architect, Sibyl Moholy-Nagy herself wrote more as an engaged historian than as a practice-oriented architect or planner. For people like Walter Segal or Paul Oliver, the book fell short when it came to really indicating which direction to go with urban planning. Walter Segal thought that "the centre of gravity of the study has shifted further backward than would allow for balance. … Technology gets less than fair attention and transport is hardly considered… ."[16] Paul Oliver assessed that "Sibyl Moholy-Nagy rightly chides Lewis Mumford for his pessimism and romantic nostalgia, but she is herself unable to come to terms with the imminent problems of the future."[17]

Whereas it cannot be denied that the book failed to offer constructive advice for the future, it should be clear nevertheless that *Matrix of Man* contributed a great deal to the growing awareness of the historical dimension of the city. It thus undoubtedly was an important factor in the increasingly critical attitude towards modernism in the 1960s, which ultimately would lead to its complete demise in the 1970s. Typical of Sibyl Moholy-Nagy was, moreover, her openness towards Latin America and other 'non-Western' parts of the world. Her interest in other cultures and their heritage brought a specific flavor to her history courses, which contributed to the open-mindedness of its graduates. If her insistence on the crucial role of architecture in the future design of cities did not gain her a faithful following among the people dealing with 'human settlements,' it can at least be said that it anticipated debates that would rise again forty years later.[18]

UN-Habitat and Sustainable Human Settlements

Raf Tuts

Recent literature and global debates confirm that cities and urban places are rapidly changing and are often no longer socially, economically or ecologically capable of meeting the present and future demand of growing urban populations. In response, various policy- and strategy-development initiatives have emerged over the past 40 years, with the aim to promote more sustainable urban development.

INTERNATIONAL POLICYMAKING ON URBAN DEVELOPMENT

The growing expansion and location of national populations in urban areas has become one of the most profound transformations of our time. In 2008, the world's urban population reached 3.3 billion and is expected to have grown to almost 5 billion by 2030, equivalent to almost 70 million each year.[1] The locus of this enormous global demographic transformation has shifted to the South, with 95 percent of urban growth now occurring in the developing world.[2] Urban populations in Africa and Asia will double in this period. With every passing month, a new city the size of Hanoi, Madrid or Porto Alegre is formed.[3]

The scale and pace of this growth is creating unprecedented social, political, cultural and environmental challenges that must be addressed by the global community. Urbanization is a strong force that generates economic growth, social and political advances, as well as technical and scientific progress. As now recognized by the 2009 World Development Report,[4] space, location, and expansion are key features of the new global landscape. But when poorly managed, urban growth can generate social exclusion and poverty; it can also result in uncontrolled urban sprawl, pollution and unsustainable consumption of land, water and other natural resources, which accelerate environmental degradation and the negative impacts of climate change. Slums represent the most visible manifestation of unplanned urban development, with more than one billion people living in deprived neighborhoods.

The response of the international community has evolved considerably over time: from pilot experiments with low-cost housing in the 1960s to sites and services and slum upgrading in the 1970s; municipal management in the 1980s; policy reform in housing and land markets, coupled with privatization of infrastructure in the 1990s; and, more recently, city development strategies. By 2000, the portfolio of international urban aid had reached more than 11,000 cities and towns in the developing world.[5]

Human settlements issues were for the first time integrated in the international policy development agenda in the 1970s, with the Habitat Conference in Vancouver in 1976. This conference laid the basis for the United Nations Centre for Human Settlements, which later became UN-HABITAT. Some fundamental assumptions were made at the event: that it would be possible to slow down the urbanization trend; that the informal sector would be gradually absorbed by the formal sector; and that the market would cater for the housing needs of the poor. Time has taught us that all these assumptions were largely incorrect.

Twenty years later, in 1996, the Habitat Agenda was adopted by the United Nations Conference on Human Settlements (Habitat II) in Istanbul. This document emphasizes the importance of local authorities in human-settlements planning and management, and identifies adequate shelter for all and more sustainable human settlements as international priorities. These were reaffirmed by the UN General Assembly Special Session in 2001.

This mandate was further strengthened by Millennium Development Goal 7 on environmental sustainability, which has drawn attention to the compelling case for action on urban poverty and the environment. Target 10 of Goal 7 seeks to halve, by 2015, the proportion of people without sustainable access to safe drinking water and sanitation. Target 11 seeks to achieve significant improvement in the lives of at least 100 million slum dwellers by 2020. The mandate was further endorsed by the Cities without Slums Initiative of UN-HABITAT and the World Bank. The 2005 World Summit Outcome carried the matter further and prioritized slum prevention alongside slum upgrading, emphasizing the role of urban planning.

At the end of the current decade, the international priorities on human settlements remain as relevant as ever. Meanwhile, the combined effect of urbanization, climate change, the energy crisis, the food crisis and the global economic downturn call for a fresh look at the paradigm of sustainable urbanization.

APPLYING THE SUSTAINABILITY PARADIGM

The so-called three pillars of sustainable development are defined in Agenda 21, the outcome of the 1992 Rio Summit on Environment and Development. They include economic sustainability, defined as the capacity to increase wealth and capital; environmental sustainability, defined as the capacity to sustain environmental processes and regeneration and prevent loss of biodiversity; and social sustainability, defined as the capacity to increase social development and prevent violence and crime. The Johannesburg Plan of Implementation of the World Summit on Sustainable Development of 2002 further emphasized the importance of shelter as a key focus, alongside water and sanitation, health, agriculture and biodiversity and stressed the need for more sustainable urbanization.

Sustainable urbanization involves making cities economically productive, environmentally sustainable and livable as well as socially inclusive. This triangular view on sustainable development has been critically reviewed from several perspectives. It has been asserted that 'sustaining' development is not sufficiently ambitious as a goal: the reversal of unsustainable practices should also be emphasized. Others have criticized the absence of culture, governance and physical 'space' as key factors of sustainable development. Despite these valid concerns, the 'three E'-model (Economy, Ecology, Equity) still serves as a robust framework, drawing inspiration from various fields, nearly two decades after it was formally accepted by the international community.

The underperformance of cities is partly attributable to poor practice in urban planning, management, and governance. This is partly because these fields are often viewed as separate processes. UN-HABITAT

1/ UNFPA, *The State of the World Population 2007: Unleashing the Potential of Urban Growth*, New York: UNFPA, 2007: p. 1.
2/ UN-HABITAT, *State of the World's Cities 2008/09: Harmonious Cities*, Earthscan, 2006.
3/ UN-HABITAT, *Medium Term Strategic and Institutional Plan: Supplementary Report*, 2007.
4/ World Bank, *World Development Report: Reshaping Economic Geography*, 2009.
5/ Michael Cohen, "Urban Assistance and the Material World: Learning by Doing at the World Bank," *Environment and Urbanization*, Vol.13, no.1, April 2001: pp. 37–60.

believes that there is a need to remove the sequential connotation of these three processes and convert them into integrated, inclusive and regenerative practices. When viewed through the 'three E' model, UN-HABITAT proposes to work towards the following new 'terms of engagement' regarding urban planning, management and governance.[6]

The new form of *planning* could become more responsive to geographic and ecosystem differences through inclusive methods of practice. It can be evaluated by asking whether specific planning proposals generate integrated designs that link policies and proposals with people and places.

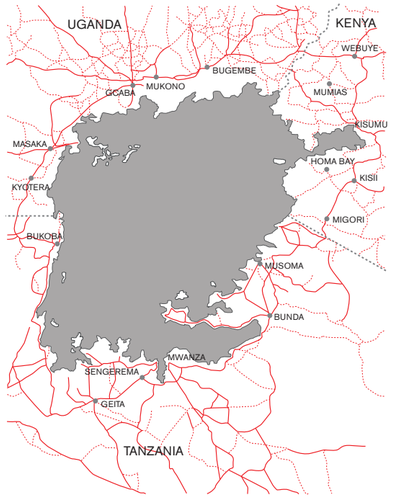
The new form of *governance* could become the process of making choices among alternative resource use, assessing the equity and efficiency of likely impacts, and mobilizing the necessary institutions required to act. It can be evaluated by asking whether a specific governing process is an inclusive operation.

The new form of *management* could become the process by which adaptations are made when implementing planning and governance decisions. It can be evaluated by asking whether the managing agents are encouraging the necessary regenerative practices to increase economic and ecological prosperity.

The changes required to achieve sustainable urban development are radical. Most cities lack the political will or organizational capacity to re-engineer their planning, management and governance systems. This is particularly true for rapidly growing secondary towns in South Asia and Africa. As conventional urban development systems are not yet well-established, there may be opportunities for these cities to leapfrog and embrace the sustainable urban development agenda more quickly.

SUSTAINABLE URBANIZATION AROUND LAKE VICTORIA

UN-HABITAT's activities on city development strategies, spatial planning and urban water and sanitation in a dozen towns around Lake Victoria[7] may serve to illustrate how the proposed new thinking on planning,



Constellation of urbanization around Lake Victoria —— The Lake Victoria region is a clearly defined, circular hydrological basin, home to 30 million people. As a large-scale entity shared by Kenya, Uganda and Tanzania, it is a highly interdependent space of urban, rural and natural landscapes.

governance and management might work in practice.[8] The Lake Victoria region is a clearly defined, circular hydrological basin, home to 30 million people. It is a highly interdependent space of urban, rural and natural landscapes.

The future of Lake Victoria's water quality is affected by changes in the building patterns; increased water run-off from roads and paved areas; agricultural farming practices; industrial waste discharges; and deforestation. The design of pipelines and drainage influences the ground water. These are in turn affected by changes in climate patterns. All of this needs to be

6/ UN-HABITAT, "Medium Term Strategic and Institutional Plan, Focus Area 2: Participatory Planning, Management and Governance," Policy & Strategy Paper, (unpublished), 2009.
7/ http://www.unhabitat.org/categories.asp?catid=462
8/ Adapted from: "Closing the Loop between Lake Victoria's Inhabitants and Habitat," Michael Cohen and William Morrish, internal document, February 2009.

Lake ecology threatened by industrial activities —— Formal and informal industrial activities and economies are attracted to the lakeshores yet have potentially negative consequences for the environmental well-being of the lake.

Changing state of "nature" —— The lake's large hydrological footprint has the consequence that upland, urban and rural activities influence its water quality, quantity and possible use.

integrated in the design of the Lake basin's urban and rural system. There are major opportunities for such 'integrated designs' by re-conceptualizing urban water supply and sanitation systems, protecting upland slopes through reforestation and by designing public and private spaces to direct storm water to recharge local aquifers to reduce flooding. All of this needs to be integrated in the design of the basin's urban and rural system in order to maintain a balanced healthy water supply to the lake, natural environment, industry, food production, and all rural and urban residents of the lake basin.

In addition, it is necessary to pursue 'inclusive operation,' which requires that citizens do more than participate in plan formulation. They have to adopt rules which are fundamental to their living and working transactions. This process converts spatial plans into a format which allows sharing of information across institutions and communities. The Lake Victoria project has created an extensive mapping system illustrating the social and physical patterns of the secondary cities around the lake. This geographical information system would need to be expanded to include the region's water systems and become accessible to all residents. Also, the information would need to be reshaped in order for it to be easily understood and applied to development plans and projects. Such a re-conceptualized geographic information system would operate as an information hub: open to resident exchange and transparent in the reporting of new data. The gathering of this information would be a major community-building task for local youths, collaborating with scientists to develop a dynamic picture of the lake basin. This can help to identify more appropriate or compatible urban patterns that use infrastructure and natural systems. As a result, residents will better understand their contribution to the lake basin's future.

Sustainable urbanization seeks to do more than reduce the negative impacts of development on people and the environment. It seeks to fundamentally change the way public and private business is transacted by stimulating 'regenerative practice.' Such practice aims at converting negative external impacts into positive

assets that can be used to reduce energy, pollution and social costs. It is also a method of practice that looks for ways to increase the value of each investment, as it might produce alternative energy sources, clean water, increase economic opportunities and places of cultural exchange. Urban markets around Lake Victoria would become the focus for strengthening the regional economy. This effort would include sustainable farming practices that might recycle farm waste into bio-fuel, or utilization of irrigation that reduces evaporation and negative impact upon stream habitat and stability, as well as the retention of soil. Urban markets could also become places of information and economic training, where urban sustainability practices for the production of urban food systems and affiliated businesses might be taught.

Exploitation of land/water threshold —— The constellation of urbanized areas along the shores of Lake Victoria creates thriving cross-national urbanity.

The urbanization of the Lake Victoria region thus reveals the basic necessity for linking community with ecological health. For these emerging practices to become sustainable, significant capacity gaps need to be filled, including those amongst urban planning practitioners.

RE-INVENTING URBAN PLANNING

Urban professions have started to rethink their roles towards sustainable urbanization. For instance, the international surveyors association[9] has given their work a strong social dimension through the concept of land governance. Also, the international planning associations[10] are considering re-inventing their profession. Given the new demands upon policy and practice, it is not surprising that the urban planning profession is in the midst of a fundamental reinvention by different public/private sector authorities, disciplines, constituencies, and professional actors. Separately and together they are working to develop new forms of planning to design, make, and maintain the forms, function, operation and re-generative methods of economic transactions, social engagements, and ecological exchanges needed to support today's human settlements.

A 'New Urban Planning' agenda has emerged, requiring new skills, methods, and practices, depending on context and scale. Traditional planning practices have been left behind by the pace of urban change. New forms of urban planning must help us to reduce vulnerability to climate change, create environmentally-friendly cities, reduce new slum formation, build sustainable economic growth, and promote conflict resolution and safer cities.

There is no rigid blueprint for how to do 'New Urban Planning,' but there are guiding principles that the diverse cultures and legal systems around the world can interpret, adapt and develop.[11] New Urban Planning has a practical focus on sustainability, integrating social, economic and environmental considerations in human settlements development, taking into account the impact of today's developments on future generations. Set in a favorable institutional framework, integrated planning and action can deliver efficiency and effectiveness by adding value through policies that support, rather than undercut, each other. In order to ensure integration, plans need effective linkages to private and public budgetary processes. Neither plans by themselves, nor unregulated market processes, can deliver more sustainable settlements.

[9]/ See, for instance: http://www.fig.net/
[10]/ See for instance: http://www.globalplannersnetwork.org/
[11]/ Adapted from: "Reinventing Planning: A New Governance Paradigm For Managing Human Settlements," World Planners Congress, Vancouver, June 2006.

New Urban Planning is a means of negotiating where and how development takes place. It is about planning with all sectors of the community with a stake in the place, fostering voluntary collaboration. Planning that responds to and works with, instead of managing and directing, will produce better outcomes. This is a departure from the notion that planning is the impartial arbiter of public interests.

The subsidiarity principle should be paramount in deciding where roles and responsibilities are lodged. National governments have important roles in setting national urban development policies and fostering infrastructure networks that will guide development patterns. However, there needs to be decentralization, with local governments playing a leading role, and empowerment of community-based organizations on matters that can be determined at neighborhood level. New Urban Planning understands market demand and is aware of the dynamics and potential of the informal sectors. It is about creating opportunities, anticipating development impacts and being able to reduce risks of unintended outcomes and undesirable externalities.

Equitable systems of land ownership and land management need to underpin New Urban Planning. Plans must recognize the reality of existing slums and informal settlements, and the rights of their residents, and foster strategies that facilitate upgrading. Control of development should be strategic, affordable and sensitive to the needs of the poor while conserving essential ecological resources. Land use controls should never be used as a pretext for forced evictions of the urban poor in long-established communities.

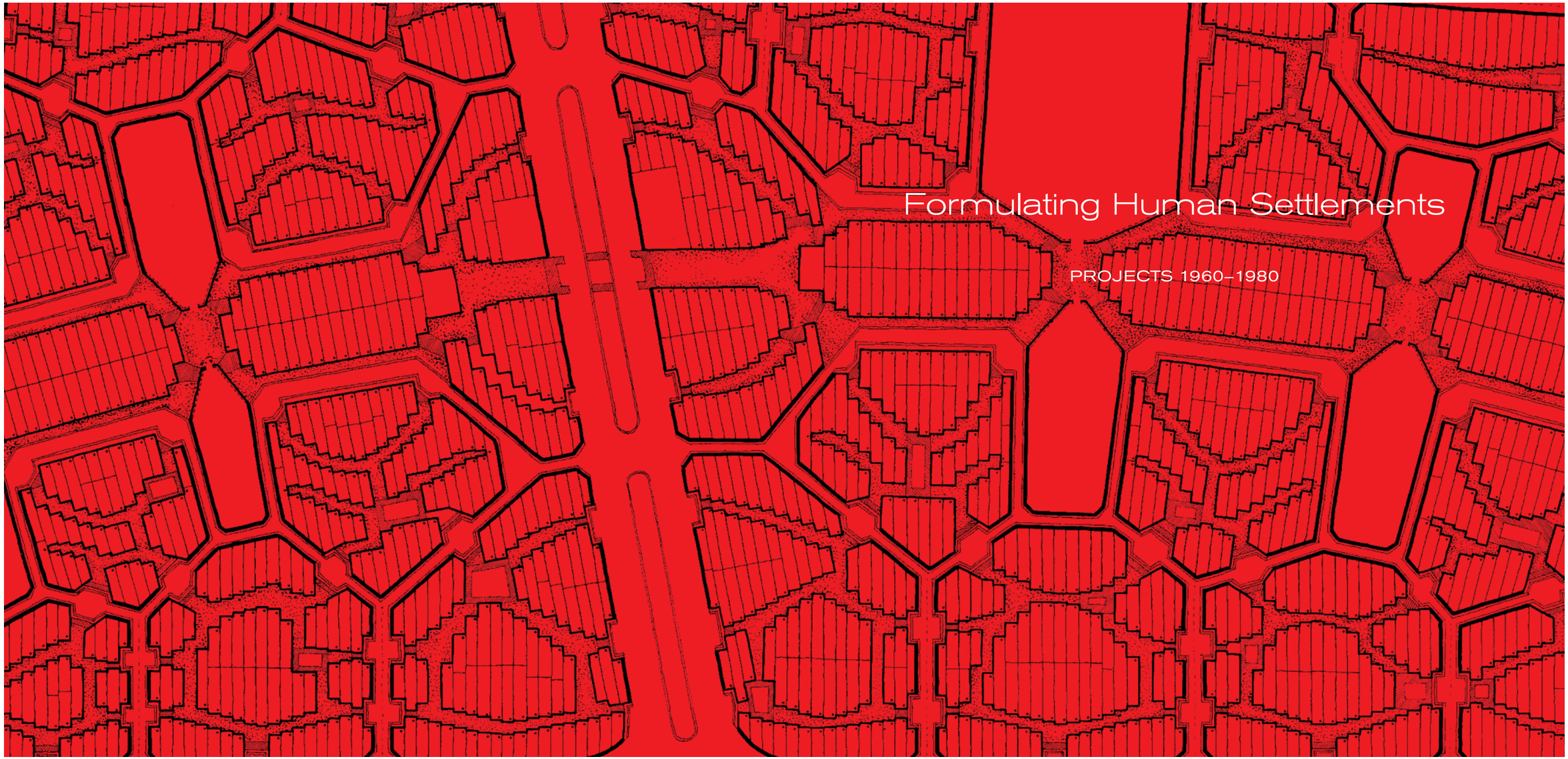
New Urban Planning is inclusive and pro-poor. It recognizes diversity and promotes equality. All have an equal right to the city and a right to be consulted, especially about developments that will affect them. New Urban Planning allows for a variety of outcomes according to cultural priorities and preferences. Outdated legal regimes and traditional bureaucratic cultures, as well as shortages of skilled personnel and of responsive institutions, are barriers to realizing this. New Urban Planning embraces the need for skills, expertise, an entrepreneurial and citizen-focused culture and evidence-based policy-making. It reasserts the importance of combining long-term awareness and short-term practical actions.

UN-HABITAT is promoting the application of these principles in various urban planning support programs, such as those in Colombia, Egypt, Kenya, Kosovo, Rwanda, Somalia and Sri Lanka.

WAY FORWARD

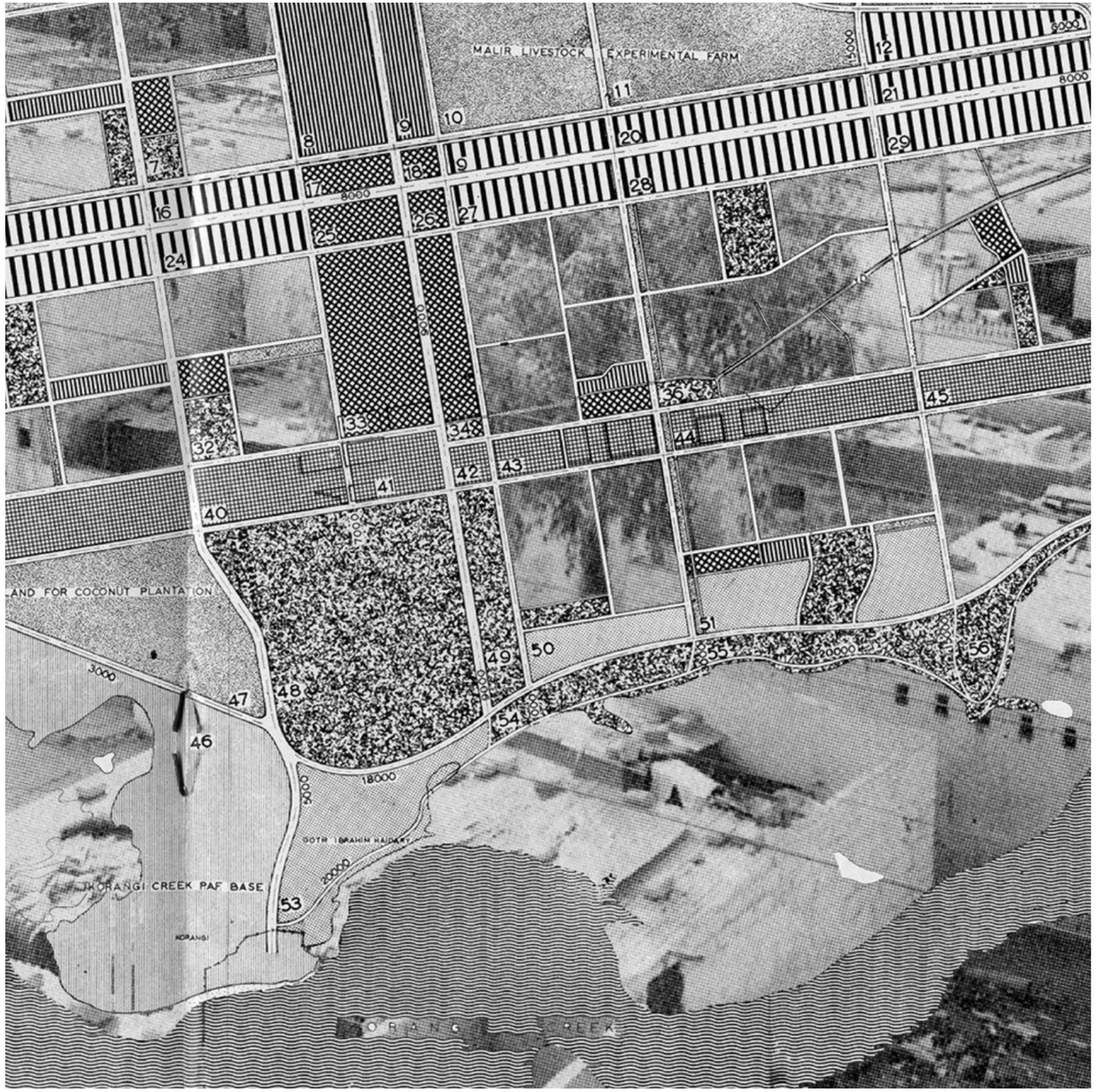
The implementation of this agenda should be measured by concrete achievements on the ground. Several countries and cities around the world have started making reforms to integrate sustainability principles in their urban planning, management and governance policies and practice. Countries such as Brazil, Egypt, India and Mexico have changed their legislative and planning frameworks to facilitate sustainable urban development. Cities such as Ahmedabad, Barcelona, Bogotá, Durban, Nanjing and Toronto have made courageous changes that pursue the same goal.

However, much more targeted advocacy and capacity development is required to reach significant impact. Associations of urban planners and urban planning and design schools are important constituencies to pursue this agenda. Intermediate accomplishments towards improved forms of urban planning, management and governance include improved policies, legislation and strategies; strengthened institutions; and innovative partnerships and implementation instruments. UN-HABITAT's medium-term plan prioritizes catalytic support to make such changes happen. However, in pursuit of urban sustainability, the main challenge is to have the intellectual and political courage to set aside unsustainable practices and start to work in a different way.



Formulating Human Settlements

PROJECTS 1960–1980



Formal / Informal Planning

Two projects in Karachi, Pakistan exemplify the diametrically opposed archetypes of formal and informal planning; planning from above and from below; state intervention and self-organization. The spatial determinism of Korangi is a foil to the almost complete disregard for spatial qualities in the slum-upgrading project of the Orangi Pilot Project. One would wish that Orangi had had from its inception the provisions made in Korangi for infrastructures and social equipment. Vice versa, one would wish that the strength of the civil society present in Orangi could also energize the necessary reinvestment in Korangi. **Both (one-sided) archetypes are usually positioned as antagonistic in planning discourses, while in reality, one would wish for the emergence of a paradigm that combines the strengths of each. Isn't this combination, after all, what the paradigm of human settlements aims for?**

KORANGI
Karachi, Pakistan

Korangi was part of the Greater Karachi Resettlement Plan (1958–1962) developed by C. A. Doxiadis in 1958. It dovetailed into a series of programs by General Ayub Khan's regime, which identified urban regeneration and mass housing as a development device able to cope with the paramount challenges resulting from the partition of India and the founding of Pakistan. Korangi was proposed as a satellite township to decongest the then capital city. Located 20 kilometers from what was at that time the city centre, Korangi was to perform the dual function of accommodating the evicted population of the inner city and house the (post-partition/rural) migrants and future industrial laborers. It was designed as a self-contained township with different grid-sizes for different urban functions.

ORANGI PILOT PROJECT (OPP)
Karachi, Pakistan

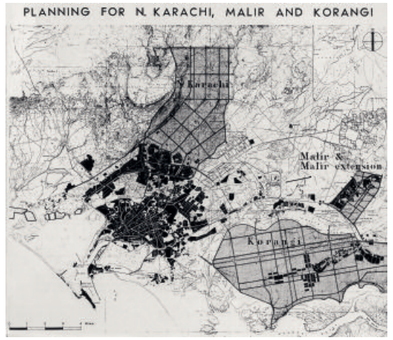
The Orangi Pilot Project (OPP) has become a canonical sites-and-services project. In 1980 it began as a collaboration between the Bank of Commerce and Credit International Foundation (a Pakistani charity) and renowned social scientist Dr. Akhtar Hammed Khan to address the problem of Karachi's largest squatter settlement, which housed the influx of people into Karachi after the independence of Bangladesh. OPP's primary objective was to provide technical support for the provision of physical and social infrastructure (low-cost sanitation and housing, basic health and educational services, supervised credit for small enterprises, etc.). The project is considered highly innovative as an initiative which promoted community organization and cooperative action, integrating bottom-up rehabilitation strategies into the planning mechanisms of the government.

Korangi as a Cornerstone

Ahmed Zaib Khan Mahsud

Korangi is planned as a settlement for half a million inhabitants by the Greek architect/urbanist Constantinos A. Doxiadis. It was conceived as part of "an overall physical and economic plan" to cope with the tremendous population growth of Karachi (from 0.5 to 2 million inhabitants during 1947–58) and represents a formative step in Doxiadis' own 'human settlements' approach. Embedded in its spatial articulation is a low-rise, high-density settlement pattern that attempts to preserve a human scale, while, at the same time, absorbing the dynamics of spontaneous development and industrialization that was initiated by a belief in the 'trickle-down' effect.

Echoing Tony Garnier's *cité industrielle*, Doxiadis' plan proposed a 12 kilometer-long (840 meter-wide) east-west strip of 'industrial' plots with a parallel 'institutional' strip in the south — both of which are connected through the north-south oriented 'civic-center' of the settlement. The interlocking of industrial, institutional and civic infrastructure was an intended spatial framework to facilitate coherent development of five residential sectors (80,000 inhabitants each) of varying incomes for "a well balanced economic and social life." Each sector — an adaptation of the neighborhood unit paradigm — is composed of a main center and several smaller sub-communities, each provisioned with social facilities and within walking distance of one another. The low-rise, high-density plan sought to preserve a 'human scale' in the midst of the exploding metropolis, through the development of appropriate typologies for each scale; separation of pedestrian and vehicular circulation; and a precise system of dimensions and proportions in the sectors, with building heights limited to four stories. Doxiadis' provision of community-squares, *hammams* and mosques, covered markets with roofs reminiscent of traditional *souks*, courtyards in the standardized house-types with reinforced concrete screens in the façades, which mimicked traditional wooden window screens, were reinterpretations of local climate and aesthetic preferences. This showed a cultural sensitivity, albeit as part of a rationally systematized and rationalized methodology of housing production inherited from the modern movement. This dialectic interplay between a rational, modernist approach and cultural/contextual sensitivity; between the large and human scale; between natural and urban structures; between unity and variation makes the plan an important stepping stone in the paradigmatic shift from modernism towards 'human settlements.'



From Township to Greater Karachi — The Greater Karachi Resettlement Programme by Doxiadis Associates integrated the layout for the areas of New Karachi and Korangi, originally conceived as self-contained satellites, within a supergrid defined by existing main infrastructural corridors.

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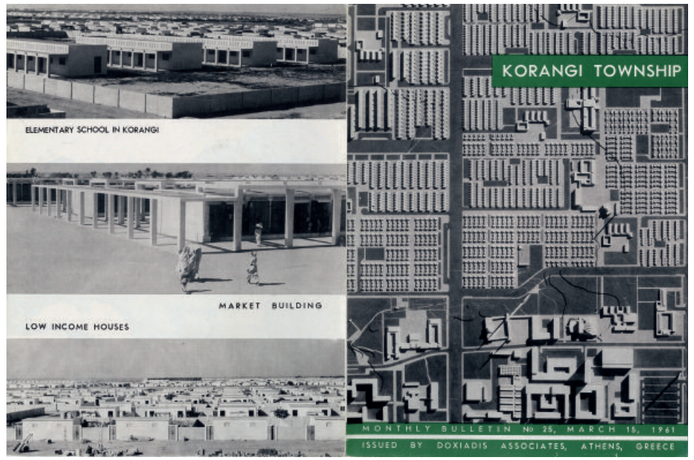
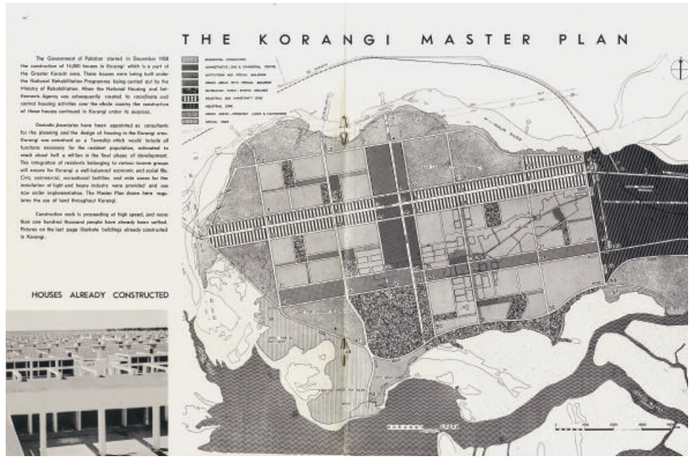
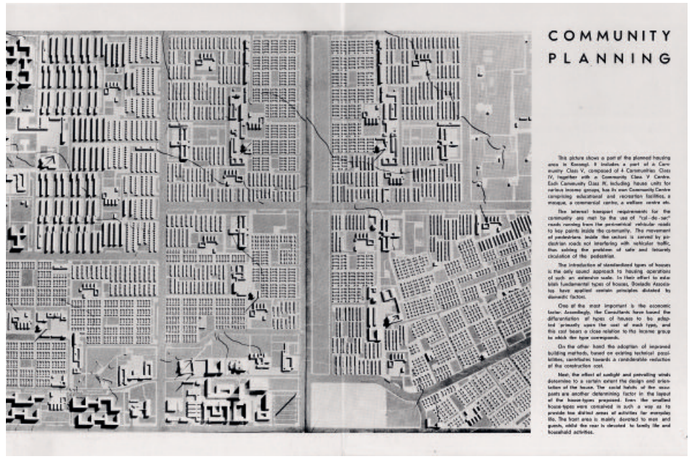
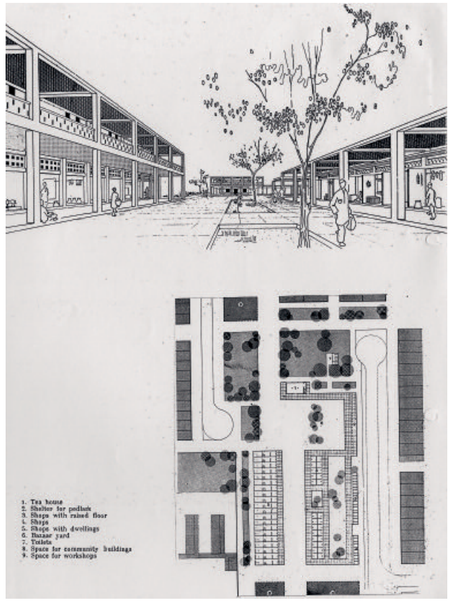




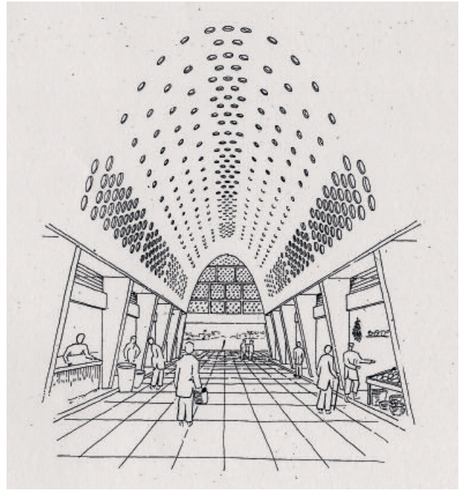
Korangi Township brochure, 1961 — As a self-supporting satellite, Korangi Township was to host all the functions necessary for an expected resident population of half a million people. Basic principles of the area's planning were the integration of various income groups, typological variation in residential areas and the incorporation of industrial sites, supposedly allowing for variety, autarchy and vibrancy.



Greater Karachi Resettlement Housing Programme brochure, 1962 —— After housing construction in Korangi, the need for an overall physical and economic plan to incorporate the Greater Karachi area became apparent. Within the Korangi Master Plan the strong hierarchy of networks was based on the separation of vehicular and pedestrian networks.
(© Constantinos and Emma Doxiadis Foundation)



Gossip squares —— By essentializing culture-specific architectural components and urban spaces, Doxiadis and his team combined a rational, modernist approach with an attention towards domestic determinants. The leisurely circulation of pedestrians was further articulated by culture-specific components.
(© Constantinos and Emma Doxiadis Foundation)



Re-conceptualized *souks* —— Along with the presence of gossip squares and mosques, the re-conceptualization of *souks* and covered markets expressed the amendments made by Doxiadis Associates to modernist planning by incorporating contextual sensitivity.
(© Constantinos and Emma Doxiadis Foundation)

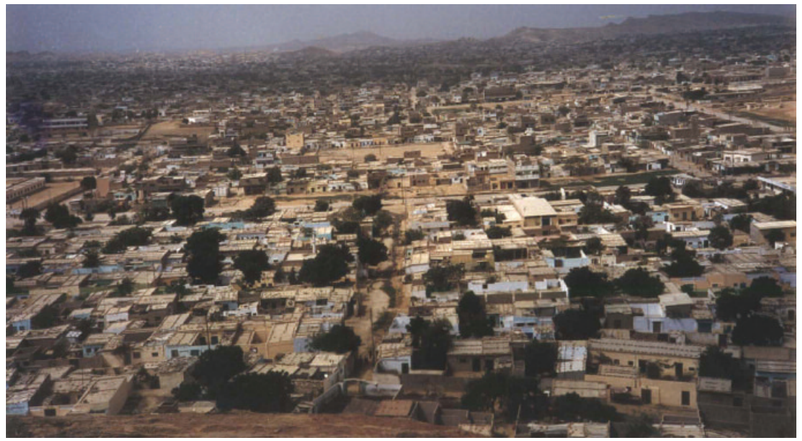
Orangi Revisited

Arif Hasan

In 1981 Akhtar Hameed Khan, Pakistan's foremost social scientist, initiated a community development project called the Orangi Pilot Project (OPP) in the Orangi township in Karachi. At that time, 80 percent of Orangi township consisted of informal settlements. The main objective of the OPP was to develop a model for the socio-economic upgrading of informal settlements that would remove the problems that government programs faced in this respect. The biggest problem was identified as the availability of financial resources and the absence of community participation and ownership. Khan pointed out that government programs could not be successfully carried out through foreign-funded or NGO projects, because the scale of the difficulties was just too great. Therefore, local resources needed to be tapped and development, management and maintenance costs reduced.

The goal of the OPP was not simply to help communities build social and physical infrastructure, but also to build community-organizations and institutions through the process of development work. Khan's thinking is clearly expressed in his note on Social Welfare Work, which is in fact the founding document of the OPP approach. He writes:

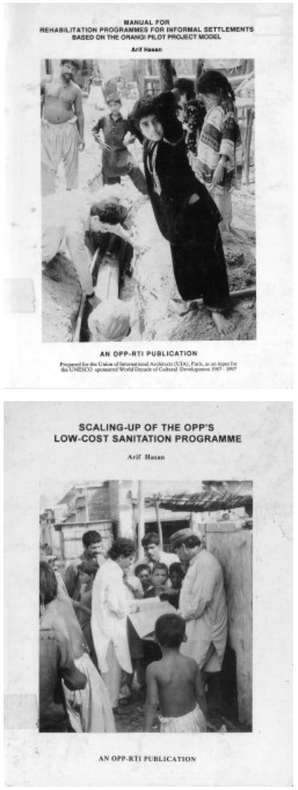
> *We are living through a period of social dislocation. Where people have been uprooted from their familiar environment, this dislocation is especially acute. They have to re-establish a sense of belonging, community feeling, and the convention of mutual help and co-operative action. This can be done chiefly through the creation of local level social and economic organizations. Without these organizations, chaos and confusion will prevail. On the other hand, if social and economic organizations grow and become strong, services and material conditions, sanitation, schools, clinics, training as well as employment will improve.*[1]



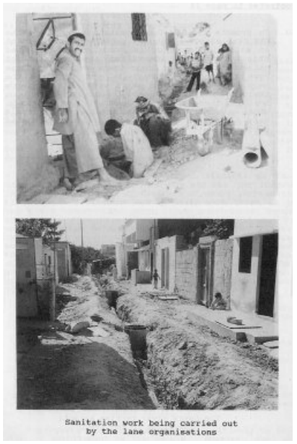
Orangi Township as Pilot Project —— As Karachi's largest squatter settlement accommodating over 900,000 working class residents (in 1993) Orangi township provided an ideal testing ground for the prolonged action research, including the innovative Low Cost Sanitation and Low Cost Housing Programs.

1/ Ibid.
2/ Sanitation is one of the models. The others relate to housing, education, microcredit and health.

The concept of dividing infrastructure into on-site and off-site components (followed by a number of other projects as well) acquired a completely new meaning at the OPP. This was because Khan felt that communities could only be empowered if they could raise and spend funds themselves. In doing so, they would have a stake in planning and development and a more equitable relation between them and the government agencies would evolve. If not, they were simply recipients. Based on this, the sanitation model[2] divided sanitation into 'external' and 'internal' development. External development meant trunk sewers and treatment plants and internal development meant latrine in the house, underground sewer in the lane and connector sewers. External development is the responsibility of the government or large NGOs and internal development has to be financed, managed, constructed and maintained by the community with OPP's technical help and managerial guidance. Another important aspect of the OPP's sanitation program was that the lane consisting of 20 to 40 houses was made the unit of organization, rather than an unit based on engineering standards and considerations. This was because in Khan's rich experience, the smaller unit is more cohesive and as a result there are fewer problems of mistrust within the communities. Also, because of the small size of the unit, everyone gets involved and things are not left to self- or politically-appointed community leaders. Initially, secondary sewers were also considered a part of external development, but overtime it was demonstrated that some communities, in the absence of government support, built them on a self-help basis. The financing of internal sanitation by the community and the small unit of social organization were new and rad-



Dissemination of information —— Manuals and handbooks for awareness raising and capacity building were regularly produced as an integral part of the OPP.



Tools for lanes —— Through major modifications, conventional sanitation procedures and technology were realized through the concept of a community financed and community built system. Construction of the underground lane sewers allowed for the upgrading of the community's pedestrian network.

ical innovations and as such have had a great impact on the empowerment of communities in Orangi and OPP projects in other parts of Pakistan.

For the success of community-financed projects it is essential that the technology proposed is affordable. The first question to be asked should be 'what can people afford?' and then design should be adjusted accordingly, rather than first following sophisticated engineering standards and then look for funds and loans to implement them. This process requires the questioning of engineering standards, training of community members in using the new alternatives and tools (that are developed as a result) and the decentralization and miniaturizations of technology. This has been scrupulously followed in developing technical options and tools. It has led, for example, to the development of multiple disposal points that lead to the town's sewage system – instead of a central treatment plant – and thereby removing the necessity of pumping sewage and reducing related energy costs and excessive depth of excavations for laying sewage lines. This also overcomes the problem of operation and maintenance. Another example is the use of multiple dug wells with small pumps for different rural neighborhoods, rather than a centralized tube-well serving a cluster of villages.[3] Such examples are numerous.

Another important concept that was in-built into the OPP model from the very beginning was 'build on what exists.' People are always trying to solve their problems, however unsuccessfully. There is a need to understand what they, and the informal sector that they turn to, are doing, to identify the problems they face and then to provide them with the necessary assistance to overcome these problems. The problems are sociological, technical and economic and an understanding of the interrelationship between the three is necessary. On the basis of this thinking, the OPP's housing program was developed to support the informal contractors and building component suppliers of Orangi. This support has consisted of research leading to the development of new, improved and affordable building components and a more equitable relationship between the informal sector operators and

[3]/ Arif Hasan, Allah Javaya, Rashid Khatri, *Human Resources for a Sustainable and Affordable Rural Water and Sanitation Program*, RWSS/World Bank, March 1994.

[4]/ Arif Hasan, *Akhtar Hameed Khan and the Orangi Pilot Project*. Karachi: City Press, 2001.
[5]/ For details, see Appendix 1 (UNCHS-CTA Appraisal of the Orangi Pilot Project) in: Arif Hasan, 2001.
[6]/ For details, see Appendix 2 (Comments by Director OPP on UNCHS-CTA's Appraisal) in: Arif Hasan, 2001.
[7]/ ADB-793 PAK, *Evaluation of KUDP and Peshawar Projects*, 1996.

contractors and individual house builders.

In spite of the freedom Khan enjoyed, a major conflict between conventional urban planning and his research and extension approach developed within the OPP itself. In 1982, the UNCHS made an offer to collaborate in the future development of the OPP and as a result an agreement was formalized. The UNCHS-appointed Chief Technical Advisor (CTA) found everything wrong with the project:

> *It had no targets and no 'proper' physical, social, and ethnic surveys. It had no master plan. It had no work program. Its office was dilapidated and in the centre of a noisy and congested area of the settlement and as such not conducive to serious work. And, finally, its choice of sanitation technology* [sanitation was the major OPP program at that time] *and implementation procedures were disastrous. He argued that the sanitation technology the OPP had opted for required sophisticated engineering and artisanal skills. This he felt could only be developed in association with local bodies, elected councilors, and professional contractors. Community organizations, simply backed by professionals, technicians, and social organizers, could not deliver this technology. In addition, he felt that the social organizers recruited from the Orangi communities were no more than 'musclemen'.*[4]

Finally, the CTA wrote an appraisal and stated:

> *Clearly there are two apparently irreconcilable approaches to project execution. One, open-ended, exploratory, and evolutionary, with emphasis on sociological particularities, unconstrained by time and cost. The other, target-oriented, systematic with a professional and technical focus, constrained by time and costs.*[5]

Khan responded to this appraisal. He wrote:

> *The 'target-oriented, integrated, urban rehabilitation demonstration' approach may be suitable for an official agency like the Karachi Municipal Corporation (KMC) or the Karachi Development Authority (KDA), although previous efforts in katchi abadis along these lines have shown poor results. Such plans involve huge investments (not two million dollars, but hundred of millions) besides the exercise of regulatory powers which are beyond the reach of an NGO.*[6]

Since this note was written, a number of foreign-funded urban development and sanitation projects have been implemented for Karachi on the 'target-oriented'-approach. They have not been successful, because their evaluation reports say that they are 'unsustainable,' except for the Asian Development Bank (ADB)-funded KMC's Katchi Abadi Upgrading Project (KAUP) in Orangi, which adopted the OPP model and was implemented with the involvement of Orangi communities, backed by OPP-RTI technical and managerial advice.[7]

As a result of this conflict, Orangi was divided in two. In one half of the township, the UNCHS established the Community Development Project (CDP), while the OPP continued to work in the other half. After six years, the CDP was wound up after developing sanitation in only 36 lanes – all its other programs fizzled out. During the same period, at less than one-third the expense, the OPP was able to support the development of sanitation in over 4,000 lanes covering more than 70,000 houses, and to take its various projects well beyond the frontiers of Orangi Township. However, during this period, the OPP model was not integrated into official planning and development policy as Akhtar Hameed Khan had envisaged.

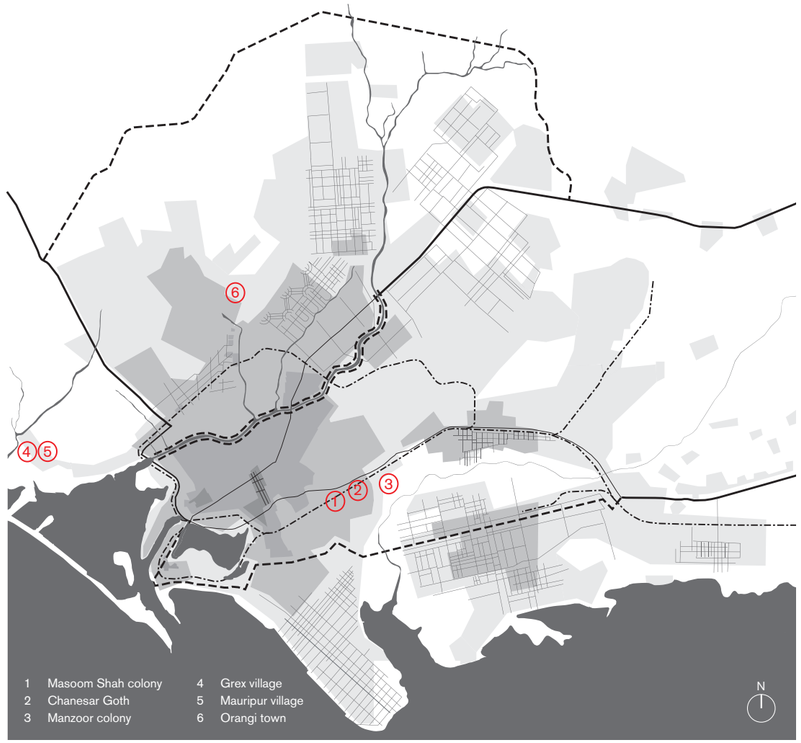
Though the OPP model was not taken up by government policymakers, it received a lot of interest from NGOs and community organizations from all over Pakistan. As a result, the new problem that surfaced was how to support these organizations. Through a process of trial, error and constant monitoring between 1984 and 1992, a methodology evolved whereby the organizations asking for support retained their separate identity, while at the same time becoming a

The use and abuse of *nallahs* —— Ad hoc sewage lines leading to *nallahs*, the nearest natural drains, were gradually replaced with a proper underground system. Silting, proneness to flood and general pollution have threatened the *nallahs* and induced the realization of trunk sewers and treatment plants. Today, covered nallahs are a common feature of Karachi's urbanscape.

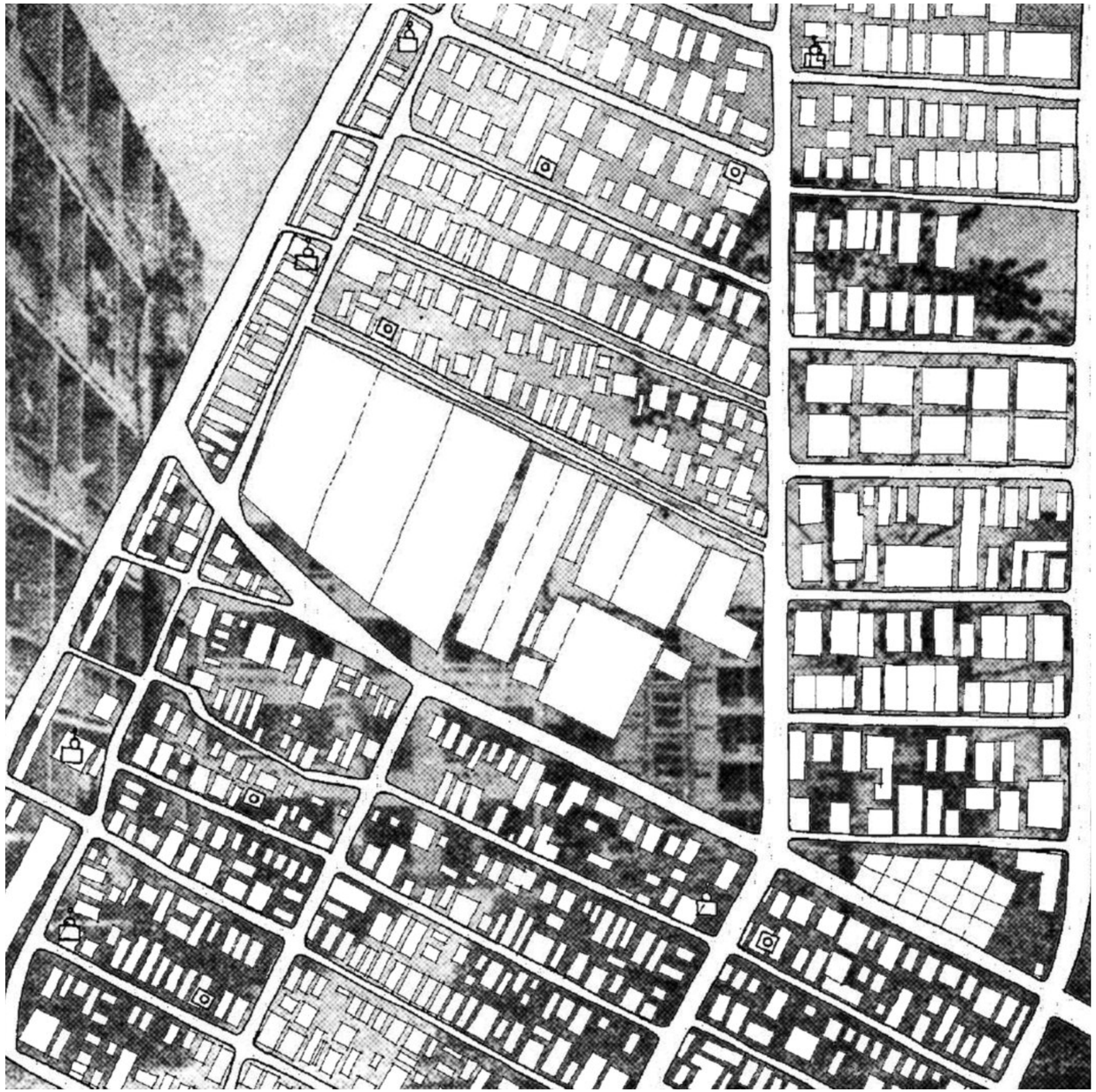
part of the OPP culture of austerity and continuous learning. Later, these organizations were linked together by the formation of the Community Development Network (CDN). They now meet at different project locations every three months to discuss their programs and learn from each other. Some organizations are good in social organization and others in technical matters, advocacy and/or documentation and accounts. They independently seek each other's support whenever required.

It is important to understand the background of the methodology that Akhtar Hameed Khan developed for the OPP. He drew his inspiration from two experiences. One was the land-grant colleges of the United States, that were established in the problem areas of the country to study the problems of the area and the communities that lived in them; to develop solutions that could be implemented locally, along with demonstration areas; and to develop the necessary training programs for replication purposes. Following this thinking, the OPP offices were established in the heart of Orangi and not adjacent to the offices of government agencies, which were far away from the project sites and the communities that lived in them. The second experience that inspired Khan was his own work in rural development. This work consisted of research into the problems of the farmers and in developing extension packages and training that they could individually and collectively use, to overcome part of these problems. The major infrastructure issues were left for the state to manage, but were closely related to the extension packages, and to the work of the cooperatives of small farmers that the extension packages created. Akhtar Hameed Khan decided to treat the Orangi householders as small farmers and follow the research and extension method that he had used in rural development for the upgrading of the informal settlements in Orangi. This was a new and radical innovation to urban development.

The OPP's success is the result of four important things. One, solid research which has withstood critical examination and attack from both government and international consultants; two, the scale of the work which is huge and as such cannot be ignored by policy-makers; three, the creation of organized and aware community groups all over the country, along with a culture of self-accountability and monitoring, which have been created out of the OPP programs; and four, successful demonstration projects leading to an informed debate on development issues.



"Building on what exists": a replicable model? —— From 1983 onwards, several other *katchi abadis* replicated the OPP. The principles set by the pilot project were tested out in several other areas of Karachi, including Masoom Shah Colony, Chanesar Goth, Manzoor Colony, Grex Village and Mauripur Village.



Informalization of Formal Housing / Formalization of Informal Housing

In South-east Asia, the provision of housing took distinctive paths as countries became independent. The *Khu Tap The* housing in Vietnam is representative of the socialist model that was imposed throughout the region – a rigid urban/typological form of homogenous blocks set in a vast open space that was then appropriated by users. In Indonesia, the Kampung Improvement Program is a paradigmatic urban upgrading project which integrates the informal sector into the city. **Be it from different angles, both approaches willy-nilly dealt, or have to deal with the dwelling experience and its interplay with space. Dwelling, dwelling experience and space are cornerstones of the paradigm of human settlements.**

KHU TAP THE (KTT) HOUSING
Vietnam

Since 1954 (and pursued more vigorously since 1975) there has been a massive state-sponsored housing program in Vietnam. Throughout the country, a number of five-story walk-up, medium-sized apartment complexes, modeled on the Soviet "microrayon" and called *khu tap the* (KTT), were built to house the military, state factory workers and civil servants. The apartments were allocated according to a social grid, as a gift to an exemplary worker or an active revolutionary. Housing projects, along with other public buildings were often gifts to Vietnam – icons demonstrating brotherly links between Vietnam and Soviet bloc countries. The 'Socialist City' was an instrument of social engineering based on the belief that a new urban environment would itself create a new society. Over time, they have become appropriated and adopted by the inhabitants and become more congruent with their needs and everyday practices.

KAMPUNG IMPROVEMENT PROGRAM (KIP)
Indonesia

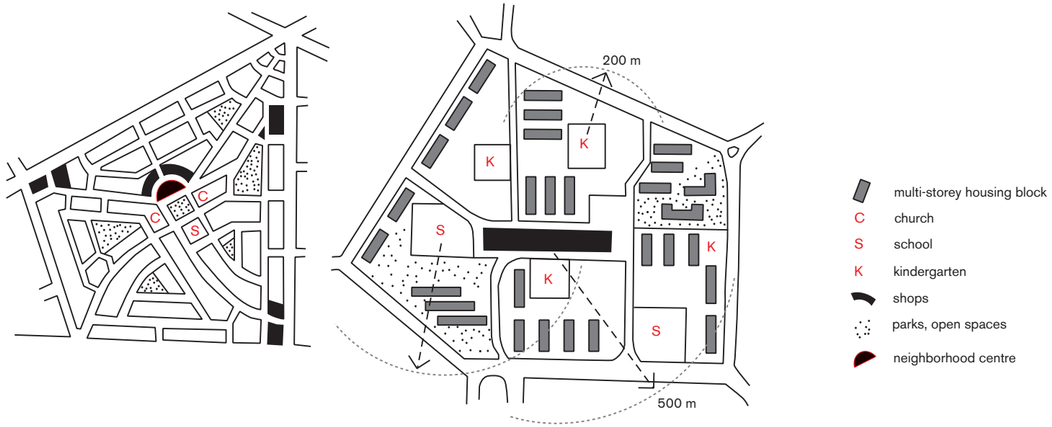
The Kampung Improvement Program (KIP) started in 1968 as a government-assisted, self-help community-planning initiative in various municipalities in Indonesia. Its aim was to ameliorate *kampungs* – the informal, unplanned and unserviced housing areas forming a large part of most Indonesian cities – with the upgrading of both physical and social infrastructure. From 1974 onwards, with soft loans from the World Bank, the pace of upgrading was accelerated and though direct housing assistance was not offered, work on improved accessibility, flood control and increased economic activity within the *kampungs* encouraged individual initiative in the improvement of housing. KIP has become a model of community-led development.

KTT Transformations in Hanoi

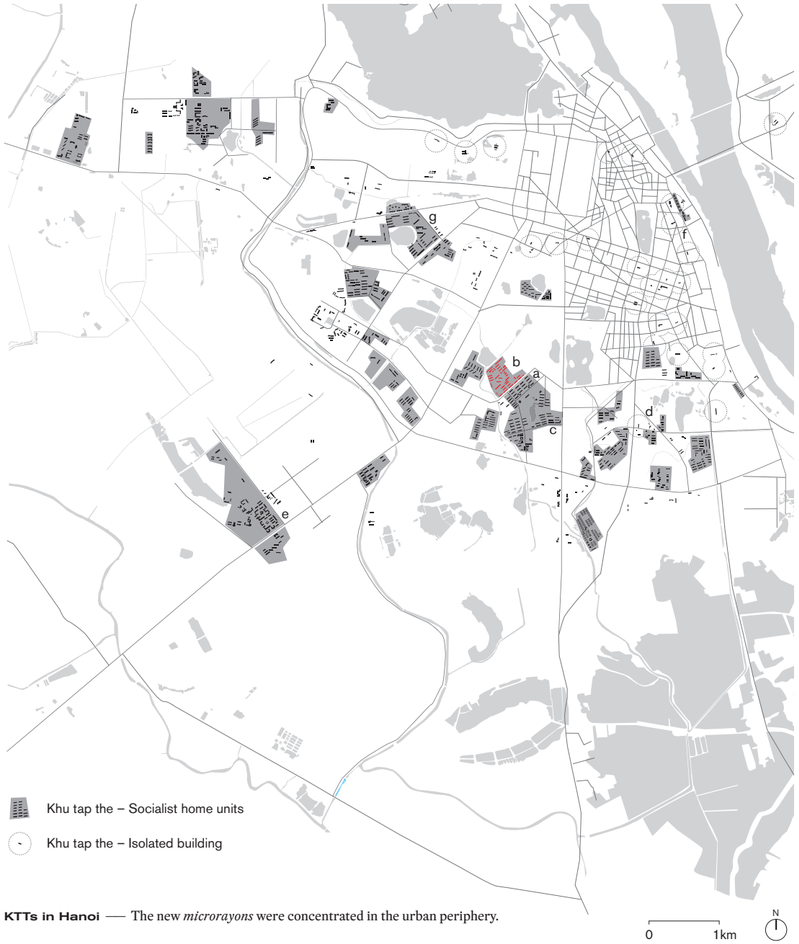
Emmanuel Cerise, Kelly Shannon

During Vietnam's pursuit of socialism, urban areas developed on the path towards the creation of the 'City of Socialist Man.' Pivotal to the era, which in the north had already begun in 1954 and, upon reunification of the country in 1975, was pursued with vigor in the whole of Vietnam, was the notion that the 'Socialist City' would itself create a new society. Large-scale, collective housing projects, along with other public buildings were often gifts to Vietnam – icons demonstrating brotherly links between Vietnam and Soviet bloc countries. Architecture became subservient to Party policy. The housing projects were known as *khu tap the* (KTT), consisting of a series of two- to three- and later five-story homogeneous, single-loaded corridor blocks with 'existence minimum' housing typologies and – in some instances – with collective kitchens or other shared facilities (particularly toilets). The housing estates were designed as attractive living areas following a rational plan of clear infrastructure, no-nonsense architecture, with various public facilities, playing yards, green and open public spaces. They were conceived as autonomous 'microrayons' (micro-regions) of live/work units, with state factories built on the premises. This not only reinforced the notion of collectivity, but also allowed for less state development in urban infrastructure and transport routes (which was not an insignificant determinant for the cash-strapped government).

The USSR and several eastern European nations not only financed a number of KTTs, but also provided technical expertise and design in the rebuilding of urban areas destroyed in the Second Indochine War



From neighborhood unit to "Socialist City" complexes — The Vietnamese *microrayon* shares a common pedigree with post-World War II public housing estates in the West, which were in fact a variation of Perry' 1920s neighborhood unit complex.

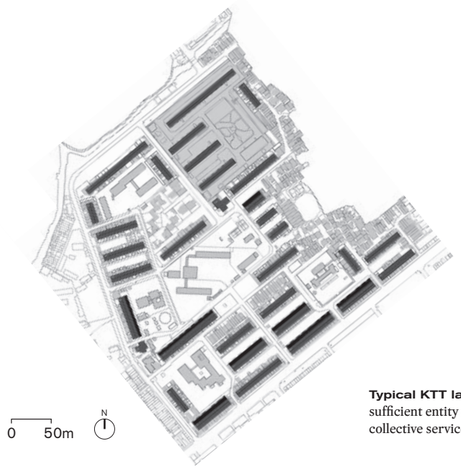


KTTs in Hanoi — The new *microrayons* were concentrated in the urban periphery.

Rationalization and "modernization" of housing —— The massive urgancy for new housing was expedited by pre-fabrication and rationalization of construction. The *existenzminimum* units complied with the socialist ideology.

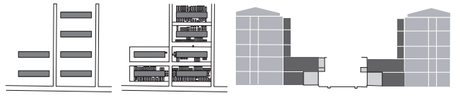
(the American-Vietnamese War). In Hanoi, the KTTs were primarily built on the city's peripheral ring road with estates built in the south, east and west of the city center. Mass-production techniques were applied to building materials and brick and concrete replaced wood-framed constructions. Unsurprisingly, the transplantation of concrete construction (already handicapped by low-quality materials and poor technical detailing) did not easily work in the extreme heat and humidity of Vietnam's monsoon climate, not to mention the fact that Vietnamese live with their extended family. Despite intensive construction efforts of the Vietnamese state, the supply of housing was always much less than the demand and there was a chronic housing shortage which forced families to share tiny flats. In the 1960s, there was a recorded 3,5 square meters per person, which grew to only 6 square meters in the 1980s. Estates were built and owned by the state and inhabitants paid token rents, which was not enough to even cover spiraling maintenance costs.

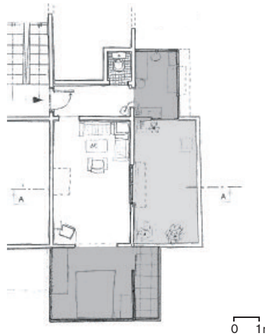
By 1986, all began to change in Vietnam, as it followed a more global shift of socialist reform. The Vietnamese state began a process of entering the market-economy and the loosening of collective controls and, consequently, its numerous run-down and vast housing estates posed a major challenge. The state could neither continue its housing construction program, nor manage the existing KTTs. In many cases, estates were sold to inhabitants through cooperatives. In other cases they were (partly) demolished to make way for new construction. The buildings that were maintained have seen a wave of transformation – with inhabitants enlarging units, extending balconies and terraces (often also used as vegetable gardens), converting ground floor units into vibrant commercial spaces, occupying the once vast open spaces with new structures (with new programs, including new housing). Historically and today, Hanoi's KTTs simultaneously exemplify the problems of foreign housing models and norms imposed without modification to fit local circumstances, and testify to the power of local customs and lifestyles in appropriating such foreign impositions.



Typical KTT layout [Trung Tu KTT] —— Each *microrayon* was designed as a self-sufficient entity and therefore included schools, clinics, cultural centers and other collective services. In some cases factories were also part of the complex.

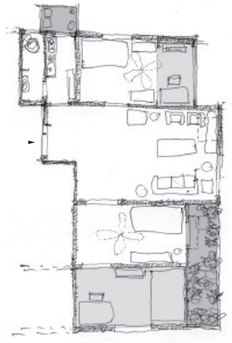
From minimum housing to maximum extension —— In the thickening process of the KTT envelope, spatial appropriations and building extensions range from hanging gardens to kitchens under which balconies, closed loggias and terraces are added. Recycled materials such as brick, metallic sheeting and wooden plate are commonly used for their construction.





"prothesis"

balcony, closed loggia and terrace built under extension



More than double —— Typical cases of residents' appropriation of surrounding open space occurred by means of piecemeal extensions. In the case of apartment building D4 [Trung Tu] the first floor unit has more than doubled its size, increasing from 41 m² to 98 m².

Local appropriation —— Hanoi's KTTs thrive as contemporary housing areas and function as an integral component of the free market economy.

KIP (Kampung Improvement Program) in Surabaya

Johan Silas

Kampungs are informal, unplanned and relatively unserviced housing areas which form a large part of most Indonesian cities. As informal housing areas, they are dependent upon the formal city and vice versa – inhabitants of the kampung service the city (predominately as laborers and domestic help) and the central location provides convenient housing at a reasonable cost. The Kampung Improvement Program (known as KIP) was started long ago to improve housing by providing a basic level of services and infrastructure. The various modalities of the program have had a major impact on Indonesia's housing conditions. These programs are concerned with upgrading the physical infrastructure: roads; footpaths; drainage canals; water supply; sanitation; solid waste disposal; schools and clinics.

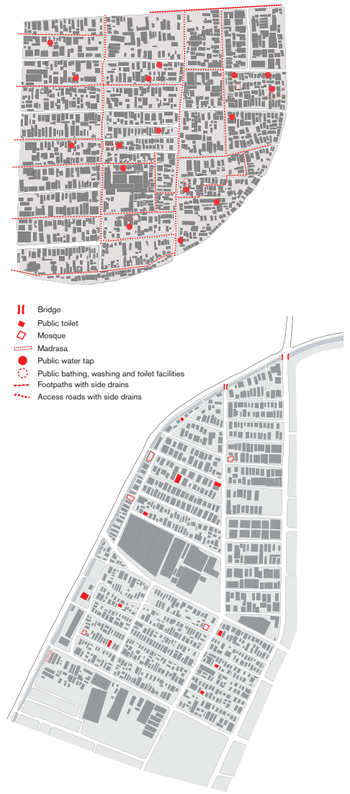
Surabaya (together with Semarang) was the first city to implement the *Kampoeng Verbetering progrom* in 1924, during the pre-war Dutch colonial era. The program was a response to the so-called Ethical Politics in the aftermath of the First World War and was initiated to improve the living conditions of the indigenous people in the kampungs. The kampung is a low-

Surabaya's kampungs —— Surabaya, the second largest city in Indonesia, was the first in the country to implement a pre-war improvement program in the conglomeration of *kampungs* [villages] mainly inhabited by working class families.

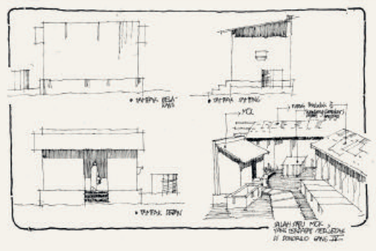
income settlement that is neither slum nor squat and initially was a rural settlement that, through a process of densification and transformation, became urbanized. The kampung played a pivotal role in the growth of Indonesian cities. The Dutch improvement program began with investments in water and sanitation infrastructure in order to prevent diseases from spreading to the neighboring, well-off European quarters. The improvements included provision of public baths, taps and toilets, as well as a drainage system that also served as footpaths.

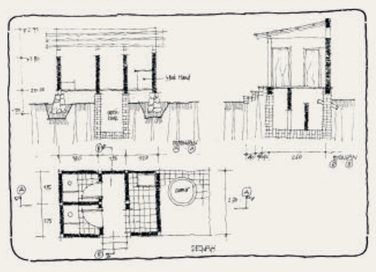
After Indonesian independence, the program was renamed the Kampung Improvement Program (KIP) in 1968. The kampungs grew exponentially during the nation's construction boom in the 1960s and 70s, which brought a flood of rural migrants as laborers to the cities. The informal settlements needed more attention than ever. However, in Surabaya, as in much of the country, the municipal government was very short of money and could only manage to provide precast concrete elements for footpaths and improvement in the local drainage system. The local inhabitants of the kampung carried out the improvement works themselves – thus marking the first participatory phase of the program. By the mid-1970s, this concept of 'sweat equity' was formalized in the funding schemes (with the labor usually consisting of 50 percent of the total investment). The financing was made flexible, with communities able to negotiate to make as little as 1/3 contribution to the improvement; the rest being subsidized by the government.

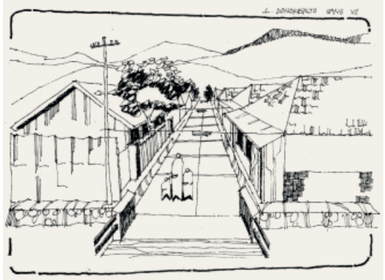
In 1976, the Surabaya Institute of Technology assisted the KIP program and created a priority listing for the city's kampungs that might be eligible for improvements. The International Bank for Reconstruction and Development (IBRD, a part of the World Bank) provided loans for a more comprehensive phase of KIP. A growing challenge of the program became the prevention of gentrification. Therefore, spatial tactics were developed to discourage the replacement of the residents of the kampungs by those with higher income. One such strategy was to keep the number and width of vehicular roadways at a minimum.



Different generations of upgrading —— Improvement programs reflect the range of upgrading strategies successively adopted in the various *kampungs*. Kebalen, improved in the 1980s (below), is one of the many villages intervened in through the program. Donokerto and Donorejo (above) have recently been upgraded through the 'Green and Clean' initiative.







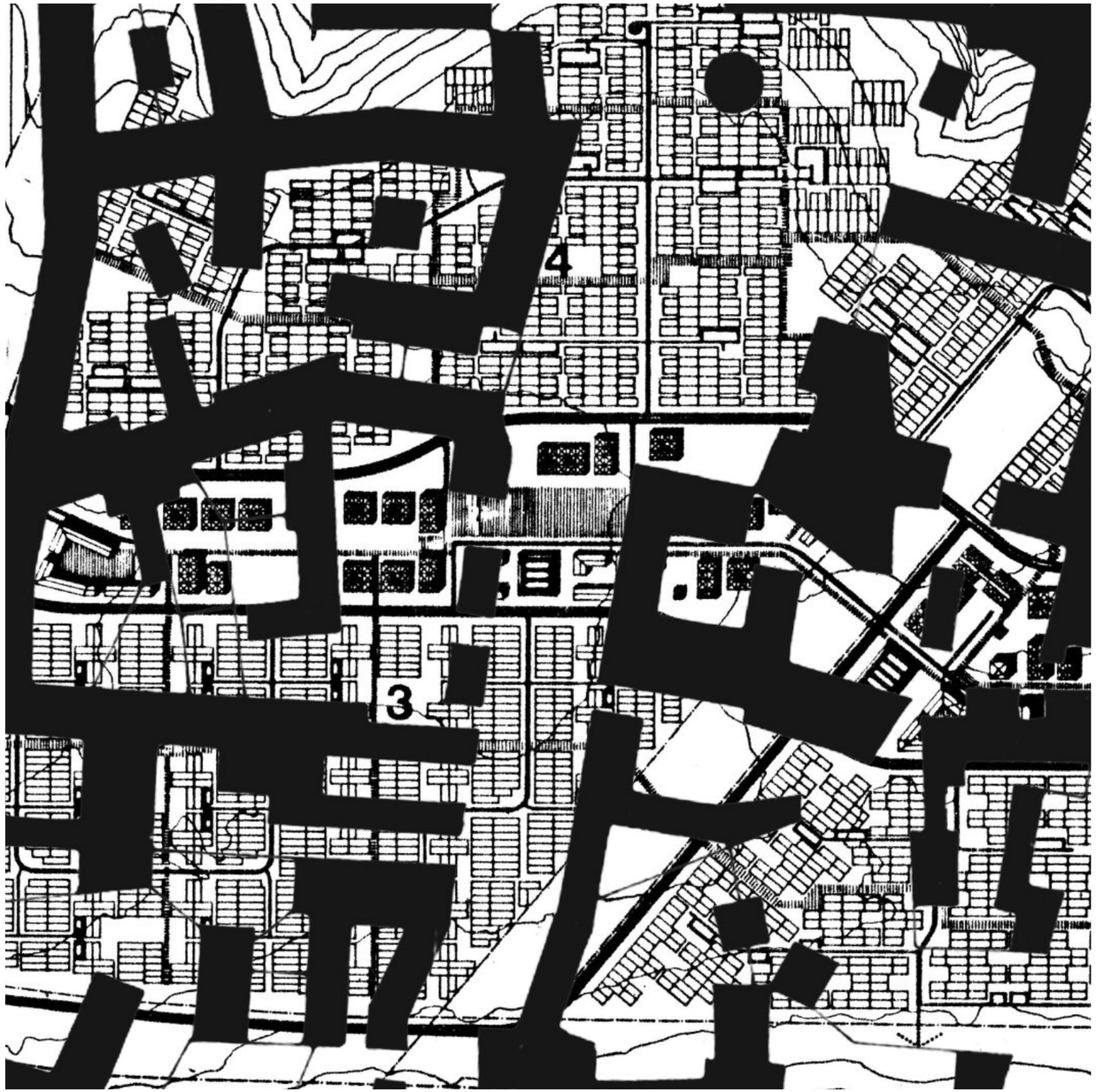
Provision of facilities for a compact environment —— Basic urban services have been introduced in most *kampungs* through the KIP.

Following the IBRD-assisted KIP was the United Nations Environmental Program (UNEP), a sponsored iteration of the program (from 1978 to 1980, specifically tailored for Bandung, Surabaya and Manila in the Philippines) which focused on environmental aspects in the settlements and proposed projects to use solar energy for cooking; domestic solid and liquid waste management; the greening of open space; and measures to address aspects of health in relation to the environment. From 1979 to 1984 UNICEF also initiated projects that aimed to improve the welfare of children – resulting in the provision of more public standpipes (the argument being that this would enable mothers to spend more time with their children, instead of waiting in long queues for water) and the building of more health clinics and education facilities.

Despite the successive improvement programs, by 1993 an astonishing number of people, namely 63 percent of the population of Surabaya (Indonesia's second largest city) lived in kampungs – on a land area that consisted of a mere 7 percent of the urban territory.[1] The subsequent kampung program sought to tackle the scale of the issue and from 1998–2002, the Comprehensive Kampung Improvement Program (C-KIP) worked in 27 different kampungs in Surabaya. This iteration of the program had a strong focus on community participation and the involvement of 'self-help action groups.' C-KIP is continuing a next phase of work that presently aims to reduce the tension of urban disparity. The present urban development plan of Surabaya (2005–2015) designates its inner city kampungs as urban heritage that should be protected. The city has introduced programs to improve both the tangible and intangible aspects of the kampungs. The innovative approach of KIP has been internationally recognized and Surabaya has received The Aga Khan Award for Architecture (1986), the UNEP Award (1990), and The Habitat Award (1991) for the achievement of Kampung Improvement Program.

1/ Shobhakar Dhakal, "Comprehensive Kampung Improvement Program in Surabaya as a Model of Community Participation", Institute for Global Environmental Strategies, Working paper, Urban Environmental Management Project, Institute for Global Environmental Strategies (IGES), Kitakyushu, Japan, December 2002: p. 2.

Kondisi upgrading —— The intricate network of *kondisis* [lanes] in the *kampungs* has been upgraded through paving, planting and reconstruction. The last phase, "Green and Clean" aims for an environmentally sustainable settlement.



"Stem" as a Mediating Term / Land-Sharing

In postcolonial Africa, the uneasy relationship between spatial relations and socio-political realities has been addressed in a number of ways. Colonial capital cities were reshaped or replaced so as to spatialize and inject further vigor into various nation- and state-building initiatives. The strong form-making principles from the modernist, Team X urbanists in Chad contrast with the more modest sites-and-services, land-sharing notions that were pursued in Kenya. **As the human settlements paradigm advocates, both experiences address – be it in different ways – the instrumental capacity of space. Indeed, the human settlements discourse emphasizes the agency of space.**

A MEDIATING URBANISM
N'Djamena, Chad

In N'Djamena, the capital of Chad, the Candilis, Josic and Woods partnership designed a 'stem' as an intermediary spatial figure between the indigenous African urban fabric and the European colonial tissue. The 'stem' was an attempt to introduce a third spatial figure into the urban structure that could mediate between the socially and spatially very antagonistic terms of the former colonial city. The 'stem' attempts to re-introduce the generating logic of the historically stratified city by re-installing the interplay between house, street, neighborhood and city – as well as their respective degrees of privacy and publicity.

SITES-AND-SERVICES
Nairobi, Kenya

Nairobi was amongst the first cities to be included in a series of 1970s World Bank-funded sites-and-services projects, which were set up to directly target urban poverty and the lack of proper housing. The 'land-and-utilities' and 'progressive development' schemes of earlier years were consolidated into a 'sites-and-services' approach which underscored the ingenuity and perseverance behind the ability of squatters to house themselves. However, while John F. C. Turner's promotion of self-help was premised on its potential to support individual/community development and counter the bureaucratic impediments and technological excesses of public housing through the concepts of 'affordability' and 'replicability,' the World Bank stressed the economic aspects of the model, amongst them the principle of land-sharing as a means of redistribution.

Candilis-Josic-Woods' Project in N'Djamena

Tom Avermaete

That engaging with a postcolonial situation can be an architectural assignment in its own right is well illustrated by the competition project that the young French bureau of Georges Candilis, Alexis Josic and Shadrach Woods developed in 1962 for the Quartier Cuvette Saint-Martin at Fort Lamy.[1] The city of Fort Lamy had been the capital of colonial Chad since 1920, later renamed as N'Djamena. After the installation of the independent republic of Chad in 1960, it was decided that it would remain so. However, the urban form of N'Djamena was nothing other than the material articulation of the historical colonial power relations. The city was clearly divided in an African quarter, comprised of courtyard dwellings within a dense urban tissue and an European quarter, planned during the French colonial period and consisting of detached buildings situated along wide avenues. Both were separated by a large *zone sanitaire*: an empty zone that had as its main function to distance colonizer and colonized.

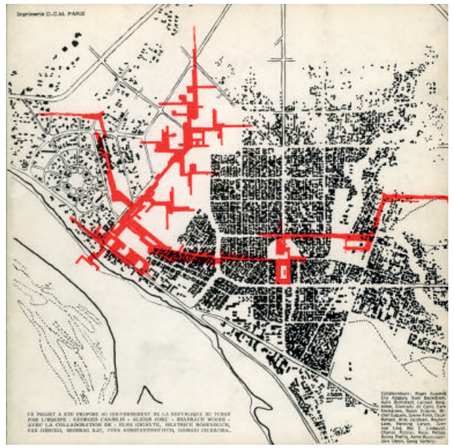
This empty zone became the main focus of the project by Candilis-Josic-Woods. It aimed at reconnecting, materially and symbolically, the two city parts, as well as proposing a way of planning that differed from the prescriptive and limiting methods of urban design used by the colonizer.[2] In order to achieve these goals the architects studied existing patterns of urbanization and appropriation. As a result they introduced the planning instrument of the "stem"; a continuous figure of public street space – defined simply by a *tracé* and adjacent collective buildings. Candilis-Josic-Woods believed that a single planning gesture such as the stem would suffice. This basic collective figure would structure urban development and redevelopment throughout time. In addition, the whimsical figure of the stem would penetrate the different city parts and connect them. The *grand rue*, defined by its bordering buildings that house collective activities, represents only one structuring level. To this first structuring axis a second figure of multi-level buildings is added. Within their building envelope the public domain of the stem is continued as 'streets in the air.' In its turn the public domain of the 'streets in the air' is prolonged by a fine weave of small streets or alleys that structure low-rise patches of urban tissue. The result is a continuous public realm – with varying degrees of privacy and collectivity – that connects existing and new urban neighborhoods.

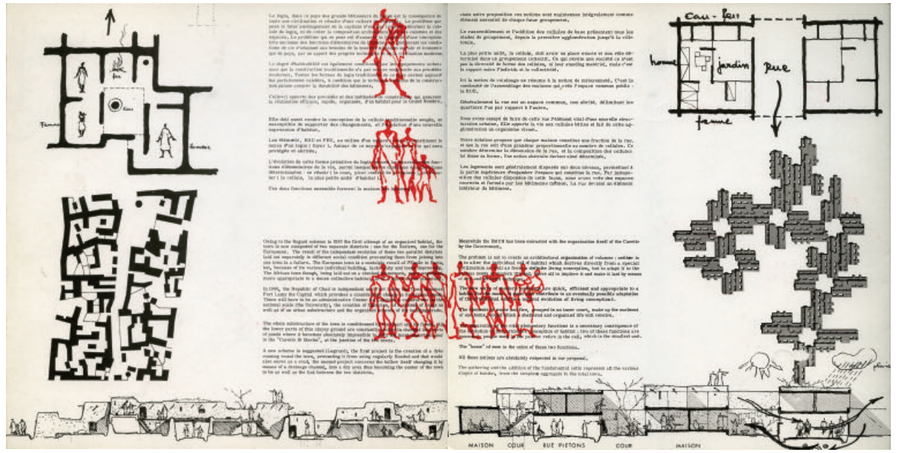
The project for N'Djamena by Candilis-Josic-Woods is a remarkable effort to engage simultaneously with traditional typologies of dwelling and public space, and with new high-rise buildings and internal streets. Moreover, it is an attempt to alter the segregating character of the colonial city as well as the prescriptive planning instruments of the French colonizer. In short, the project testifies to a multifaceted architectural venture to inscribe the expectations of a postcolonial present on the reality of a colonial past.

Learning from existing morphologies —— Proposals for N'Djamena derived from a detailed investigation of the urban morphology of the African quarter. The principles and structures of the existing indigenous urban fabric were continued and expanded in Candilis-Josic-Woods urban design project, particularly with respect to the inextricable relation of house and street.

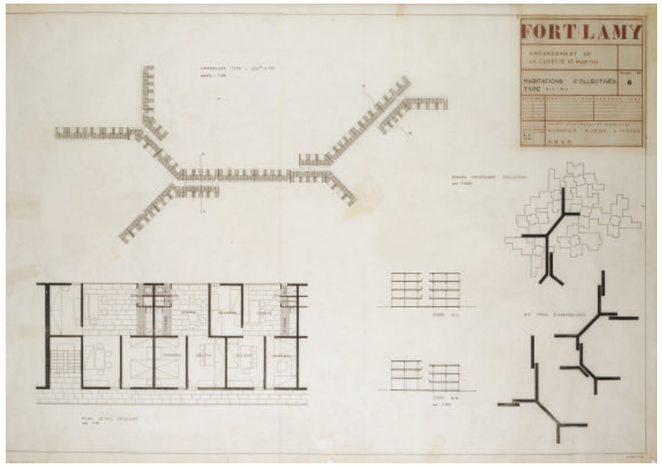
1/ For an elaborate description of this project see: Tom Avermaete, *Another Modern: The Post-war Architecture and Urbanism of Candilis-Josic-Woods*, Rotterdam: NAi Publishers, 2005.
2/ Georges Candilis, Shadrach Woods and Alexis Josic, "Fort Lamy," *Le Carré Bleu*, no. 1, 1965: s.p.

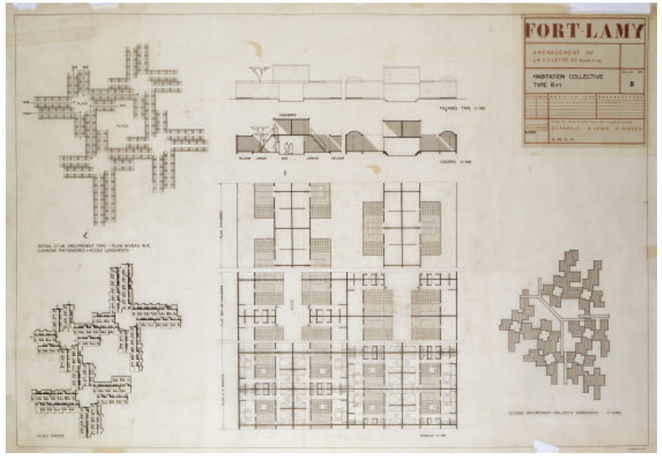
The mediating capacity of "stem" —— The "stem" was conceived of as a mediating term between the city of the "natives" and that of the "Europeans", capable of symbolically and materially overcoming the separation between the two distinct urban environments by articulating the terrain vague between them. Through the "stem" the intent was to introduce structural components for guiding urban development rather than presenting a finished architectural project.





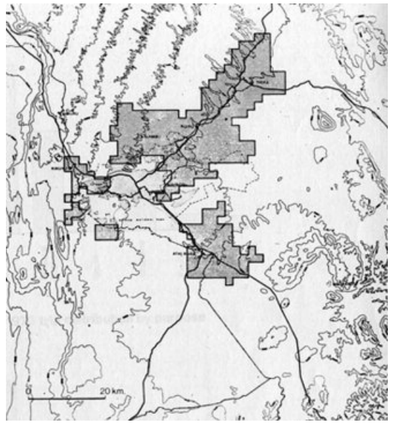
Stages of habitat —— For the Candilis-Josic-Woods partnership, one of the main challenges was to improve the "individual cell of habitat" so as to adapt it to the "various needs of modern life". The key action designwise in their view was to focus on the gathering and the addition of fundamental cells representing all the various "stages of habitat," rather than concentrating on the conception of individual units only.





Typological variety for hierarchy —— The varying height of buildings was considered crucial for structuring the design hierarchically. In their proposal, the interplay of low-rise patches and multi-level buildings reflected the re-installed relations between house, street, neighborhood and city – as well as their particular degrees of privacy and publicity.

Nairobi's East-West interface —— The fragmented spatial and socio-economic structure of Nairobi, epitomized in the contraposition between eastern and western areas, has remained largely unchanged from inception to the present day.



Linear growth —— To overcome the city's East-West dichotomy, the 1973 Metropolitan Growth Strategy concentrated development along corridors of main transport routes and set up the Eastern Area for mixed industrial and residential use to accommodate the lower income groups in medium and high-density housing.

Sites-and-services in Nairobi (1973–1987)

André Loeckx, Bruce Githua

In the "Metropolitan Growth Strategy" of 1973, the 'Old City' refers to the urban contours defined in the 1948 "Master Plan for a Colonial Capital." From its inception, a social barrier divided Nairobi's 90 square kilometers Old City into opposed halves: Nairobi west: soft undulating, green, tropical, lush, extremely low-density, former white man's city, later upper and upper-middle class Nairobi, and Nairobi east: flat, dusty, high-density, former Asian belt which during the final colonial decades was gradually but reluctantly overrun by African settlements for workers and servants. In colonial times, indigenous Africans were denied free residence in the city and therefore led to the development of peri-urban hamlets and squatter settlements around the excluding city perimeter. During independence in 1964, the new Kenyan government declared the city open to all citizens and extended the urban territory from 90 to 684 square kilometers, incorporating all peripheral hamlets yet without establishing a consistent urban morphology which was able to sustain urban life and development (Emig and Ismail, 1980; Kingoriah, 1980; Nevanlinna, 1996).

In 1973, when the Nairobi Urban Study Group presented its strategy for a metropolis of three million inhabitants, Nairobi was still comprised of the dual 'Old City' which accommodated about 440,000 people and a heterogeneous periphery of green coffee estates (West) and dry farms (East) in which another 220,000 people resided in dispersed hamlets, squatter settlements and speculative subdivisions. To a certain extent, the 1973 strategy attempted to overrule both the east-west dichotomy of the Old City and the peripheral sprawl by conceiving an 'urban corridor' approximately 35 kilometers long, stretching from the Karen and Langata estates in the south-west to the small town of Ruiru far beyond the north-east end of

the 1964 city contours. The superlative north-east wing of the corridor would be structured by a rail and road bundle crossing a sequence of shallow river valleys and accommodating up to 1.1 million people. An initial section, comprising the areas of Ruaraka, Kariobangi, Dandora, and part of the Kayole estate, was to house about 300,000 people from mainly low- and middle-income households by 1985. The Study Group mentions "commitments and proposals for the World Bank financed self-help schemes" and stresses that all the low-income population would be housed in site-and-services or other low investment schemes, low-rise (single-storied) and at very high densities, estimated at 400 persons per hectare. In Nairobi, the golden age of sites-and-services (S&S) had begun.

In the early 1970s, the World Bank support to the S&S approach generated a worldwide optimism. S&S was seen as a way to overcome 'the polar difference' between squatter and slum dwellers fighting for the right to become urban dwellers and governments aiming at progress and modernization (Laquian, 1977: p. 291–293). The war between invaders and urbanizers appeared to be over. According to the 'Urbanization Primer', popular settlements for the urban poor are termed 'sites-and-services' when they are officially sponsored by government which performs the more complex tasks such as securing tenancy of land and providing basic utilities and services while simple operations like building the dwelling are left to individuals (Caminos & Goethert, 1972: p. 6–7). By 1974, the World Bank was already supporting impressive S&S operations in nine 'Third World' countries and certainly contributed to the brief but irrefutable paradigmatic status of the approach. S&S offered a strange mix of welfare redistribution, on the one hand, and liberal self-help facilitation on the other hand: urbanization and suburban sprawl, social inclusion and social segregation.

In 1973, a Preliminary Task Force of the Nairobi City Council (NCC) started the preparation for Dandora S&S as part of a first section of the gigantic north-eastern corridor proposed by the Metropolitan Growth Strategy. The technical project preparation

Beginnings: Kariobangi's "serviced plots" —— Conceived in 1954 (and implemented in 1964) the squatter re-housing project was seen as a model solution for housing the flood of immigrants expected to arrive in the city. The layout of Kariobangi reflects a typical colonial compound; allottees were allowed to build initial temporary structures in wattle and daub to secure their land rights; these were to be improved to durable materials within 10 years.

World Bank I: Dandora — The Dandora Community Development Project (1975–1983) site-and-services provided serviced plots, education, health, social and economic community facilities. This, Nairobi's First Urban Project, was the archetype upon which similar schemes throughout the country were to be modeled.

and design was done in-house by a new NCC project department, in consultation with the World Bank (Chana, 1984: p. 21–23). The department conceived a master plan for 6,000 plots on government land. The project was to be subdivided into five areas, situated on both sides of a central spine of community facilities. Implementation of area one began in 1975 but was stopped following severe criticism concerning standards and by-laws. Soon after, Mutiso Menezes International (MMI), an accomplished design and consultancy firm in Nairobi, was commissioned to undertake design and technical elaboration of the remaining four areas. Implementation restarted in 1976 and construction of area five was completed in 1981 (Dupree, 1987).

MMI's 'take-over' was not an exception, but it was representative of many large-scale World Bank S&S projects worldwide. The involvement of prestigious design and consultancy firms injected high-level professionalism and design skills in the human settlements field in general and in the S&S practice in particular. Apparently, ad hoc small-scale housing resettlement or upgrading projects conceived and implemented by local staff were deemed 'drops in the ocean,' vulnerable to local mismanagement and incapable of facing the unprecedented challenge of housing the poor. The belief in large-scale, internationally-controlled super projects, designed and managed with great professionalism – a remarkable return of modernist voluntarism in times of populism and postmodern skepticism – was to last about fifteen years.

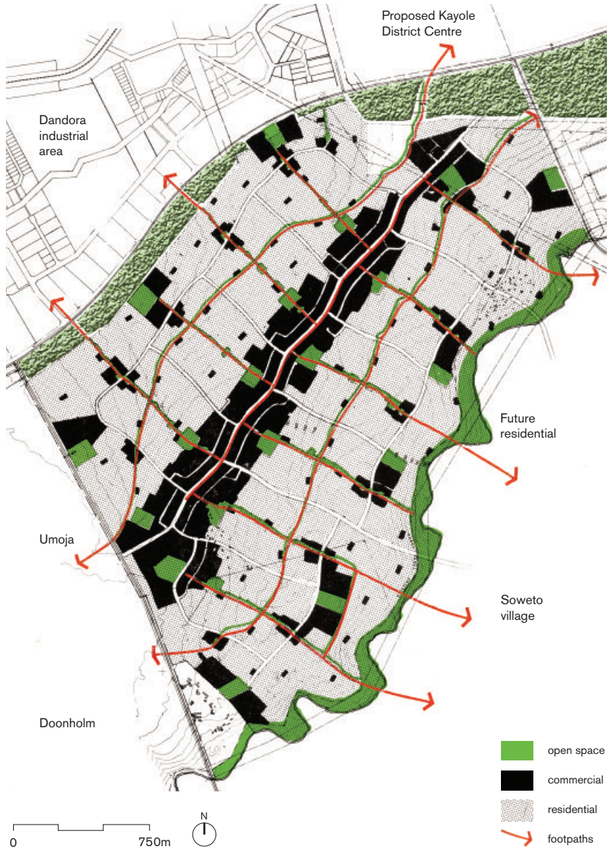
Although Dandora was not the first S&S scheme in Nairobi, it dramatically altered the scale and nature of urban housing interventions in Kenya. The adjacent 1964 Kariobangi S&S project was built shortly after a 1962 expansion of the city boundary, which annexed all peri-urban land to the city, including many previously marginal squatter settlements. Conceived to resettle squatters evicted from inner city slums cleared for the growth of the city center, it was the initial large-scale 'serviced plot' scheme, and provided 1,020 plots

World Bank II: learning from Dandora — Kayole was developed in two phases (1981–1983; 1984–1986) as part of the Second Urban Project to house Nairobi's urban poor. Cluster scale community facilities and open spaces were located at comfortable walking distances from each cluster.

with very basic services for about 17,000 people (Kateregga, 1984). The 6,000-plot Dandora S&S targeted the gradual settlement of more than 72,000 urban dwellers (Andreasen, 1987). Each plot would benefit from full services (road access, piped water and waterborne sewerage, electricity and street lighting, refuse collection). In addition, six primary schools, two health centers, two community centers, a sport complex and several markets were in the pipeline. The scheme's ambition was no longer limited to compensate slum dwellers evicted from inner city slums, but to urbanize the necessary city extension while inviting slum dwellers to acquire plot- and homeownership.

The design of Dandora S&S presents a mix of good intentions and missed objectives. The central spine was intended to link the five neighborhoods and to structure the public and commercial facilities; in the late fifties and early sixties this concept became a powerful principle for organizing centrality in large-scale urban extensions, as in the case of the 'stem' conceived by Candilis-Josic-Woods. However, the Dandora 'stem' was not conceived as an integral part of either the existing grid of major roads or the new urban frame proposed by the 1973 Growth Strategy. The monumental spine remained a free floating entity with indirect access and a dead end. Like most preceding and subsequent projects, Dandora was conceived as a (super) patch in a patchwork of settlements disconnected from each other and from the few structuring features (main roads, crossings, rivers etc.) defining the urban morphology. Together with delays in the provision of public services, the dead-end character of the central spine contributes to its problematic development. It will never become the urban backbone necessary for an urban quarter of 72,000 people.

The design of areas two and three reveals few urban fabric characteristics: the neighborhood lacks recognizable boundaries that interact with their immediate surroundings. The neighborhood ends where the endlessly repeatable plot pattern is interrupted by a



Kayole, integrated neighborhood units —— At the community scale, services formed a "linear centre" along a spine road which is directly anchored to the greater urban infrastructure along which other city scale commercial functions are placed.

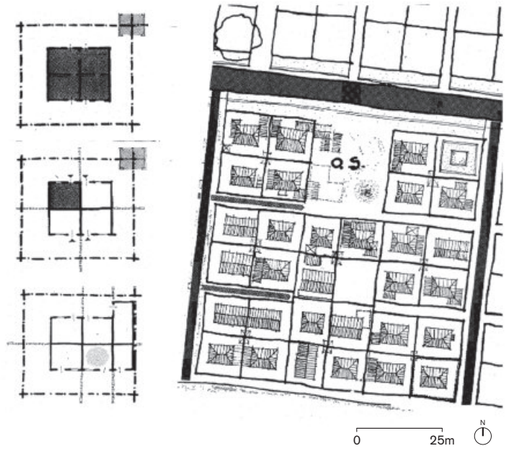
peripheral road or a power line. Not even towards the central spine is the structure endowed with a special façade or plot size: the spine is bordered by side-walls of ordinary residential plots. Plot layout is based on a rather mechanical repetition of plots, clustered in almost identical packages to form compact building blocks. Although the design demonstrates professionalism and accuracy, its rationale is not rooted in the logic of existing urban fabrics and their appropriation, but on the economy of services layout. Small squares, parking lots and playgrounds are designed by simply eliminating a number of plots.

In terms of the rapidity of development, the accommodation of large numbers of relatively low-income dwellers, initial quality of individual dwellings, avoidance of slums and speculative urban extension, the Dandora S&S could be considered a success. However, serious problems have came to light. The uncompromising functionalism and absence of design use-value contributed to modes of appropriation that are at odds with the neighborhood and plot layout. The perpetual construction of rooms for rent eventuates a radical over-densification of the residential area and the destruction of the original typology. Residential plots began to be used for all kinds of commercial and productive activities; public places fail to stimulate care and urbanity.

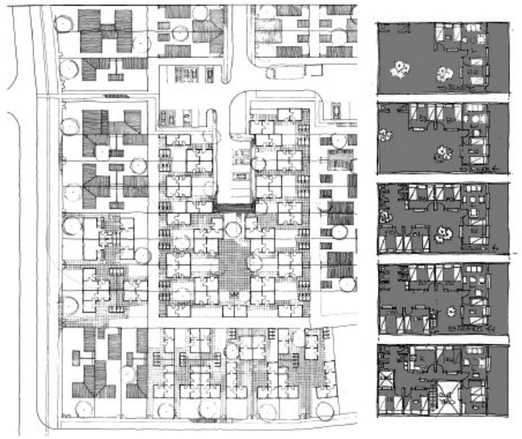
Kayole became the apotheosis of large-scale sites-and-services in Kenya: consisting of 6,400 plots, it was quickly expanded to approximately 10,000, with a more sophisticated design and better project management in the hands of MMI. The lessons from Dandora were all learnt. Kayole's 'spine road' is a main link and future public transportation line in the Metropolitan Growth Strategy. It is bordered by large plots reserved for main markets and shopping facilities, schools, health centers etc. The central spine could become an urban avenue, part-and-parcel of the main urban grid of prime roads.

The neighborhood design offers real fabric qualities. Springing from the spine road, loop roads define neighborhood units, bordered by plot façades. Each neighborhood is traversed by two pedestrian arteries:

Abandoning self-help: Umoja II —— Umoja II was a mixed development of serviced plots, semi-detached row houses, flats and maisonettes. The dwelling provided consisted of one room which could be extended or subdivided by the allottees to create a two room family dwelling. Housing was complemented by community facilities.



Uncompromising functionalism, negation and disconnection —— Kariobangi's zoning principle manifests functional specialization of tissue elements characterized by disconnection, separation and isolation of the building from the open space. The roads are designed only for circulation; commercial and (semi-)public open space functions are vested in a separate system of open spaces. The public square is obtained by leaving out four plots and the design lacks systematic formation of a façade in relation to the street.



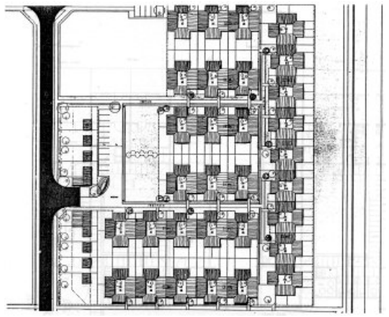
Rooms for rent —— Mastering the failings of Kariobangi's and Dandora's uncompromising functionalism and negative articulation of public space, MMI conceived a sophisticated plot layout for Kayole positioning wet cores and rooms to permit the coexistence of family rooms facing a front court, and rental units arranged around a back yard.

one runs parallel to the spine linking adjacent neighborhoods, the other bisects each unit perpendicular to the spine from the city-scale road on the north-west to the green borders of the Ngong River in the south-east. In each neighborhood unit local shops, markets and nursery schools are inserted as intimate places of public interest along the two pedestrian arteries. The clusters of serviced plots are articulated by an intricate network of roads, alleys and squares.

MMI's design included careful investigation of optimal plot layouts based on a detailed evaluation of the Dandora experience. Plot sizes and the position of wet cores and rooms were studied in detail in order to allow for the simultaneous development of two realms in each house: rooms for rent around a front court, and family rooms around a back yard. The layout tries to accommodate a degree of subletting and densification.

Implementation of Kayole began in 1982 and was completed in 1986. However, it became clear from the beginning that several of the careful design ideas would be futile. The spine road still lacks the intended connection to the urban frame; the mechanism of subletting and renting rooms –allowing, in principle, low-income families to expeditiously finance the building of a decent private house– was overwhelmed by its own success. Speculators and developers were soon attracted by the lucrative 'rooms for rent.' Today, very little is left of MMI's careful plot and incremental house concept and both Dandora and Kayole are over-densified urban quarters inhabited by a large majority of renters. The gigantic scale of the two S&S projects hinders efficient project management and social neighborhood development.

By 1985, the reign of large-scale World Bank S&S projects was over. The Bank reverted to its core business of productive investments. Hopes of decent housing for the urban poor were now vested in two divergent approaches. In 1987, the International Year of Shelter, the NCC inaugurated the experimental Umoja II housing project, adjacent to Kayole. The project abandoned self-help: its 3,500 dwelling units were fully designed by MMI and built by a USAID fully-financed contractor targeting total cost recovery



Refined typologies —— In Umoja, a clever "condominium house type", based on shared courtyard ownership and a sophisticated wet core, was elaborated by MMI to hinder individual selling of private dwelling units by grouping them around a central space.

Perpetual densification —— Representing a swerve in the approach to low-income housing provision, Umoja II was based on total cost recovery goals within three decades. Twenty years from its conception open spaces have been infilled as in its S&S antecedents and ad-hoc development has overruled the plan.

within 30 years. The agency stressed the absolute value of homeownership and launched a fierce attack against the buying-out of allottees by petty speculators. MMI conceived an intelligent 'condominium house type.' Shared ownership of a courtyard and an elaborate wet core were both intended to thwart individual selling of the private dwelling units grouped around the central space.

Antithetically, in 1983, the National Cooperative Housing Union (NACHU), dating from 1979, became operational and began to facilitate small- and medium-scale housing projects conceived and realized by local cooperatives on the principle of decentralized S&S, combined with self-help and mutual aid (Mwaura 2002: p. 2). The Huruma Cooperative Housing scheme, located across the Outer Ring Road from Kariobangi, is a typical example of this approach. Conceived in 1975 as a resettlement scheme for 300 households, allottees were provided with a plot measuring 120 square meters serviced with on-plot piped water supply, a wet core (with shower and toilet), roads, surface water drains, sewerage and street lighting (Mwaura 2002: p. 3). The ensuing financial hurdles led to the formation of the Huruma Housing Cooperative Society, whose comprehensive approach to improve the dwelling environment under the technical and financial support of NACHU, resulted in a significant increase in life quality for the beneficiaries (Mwaura 2002: p. 8). Cooperative housing projects, initiated and realized using local means, found their niche in the interstices left open by the patchwork of disconnected housing interventions. Different cooperatives opted for incremental courtyard or even condominium typologies in order to protect themselves from speculative take-over. Nevertheless, the Metropolitan Growth Strategy has largely been overruled by ad hoc, factual urban development and rests in history.

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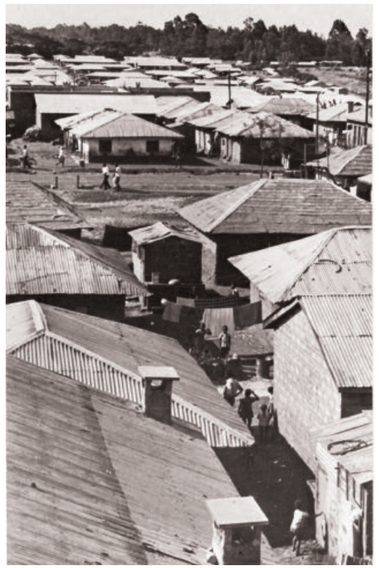
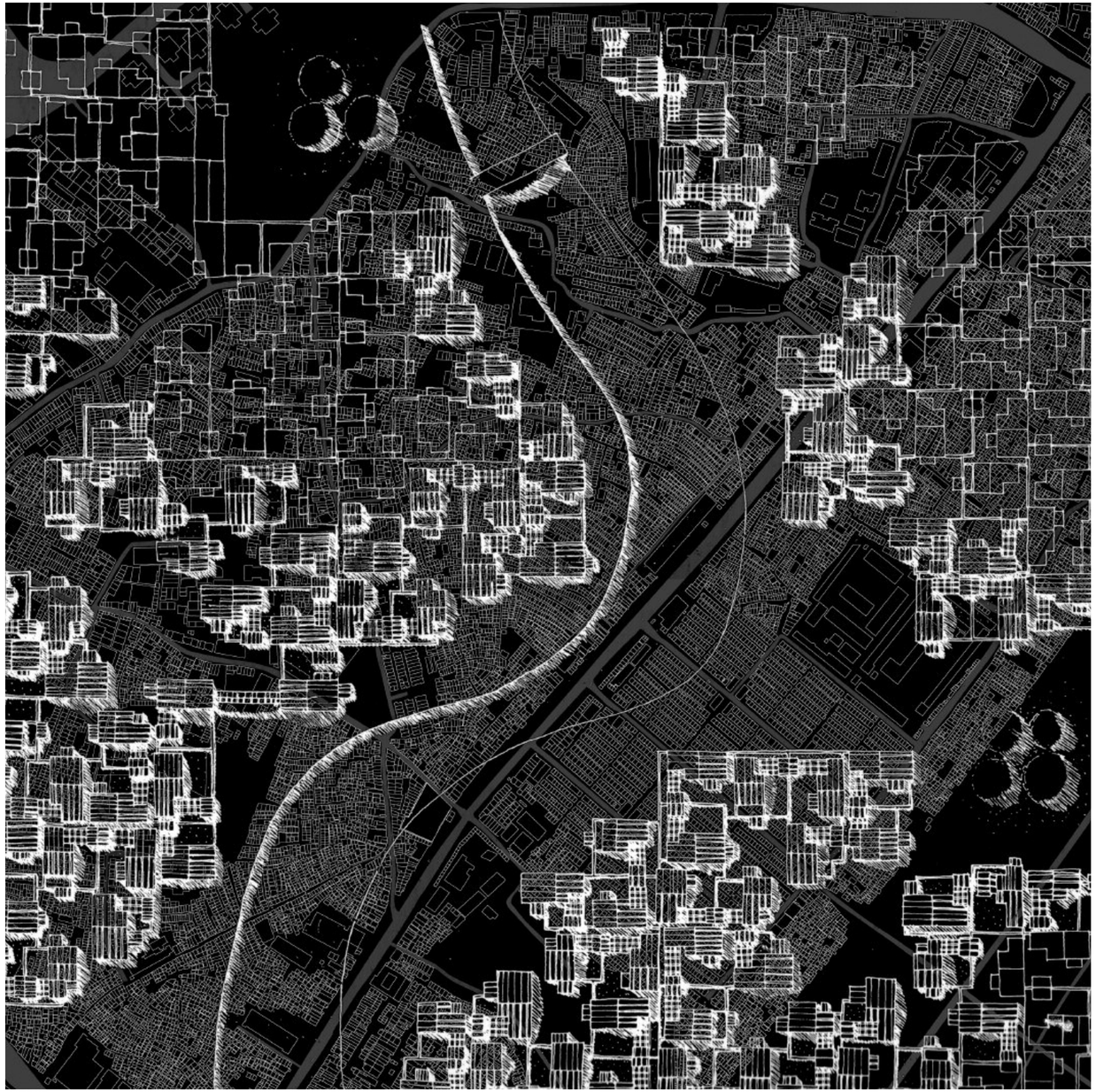


Imprudent Inflexibility —— The inflexible functionalism of Kariobangi's layout, coupled with the lack of design use-value, has entailed extensive appropriation leading to an over-densified environment. The original typology is lost amidst the radical restructuring of the residential area resulting from the introduction of a wide range of productive and commercial activities.



Structure to be Infilled by Tissue / Tissue Requiring Structure

In Mumbai, India, the housing of lower-income households has been (and remains) a tremendous urban challenge. In the 1980s, Charles Correa created a spatial frame and typology for the Belapur Incremental Housing project situated in Navi Mumbai that could grow over time and adapt to individual needs/capacities. The provided structure guides, until today, the development of the settlement. Meanwhile, in the heart of Mumbai, the fate of Dharavi – Asia's largest slum, a tissue generated by generations of self-organization – is left in limbo, as the hotly contested site challenges upgrading/resettlement paradigms, politics and economic logics. **The original human settlements agenda – with a focus on housing – remains a challenge throughout the world. The simultaneous development of urban structure and tissue – with logics at the urban scale and down to unit development – demands innovation and renewed design research.**

BELAPUR INCREMENTAL HOUSING
Navi Mumbai, India

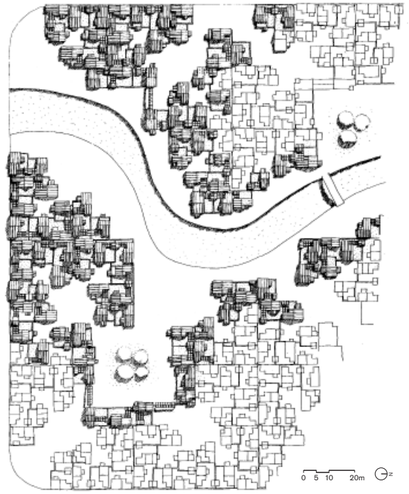
Following his involvement in the planning of Navi Mumbai as an alternate growth centre to Bombay across its natural water inlet, Charles Correa designed one of the satellite town's housing developments. Though implemented almost two decades after initiating the Navi Mumbai venture in 1964, the Belapur housing project still reflects some of the key socio-economic tenets undergirding the plan, namely, the need for equity, gradual development and the consideration of space as a resource. The project demonstrates how low-rise housing does not necessarily hinder the production of high-density and high-quality environments and how tissue and structure go hand in hand.

DHARAVI
Mumbai, India

Dharavi has become a strongly contested space by its dwellers and all institutional actors involved with the idea of its 'redevelopment.' The city's politics of exclusion and inclusion have been marked by a shift from heavy public subsidies to a distinct market-oriented system involving private sector participation – as demonstrated by the Slum Redevelopment Scheme (SRS). The 2007 Development Plan for the 223 hectare area (which hosts 8 percent of Mumbai's slum population) has exacerbated conflicting interests by suggesting a market-price, high-rise garden city complex replace the present-day dense tissue.

Belapur Incremental Housing, Navi Mumbai, India[1]

Charles Correa



Grouped clusters —— Based on the grouping of dwellings around courtyards and of clusters around larger public spaces, the site plan divides the groups in 21 units, then further divides them into seven sub-unit clusters.

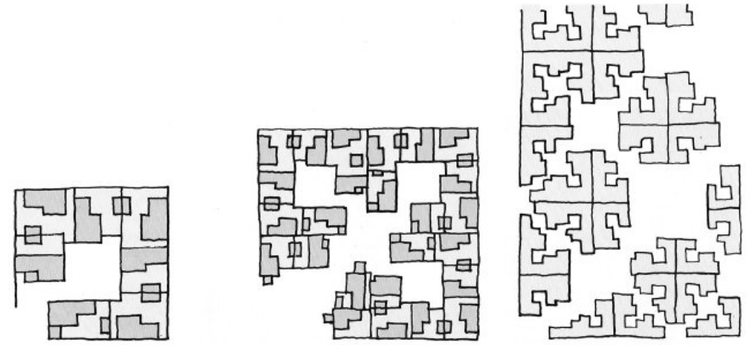
If there ever is a bill of rights for housing in the Third World, it will surely have to include – enshrine! – the cardinal principles: incrementality; pluralism; participation; income generation; equity; open-to-the-sky; disaggregation. These principles predicate patterns in which units are packed close enough to provide the advantages of high density, yet separate enough to allow for individual identity and growth.

This can be seen in a housing sector of Belapur, located one kilometer from the city center of New Bombay. The site measures 5.5 hectares and on the basis of the opportunity cost of the land, the planning brief specified a density of about 500 persons or 100 households per hectare (including open spaces, schools, etc.). In addition, the accommodation had to cover almost the entire range of income groups, from the lowest to the upper-middle categories.

To ensure that the dwelling units will all be incremental, each is placed on its own individual site. The main walls supporting the roof or the upper floors are not shared with neighbors. This independence not only minimizes the amount of collaboration – and quarrels! – involved in essential undertakings such as roof repairs, but also allows each of the houses to be extended unilaterally. Although the range of income groups is large (a ratio of 1:5), the variation in plot size is quite small, from 45 square meters to 75 square meters (a ratio of much less than 1:2). Originally one standard 'equity plot' of 50 square meters for all income groups was planned, but this had to be amended slightly because of rules and procedures specified by the lending agencies.

The physical plan is based on the open/closed space trade-off. Within each plot, each family has open-to-sky space (kitchen yards, terraces, etc.) to augment the built-up area. The circulation and community areas

[1] This text is a compilation of two texts by Charles Correa: *Housing and Urbanisation*, London: Thames and Hudson, 1999: p. 48–51 and *The New Landscape: Urbanisation in the Third World*, London: Mimar and Butterworth Architecture, 1989: pp. 55–62.

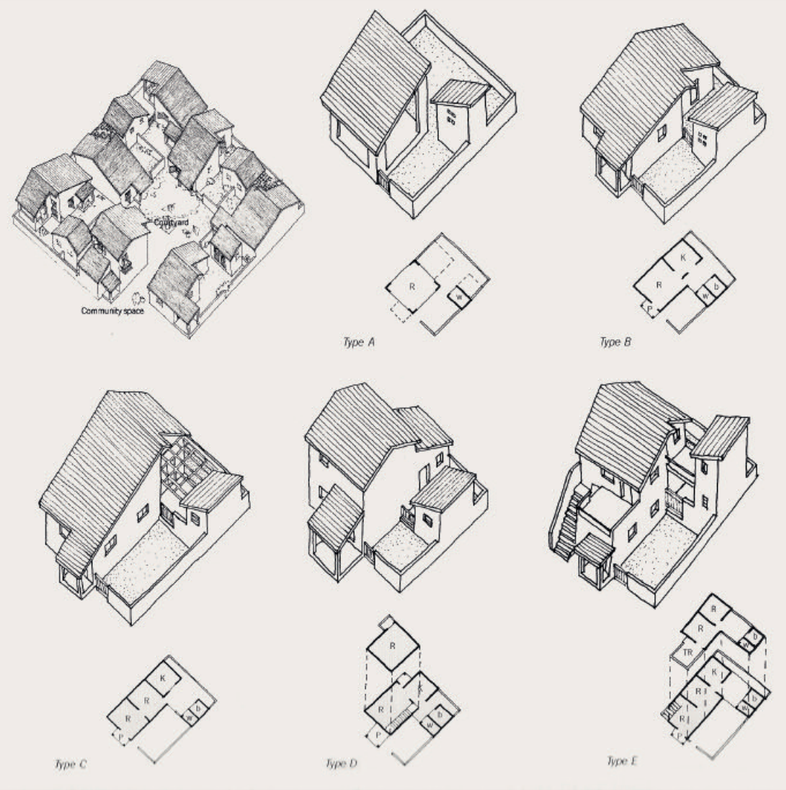


The basic unit is a shared courtyard, 8m by 8m, around which are grouped 7 houses

Three such courtyards are grouped to form a cluster of 25 houses (including an additional 4 houses located at the open corners)

This cluster is repeated thrice to form larger community spaces . . .

Clusters and courtyards —— Despite the project's relatively small site, every home was provided with both its own private "open-to-sky" space and a shared courtyard.



Incremental growth —— The freestanding homes were especially conceived to accommodate additions as resident families would grow in size, thus absorbing more density. The incremental logic of the design supported the assumption that low-rise architecture and high-density planning are not contradictory approaches to housing.

From incremental growth to outgrown project —— Even though the houses have been drastically transformed, the structure of small public spaces is still evident in contemporary Belapur. Most dwellings have been expanded if not reconstructed completely, in several cases re-built larger than the original houses.

are arranged in a pattern which sets up a hierarchy of spaces. Usually, low-rise high-density housing takes the form of row houses, organized along monotonous linear corridors. In this case, the units are clustered around small community spaces. At the smallest scale, seven units are grouped around an intimate courtyard eight meters by eight meters. Three of these cluster combine to form a bigger module of 21 houses, surrounding an open space 12 meters by 12 meters. Three such modules interlock to define the next scale of community space – approximately 20 meters by 20 meters. The spatial hierarchy continues until one reaches the largest neighborhood spaces where primary schools and other similar facilities are located. Down the center runs a small stream which drains off surface water during the monsoons.

The typology of the houses forms two sets. Within each set, the houses can grow incrementally to the next state of development, as family income increases. The layouts of the houses are simple, so that they can be built and extended by traditional masons and craftsmen – thus generating employment in the bazaar sector of the economy (i.e., exactly where they are needed for the new urban migrants). In time, the families will add their own overlays of colors and symbols, colonizing the habitat through their own values and culture.

Dharavi: Contested Shadow City

Kelly Shannon

Dharavi, with an area of approximately 223 hectares, is located at the northern edge of the island city of Mumbai. It is sandwiched between two suburban railway lines, the Western and Central Railways, and bordered by the Mithi River to the north (and the river's other bank has been redeveloped to house Bandra Kurla, an global corporate enclave, which lies just south of the city's airport). Dharavi occupies the once mangrove swamp lowlands that were historically inhabited by Koli fishermen; it is particularly vulnerable to flooding. The area grew incrementally with successive waves of migrants from other states in India – potters from Gujarat, leather tanners from Tamil Nadu and textiles workers from Uttar Pradesh. The thriving informal sector – with an estimated annual turnover of 450 million Euros – has expanded to include (amongst others) plastic recycling, jewelery-making and food-processing. Today, there are at least 5,700 households, 500,000 persons and an estimated density of 100,000 people per sq. km. Presently, the urban morphology of Dharavi shows densely packed built form with predominantly two-level structures strung along narrow alleyways and with a series of small open spaces where several collective activities take place. Due to the informal status of the residents, the area is largely deprived of public services and inhabitants are at the mercy of the so-called "land mafia" for water and electricity hook-ups. There are no proper, emergency-accessible streets, as there is also no storm water drainage, waste and sewage disposal.

Historically, Dharavi was on the northern fringe of Mumbai, but with the north-south growth of the city, it has become centrally located. It is an ideally suited location for middle-class commuters and presently a super-hot real estate battlefield. In 2007, the perceived, dormant value of the land led, the State

Redevelopment potential of a land-locked settlement —— Located on prime land, Dharavi is under extreme pressure of contradictory developmental forces. It is surrounded by structuring environmental components, important infrastructures and the prestigious Bandra Kurla commercial complex.

Government to create the 5 million Euros Dharavi Redevelopment Project (DRP), "the opportunity of the millennium," which was conceptualized as an in-situ resettlement of existing tenements and non-hazardous activities through the Slum Rehabilitation Scheme.[1] Every inhabitant who could prove residence in Dharavi before 1 January 1995 is to be entitled to a free house of 21 square meters. Through the DRP, Dharavi would be sub-divided into five sectors and a bidding process would select private developers on a design, build, operate and transfer (DBOT) basis. The global Floor Space Index (FSI) in the redevelopment model was proposed to be 4 (it is usually 2.5 for slum redevelopments) and each developer would get an incentive

[1] Housing for the urban poor in the context of Mumbai has been determined by the Slum Areas Improvement Clearance and Redevelopment Act (from the 1970s). During the 1990s, the Slum Rehabilitation Authority (SRA) was designated as a nodal coordinating authority for slum redevelopment through a system of incentive driven private-public partnerships. To ensure financial viability of the project for the developer and provision of free resettlement houses for inhabitants, the instrument of Floor Space Index (FSI) was used. The private developer was provided an incentive FSI, to be able to generate a component that was to be sold in the open market and to thereby help subsidize the rehabilitation units.

Narrow alleyways —— The densely-packed built form of Dharavi features narrow alleyways and small open spaces. Garbage dumps and open air sewage are the evident signs of the settlement's under-serviced and unsanitary environment, but also provide some of the raw materials to the Dharavi-based largest recycling centre.

Commercial concentrations —— Within Dharavi's overall structure (grey), the intricate and lively commercial networks hosting the informal economy (red) are localized for the large part along the major streets within the settlement.

FSI of 1.33. This has been the first project for slum rehabilitation in Mumbai where a private developer has received such high incentives for an overall area development and one, as well, which does not require 70% consent of the stakeholders. The responsibility of the developer entails additional provision of amenities, building a corpus for the operating and maintenance expenses while the State would play the role of a "facilitator" in this entire process. The emerging urban morphology from such a development model shows a combination of a podium level and 10 to 12 storey tower typology dotted with large open, green spaces. The podium is imagined to house the rehabilitated commercial units, whereas the towers would house the rehabilitated people along with the market-rate components. Meanwhile, the qualified residents of Dharavi are to be re-housed and given legal status – in exchange for (a) shifting into les than half (47%) of their original land area; (b) the destruction of their livelihoods.

Without a doubt, change is necessary in Dharavi. Polluting industries have little place in the contemporary city core and the living conditions are substandard. At the same time, the site is potentially top real-estate. Unsurprisingly, the site is embroiled in a battle between those seeking to commercially exploit the area and other who are fighting for a redevelopment process by the inhabitants/for the inhabitants. As it stands today, Dharavi works as a well-oiled multi-layered community with a complex, interdependent relationship between living and working and amongst various ethnic groups. The area boasts multiple tenancies, collective property ownerships and innovative institutional structures that facilitate the working of the informal economy. However, the new morphology and densities imagined within the DRP are not able to incorporate such complex conditions in its conceptualization. While actually still in need of structure (and consequently restructuring), Dharavi is testimony to both the present-day inadequacy of upgrading initiatives and the looming danger of erasure by means of a "business-as-usual" market-driven speculative reconfiguration that generate a lot, but surely not structure.

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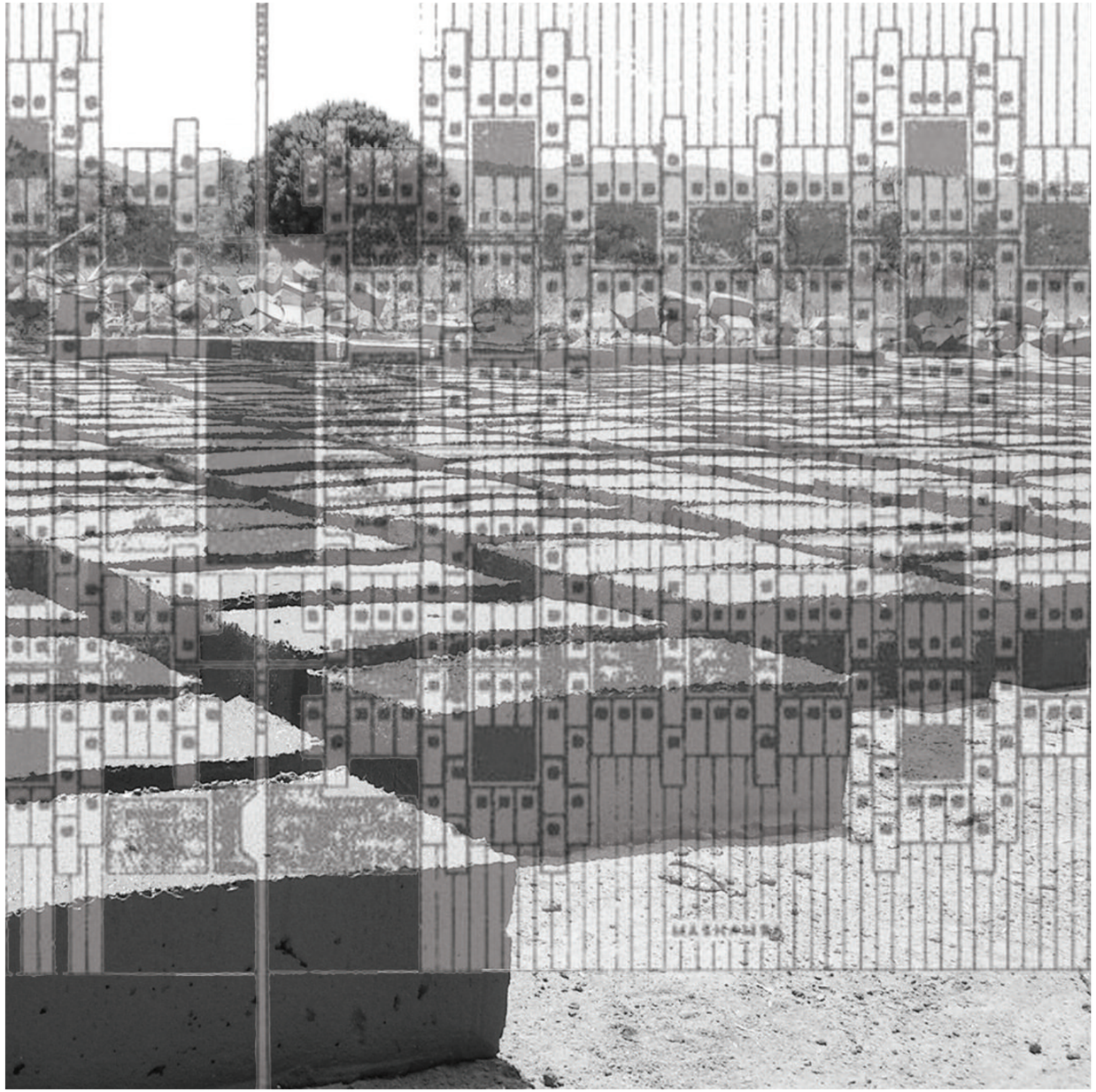
Threats and opportunities of density —— By accommodating a myriad of productive activities within its high-density spaces, Dharavi's ecological features are under high environmental pressure.



(Variations on) Modernity / Tradition

In the period after independence, Tanzania became a testing-ground for a host of radical planning and housing projects. The Ujamaa Village resettlement project, while advocating pre-colonial African communalism, in fact superimposed a new 'modernist' structure on rural areas. It fundamentally altered everyday life practices while ignoring customary practices, and thus inadvertently provoked resistance against modernization. At the other extreme, the appropriate technology movement advocated an appropriate rationality, while in practice it returned to traditional building techniques. **The Tanzanian experiences are clear illustrations of the continuous (re)-formulations of the conflictual antagonism between modernity and tradition. Transcending the conflict between modernity and tradition is the primary issue of the paradigm of human settlements.**

UJAMAA VILLAGE RESETTLEMENT
Tanzania

The regrouping of dispersed villages into centralized settlements, shortly after Tanzanian independence, was a spatial translation of the socialist ideology of *Ujamaa* (literally meaning 'family-hood'). The nation's founding President Nyerere argued that concentrated compounds would reinforce rural development and successive approaches of villagization were supported by World Bank funds. A first phase of capital-intensive Village Settlement Schemes (VSS) implemented between 1961 and 1974, was followed by a nationwide Ujamaa Villagization Program which advocated nucleated settlements and featured gridiron layouts to be applicable throughout the entire country, but with very limited (and mostly theoretical) consideration of the range of existing dwelling cultures.

APPROPRIATE TECHNOLOGY
Mwanza and Missungwi, Tanzania

In the early 1970s, the resonance of notions such as 'intermediate' and 'appropriate' technology led to the formulation of alternatives to the capital-intensive solutions used in previous decades of building construction applied throughout the so-called developing world. Ecological compatibility, use of local materials, and consciousness of the use of non-renewable energy sources became crucial features to be incorporated within increasingly conscientious design projects before 'sustainability' was catapulted on the global agenda. In the Lake Victoria area of Tanzania, a number of initiatives took advantage of the good supply of local clay and the use of temporary kilns. Energy-saving stoves were identified as key elements, which could decrease firewood use and consequently cut deforestation.

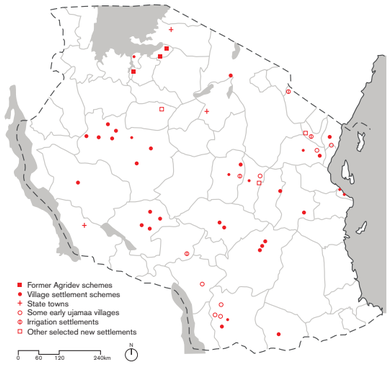
Ujamaa Village Resettlement, Tanzania[1]

Livin Mosha, Stephen Nyamato

Ujamaa, a form of socialism particular to the post-colonial Republic of Tanzania, was established by the nation's founding president Julius Nyerere. From the 1960s to the mid-1980s Ujamaa – in which socialism is blended with a deeply rooted sense of communalism and solidarity characteristic of pre-colonial rural African societies – steered the nation's development policies. Literally translated as 'family-hood,' Ujamaa was a home-grown egalitarian economic ideology which sought to eliminate economic exploitation, confer the control of means of production and exchange on peasants and laborers, and ultimately achieve democratic rule.

Through the Arusha Declaration of 1967, the state officially committed itself to 'socialism,' paving the way for the peaceful, but no less than revolutionary adoption of a distinctive rural resettlement program. It aimed to establish a completely new regime of self-sufficient rural villages. In a certain way, Ujamaa took up the challenge formulated by Erwin Gutkind in his 1946 "Revolution of Environment."[2] Following a slow voluntary uptake of the new settlement option,[3] the state, through the 1973 Tabora Declaration, resorted to compelling all rural communities to adopt the proposed settlement structure. Modernization (or socialization) of the entire countryside, as framed by Ujamaa, was now on the agenda and implied a major spatial and physical restructuring of the country. There was a nucleation of what were considered 'dispersed rural settlements' and the subsequent introduction of new spatial patterns for the new, larger and more rationally distributed settlements.

In order to facilitate this mega town-planning operation "that revolved around people" alternative spatial models of planned settlements were developed and implemented. These comprised of standard-sized land parcels laid out in a gridiron pattern with a village



Initial steps towards rural settlement collectivism —— Following the Tabora Declaration of 1973, inhabitants of rural communities were required to live in *Ujamaa* villages and participate in communal farming.

center (hosting all social services), residential quarters in close proximity and productive land on the periphery. Within a year of compulsive mobilization, virtually all the nation's rural inhabitants[4] had been resettled. Thus, the Ujamaa Village – as it came to be known – was established as the primary mode of operation of Tanzania's socialist agenda. The significance and impact of the Ujamaa policy on human settlement in Tanzania is evident even today throughout the country. The associated dynamics can easily be demonstrated in Missungwi District in the north, which hosts a broad array of pre- and post-Ujamaa settlements.

In accordance with local customs, the indigenous dwelling compounds in the region were organized around and oriented towards a cattle kraal.[5] Housing units consisted of clustered huts constructed with indigenous materials and corresponding technologies – ordinarily mud-and-pole walls and grass-thatched roofing. Land acquisition also followed a customary procedure: households obtained parcels that were located and sized according to their specific needs and

[1] This contribution is based on the unpublished PhD thesis of Livin Mosha, entitled "Architecture and Policies: The Transformation of Rural Dwelling Compounds and the Impact of Ujamma Villagisation and the Nyumba Bora Housing Campaign in Mussungwi, Tanzania." KU Leuven, February 2005.
[2] E. A. Gutkind, *Revolution of Environment.* London: Kegan Paul, Trench, Trubner & Co., 1946.
[3] Only 16 percent of the rural population settled in the new village structure by 1971.
[4] Approximately 14 million inhabitants.
[5] The cattle kraal was considered essential in everyday life, since animals were a symbol of wealth and were indispensable in mystical, religious, economic and ceremonial activities.

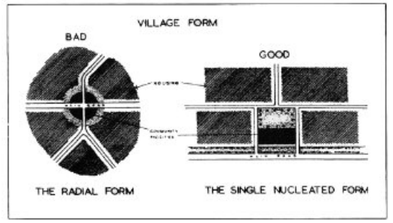
[6] "Town planning revolves around people: a record of ten years," in: D. W. K. Mwapwele, *A decade of progress: 1961–1971. Tanzania Notes and Records*, 1975, no. 76: p. 183.

capacities. Consequently, each domestic entity had its own distinctively marked property boundary, incorporating a correspondent productive unit. As such, a system of resource distribution was in place, integrating work and dwelling as inherently bound to an individual household. The resultant settlement pattern reflected, but also accommodated and propagated, customary cultural norms and ways of life.

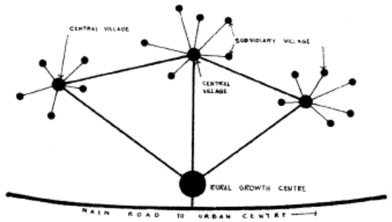
In a clear departure from tradition, the Ujamaa Villages were developed as part of a state-adopted resettlement program. In this sense, the Ujamaa operation might historically have closer relations to restructuring operations in socialist countries – such as the 'systematization' of rural Romania under Ceaucescu, for example – than to the communalism characteristic of pre-colonial Africa. Whatever the inspiration, the communal collectivism ideals of Ujamaa were promoted with ideals of property ownership, economic production, social life and self-governance. Typical for that period, the planning of the Ujamaa Villages came under the Department of Community Development, "but the Town Planning Division was required by Presidential Circular to participate in the Ujamaa Village planning teams."[6] Ujamaa could be viewed, in this sense, as start of multidisciplinary planning (under the control of community development).

Nucleation of rural settlements was logically pursued to achieve a clear sense of community, layout efficiency and economies of scale. Therefore, the new settlements took up an urban configuration, organized around standardized and systematic infrastructure. This was considered to facilitate the administration of services, but did not take into account cultural specificities (such as the signification and requirements of animal husbandry) and distribution parameters.

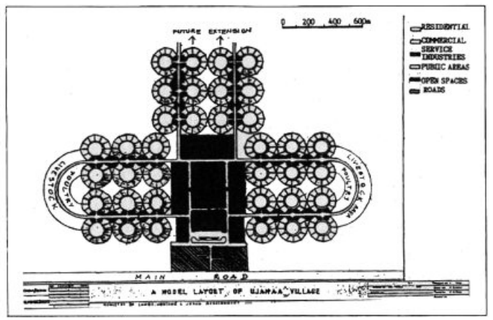
In order to break down the notion of individualism, demarcation of private property was abolished in Ujamaa Villages. This effectively led to the separation of residential and productive functions within the compound. With land acquisition fully in the hands of local government authorities, customary selection considerations were forgone and land was distributed to all, at times without regard to its inherent productive value.



Radial vs. Grid forms —— Villagization radically restructured the rural landscape of Tanzania. In the Missungwi district, the group of concentric Sukuma dwellings was completely abandoned in favor of new spatial patterns for larger and more rationally distributed settlements.



Village hierarchy —— Model layouts introduced a web of settlements in which each basic unit was composed of a central village surrounded by subsidiary ones. Peripheral land was set aside for communal farming and grazing.



Handbook alternatives —— As part of the villagization process, the Ministry of Lands, Housing and Urban Development was challenged to design and provide model village plans. In 1975, a handbook containing several alternatives was prepared to support the resettlement.

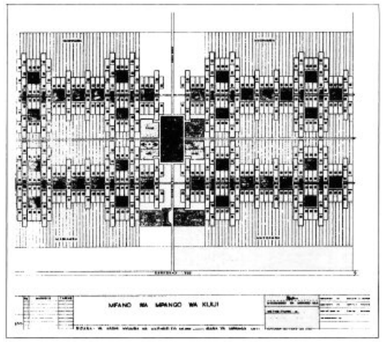
7/ Please see also the perspective by James C. Scott, political scientist and anthropologist at Yale University, where he discusses the social engineering of rural settlement and production. "Compulsory Villagization in Tanzania: Aesthetics and Miniaturization" in *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*, New Haven: Yale University Press, pp. 223–261

It is said that this, coupled with an adversely affected work-dwelling relationship, significantly diminished the country's overall agricultural productivity.

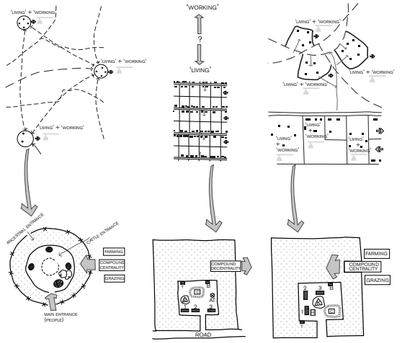
Due to the scale of resettlement undertaken the program also resorted to the use of industrial building materials that were supposed to be more suitable for the rapid construction necessary. One might wonder whether suitability was the ultimate criteria, or if it was rather the wish to modernize and adapt to international standards. Needless to say, the technological shift also led to the emergence of orthogonal housing units, which were utterly opposed to the traditional dwelling forms.

With spatial, social and economic considerations based on multiple new parameters (excluding cultural peculiarities, household capacities and customary signification), Ujamaa ideology entirely distorted the indigenous value system. As such, its imposition transformed traditional ways of life into an unsupported rural-urban living culture, which was to collapse soon after compulsion was dropped as an implementation mechanism.

The noble intentions of developing an egalitarian society – through consolidating traditional ways of life into a systematic model which was applicable at a national scale – ultimately steered the transformation of human settlements in Tanzania. As such, Ujamaa became emblematic for a wave of voluntaristic and all-encompassing postcolonial development operations which were caught between the contradictions of socialism and tradition; modernization and distortion; traditional civil society and state institutions; physical planning and ideology; emancipation and compulsion. Given this compulsion and the suppressed individualism/enforced collectivism, it is very doubtful whether Gutkind would have been sympathetic to this 'revolution of environment.' Nevertheless, Ujamaa remains one of the more significant development operations that combines elements that would become the cornerstones of the 'human settlements-agenda' of the 1970s: development and modernization, cultural adaptation and human scale, physical planning and community development.[7]



Urban grid-iron for rural resettlement —— The grid-iron models prepared by the Urban Planning Division were reminiscent of layouts implemented in urban environments rather than in rural settlements. Such schemes were insensitive to the variety of dwelling practices present throughout Tanzania.



The idiosyncrasies of villagization —— An exemplary array of village layouts in Missungwi represent the ambivalent aftermath of *Ujamaa* villagization. The separation of residential and farming functions has largely been abandoned, proving that cultural aspects have overpowered the imposed state policy.

Appropriate Technology for Tanzania[1]

Han Verschure, Daan van Tassel

Since the late 1970s, an association of local, national and international partners has actively explored human settlements dynamics in the north-west of Tanzania. COOPIBO, a Belgian internationally operating NGO, together with its Tanzanian partner, the Community Development Trust Fund (CDTF) and local and national institutions in Tanzania, started the TARDEP project in the Tarime District in 1979, and several years later, in 1990, initiated the MRHP (Mwanza Rural Housing Program) project in the Mwanza region.[2]

A number of different research and capacity-building projects were set up on the principle of 'learning from reality' and a great deal of attention was paid to the observation and understanding of the changing dynamics of dwelling compounds; of villages; districts and towns; of the city of Mwanza; and of the Missungwi district. The projects focused on formulating solutions for coping with the rapid transformation of Tanzanian settlement realities, and on assistance in systematizing and improving building construction techniques as well as critically reviewing policy changes. The input of other disciplines was part of the process, although the broad 'built-environment focus' was emphasized in the majority of the initiatives. As the title [of this paper] suggests, this case study was a genuine search, as very few individuals involved in the projects had prior insight into the local human settlements context; this had to be built up over the years. This aspect revealed a strong contradiction between initiating and undertaking such programs; it brought to light that the world of international NGOs, as well as the academic milieu often undertook so-called development aid projects without prior and fundamental understanding of a local context.

TARDEP

The TARDEP program started in 1979, as assistance to villagers to improve local housing conditions, local building construction techniques/skills and access to transport for building materials. There were also a number of community development activities, such as finance and environmental awareness workshops and campaigns. When looking at this initiative the geopolitical context of the moment should be taking into account: Tanzania was not only the "model developing country for the new socialism-with-a-human-face" as pioneered by Julius Nyerere since independence, and as such cherished by part of the international donor-community, but was, at the same time, abandoned by some of the nations calling themselves "the free world," due to Tanzania's unwillingness to embrace the free market. In addition, during part of the program period, Tanzania was at war with Uganda, another former East-African Community member with which it shares borders on Lake Victoria; consequently, borders with Kenya were also periodically closed (except for local 'trade'). The program was initiated in the Tarime district, which partially borders Kenya and is near to Uganda, and such contextual elements affected the program.

The socialist national policies in Tanzania at the time, with strong centralized tendencies, emphasized redistribution so as to guarantee equal access to resources for all regions. In the case of Tarime, this implied that certain building materials and tools (among others cement, roofing sheets (so-called *mabati*), and even nails, hammers, etc.) were distributed from the capital, Dar es Salaam, to the regions. The remoteness of Tarime and the slow centrally controlled bureaucracy meant that a bag of cement, for example, if available at all from the coastal factory, could take weeks to arrive in Tarime.

The program operated in a district where two ethnic groups were dominant: the Kuria in the eastern hilly parts of the district and the Luo in the lower plains near Lake Victoria. Officially, as a strong element of national unification policy, ethnic differences

[1] This text is dedicated to the memory of Mark Delanote and to Eng. Sakafu, whose dedication to the TARDEP and MRHP projects respectively remains exemplary.
[2] PGC-HS, together with national partners, the ARDHI Institute (later the ARDHI University in Dar Es Salaam), and the then Building Research Institute (BRU), joined in with scientific and capacity-building support.

were to be 'downplayed.' However, in matters of human settlements, cultural identity clearly manifests itself in dwelling practices, and can thus not be neglected in a program that endeavors to suit local demands and needs. In addition, the cultural value systems of nationals from other regions and from expatriates played an – often underestimated – role. The TARDEP program faced the challenge to learn about local practices in order to make the most of local resources.

In the search for locally appropriate building techniques, substantial work was done to improve brick production, to use improved sun-dried earthen blocks, and to produce roofing sheets from local resources.

MRHP

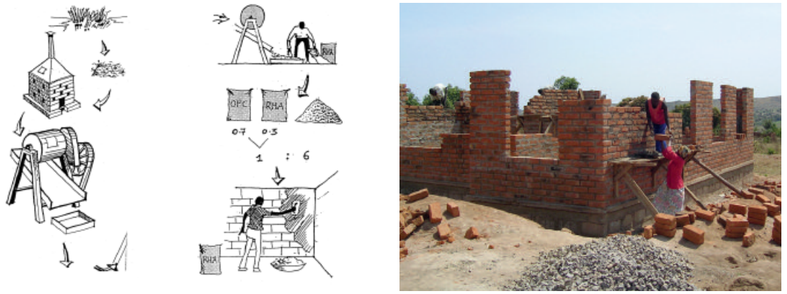
A second program, the Mwanza Rural Housing Program (MRHP), based in the Missungwi district, was launched in 1990. The objective was to improve the habitat conditions of the people of the Mwanza Region, located on the southern shores of Lake Victoria. The main activities of this program included: stimulation of the production and use of appropriate and cost-effective building materials and techniques, dissemination of more context-specific methods on housing improvement through various institutions and groups traditionally involved in human settlements, and linking-up with organizations operating in the field of housing services. Local, national and international partners assisted in several of these activities through research, project activity evaluation, technical assistance including laboratory tests, and capacity building.

Although the focus of the program was initially on the rural villages and small towns, activities gradually expanded to include housing initiatives in Mwanza city, and investigated the strong links and dynamic interplay between rural and urban contexts.

Specific investigations looked into the reality of contextual compound formation in the Mwanza region in relation to the nationally imposed 'Ujamaa-principle' of settlement regrouping. Likewise, the impact of the national Nyumba Bora campaign, which had a tendency to introduce alien housing typologies, was

Rurban continuities — The improvement of building construction techniques is extremely relevant in both urban and rural contexts due to the omnipresence of the urban environment.

Appropriate technology — The rural-urban fringe near Mwanza, including the Iteja village in the Missungwi district, features the coexistence of traditional Sukuma settlements and more contemporary forms of housing. The examination of existing dwelling cultures and their modification enhanced the program's capacity to elaborate appropriate building technology.



Localizing skills and resources —— The MRHP developed easy-to-understand handbooks (left) to assist villagers towards improving housing conditions through the use of local building construction techniques. In the case of a large-scale urban housing project in the Kiseke neighborhood in Mwanza (right) was built using locally-produced burnt bricks.

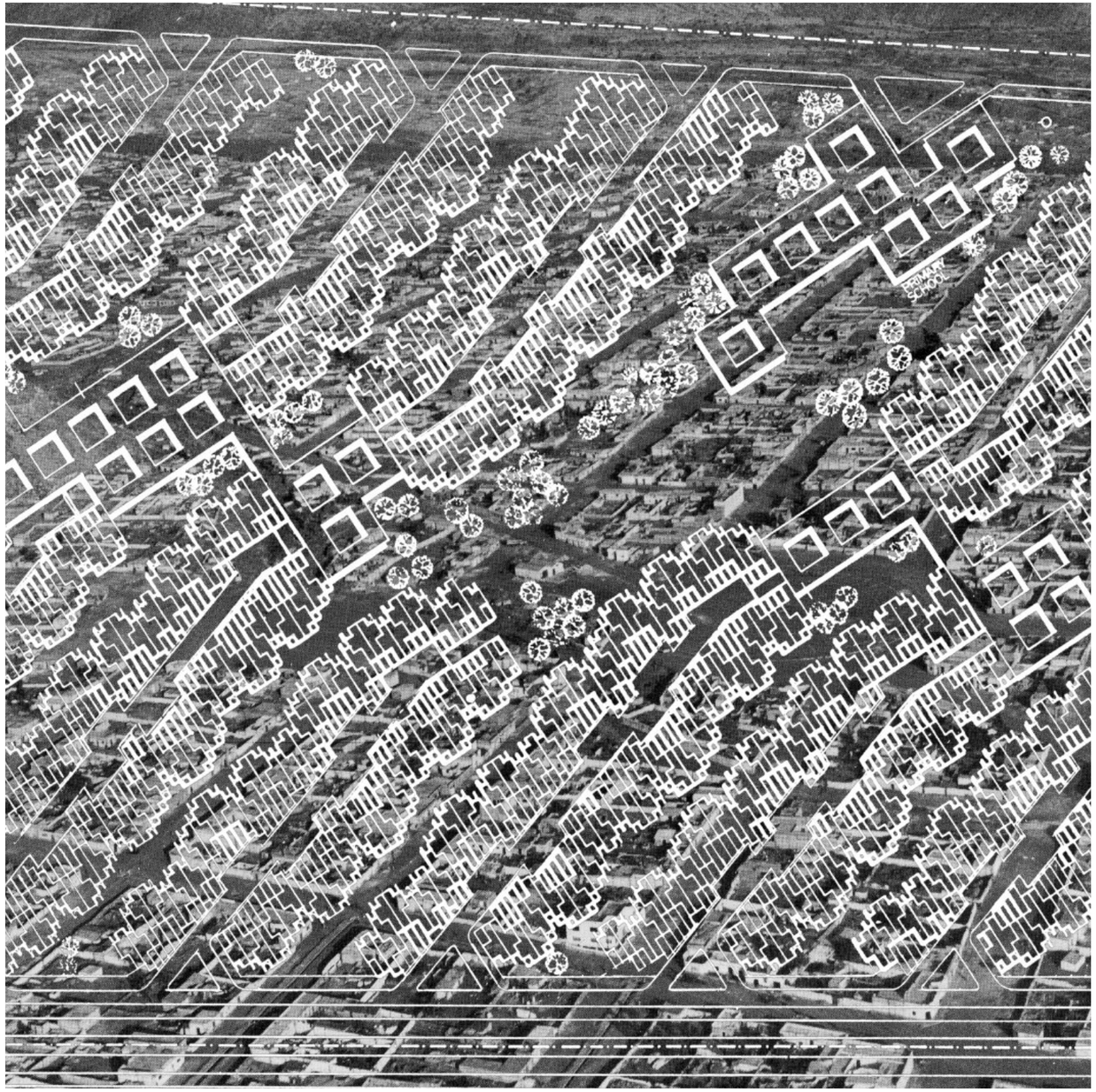
compared with the culturally-specific housing practices existing in the villages. This enabled the project to better formulate appropriate improvement practices.

Additionally, it became clear that the unique and complex features of the Sukuma culture in the Lake Victoria area were not only related to their material world, but also to meanings of the spiritual world and its relations to day-to-day practices. Such research, unfortunately often downplayed by NGOs and official institutions, was of immense value in understanding and in formulating solutions for the contextual reality of the initiative.

Another major theme of the MRHP program was its focus on the locally available building materials. Since at times cement remained scarce or expensive, substantial efforts went into developing an alternative binder. Pioneering work had already been undertaken early in the program by the Tanzanian project engineer Lunogelo Sakafu and by the project social scientist Juventus Dotto who built up capacity for cost-effective building materials production and adaptation to new uses. Rice-husk ash was experimented with, experiences from other countries were compared, and there was a positive exchange of expertise and/or cooperation with other institutions. Finally, a production unit for rice-husk ash binder was operated. The most recent work of the project entailed giving advice on a large-scale urban housing project in the Kiseke Neighborhood in Mwanza, and takes advantage of MRHP's experience gained with locally appropriate building.

All in all, it is evident that during 30 years of program work there has been a fundamental transformation in Tanzanian society. The initial ideals of Ujamaa have virtually disappeared, although several of its positive redistribution fundamentals are still visible in the accessibility to basic education, in the promotion of a nationally unifying language, etc. In human settlement matters, many regrouping efforts have been superseded by rapid population increase, and thus by the growth of villages, towns, and cities, making infrastructure provision even more a priority, but also a challenge whenever investments remain meager. The embracing of free-market economy has not necessarily freed many poverty-stricken citizens, but has contributed to the growth of the middle class, who have embraced new suburban typologies of dwelling formations (villas, larger plots, etc.). The typical compound formation in villages is giving way to plot alignments, and more all-functions-under-one-roof house typologies.

"Sementi ya Pumba za Mpunga" —— A production unit for rice-husk ash binder was operated in Missungwi to produce cost-effective building materials. Kilns with chimneys were constructed for the production of "*Sementi ya Pumba za Mpunga*", or rice husk ashes.



Dwelling Practices Informing Urbanism / Urbanism Informing Dwelling Practices

In the 1960s, Team X advocated the integration of the vernacular into modern architecture and since then a diversity of popular dwelling practices began to resonate in a wide variety of interventions. In Latin America, considerations concerning incremental construction processes became standard elements in a number of the region's housing projects. PREVI is representative of such an aim. Ironically, the dwelling practices in PREVI nowadays have again become a topic of intensive enquiries that reconfigure the project itself. The 'revisiting' of projects allows for continuous (re)development of the relationship between theories and practices. Surveys of sites in today's Arequipa have confirmed the validity of earlier theses on incremental growth. **Human settlements as a paradigm, are not necessarily concerned with a final plan. Rather, the dwelling environment results from the cycles of daily practices that inform urbanism, which, in turn, (re)inform dwelling practices.**

PREVI (Programa Experimental de Vivienda)
Lima, Peru

As the problem of squatter settlements in Latin America increasingly came to the fore and reached mainstream debates on housing, the Peruvian government pursued its quest for new strategies to improve and urbanize its *barriadas*. An experimental housing project resulted from a cooperative setup involving the Peruvian government and the United Nations. Architects from around the world and from Peru itself ex-perimented with low-rise, high-density development with courtyard houses and simultaneously responded to the challenge of merging 'vernacular' and incremental construction processes with the spatial organization and industrialized construction of modern architecture.

MARIANO MELGAR MAPPINGS
Arequipa, Peru

The Mariano Melgar squatter settlement, established in the 1950s in the south-eastern part of Peru's second largest city (Arequipa), has undergone a series of technical assistance initiatives. After a self-help program headed by Jacob Crane, its remodeling was picked up by Arequipa's government office charged with regulating and improving barriadas. Arequipa was also one of the sixteen localities analyzed in the seminal *Urban Dwelling Environments: an Elementary Survey of Settlements for the Study of Design Determinants* (1969). A recent survey of the same sample tissue has underscored Mariano Melgar's densification process and the dramatic reduction of accessible open space due to feeble collective appropriation and the weakness of boundaries between the private and public realm.

PREVI, Lima “as lived”

Rodrigo Pérez de Arce

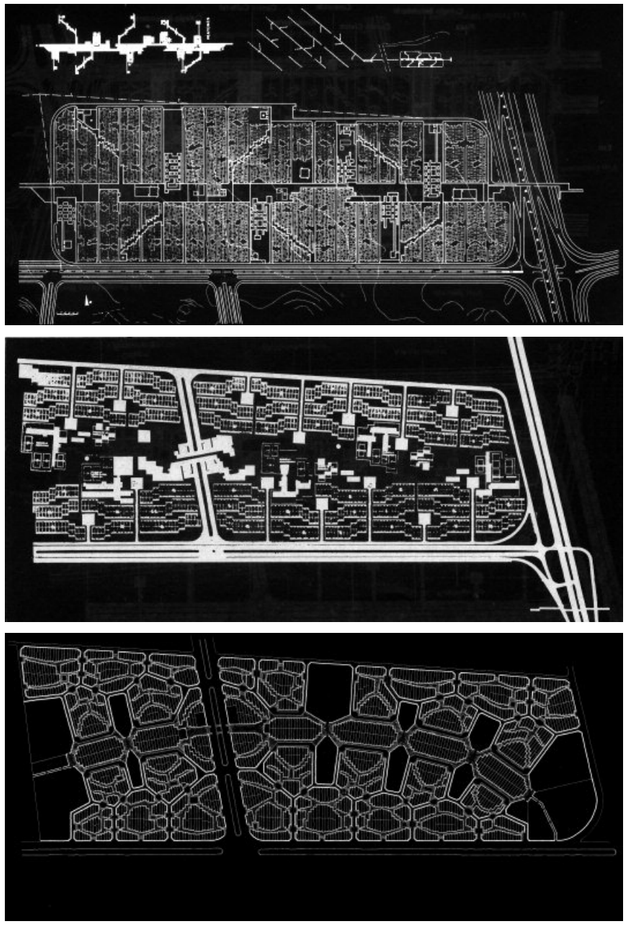
The best laboratory for the relationship of life and built form is probably supplied by ordinary dwellings. But until the advent of modernism, these were not considered a prime architectural subject. Credit is due to early modern architects for making the recognition of the ordinary dwelling a focus of their professional agenda: a conviction shared by the “Experimental Housing competition PREVI Lima.” Launched in 1969, it called for the design of low-rise high-density urban housing, organized in clusters and with the provision for enlargement.[1] The site – a veritable tabula rasa – was located in the bare, dusty outskirts of Lima, Peru. PREVI Lima became an important instance for the consideration of the “as lived,” as it embraced the idea of the house as *process*, over and above its value as *object*. Within the promoter’s vision, the transformational rules embodied in each scheme were expected to anticipate the possible methods, strategies and outcomes triggered by the processes of occupancy.

Henceforth, conceived as a host structure, each dwelling was equipped with a set of rules directed towards the management of unforeseeable adaptations caused by its occupants. Nevertheless, once in command of their brand new living quarters the latter must have been unable to foresee their future lives: indeterminacy worked both ways.

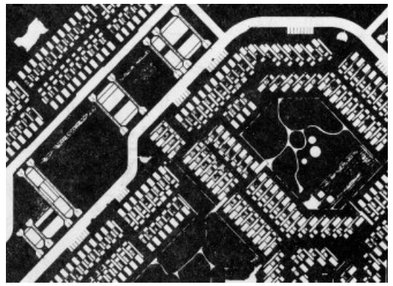
A slow, persistent and extraordinary process was initiated throughout the PREVI neighborhood as soon as the dwellings were delivered, causing the original scheme to increase in density, complexity and functional mix, while it became progressively engulfed by the city of Lima in the wake of its accelerated expansion. The instances of this process are too varied for an adequate record: it works like a phenomenal choral work; its unfolding score following the spatial transformation of each dwelling from the standard towards the singular. Although some of this dynamism is commonplace – as it issues from sheer urban vitality – what makes PREVI interesting is the relationship of its agenda for change with the success of its built outcome. Yet it is convenient to analyze its success within the framework of adaptability rather than an aesthetic appraisal, since in PREVI this transformation exacted a price by substituting the well-tuned formal qualities

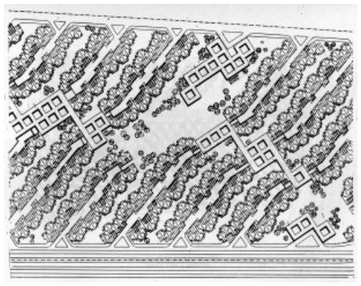
[1] For a full account of the PREVI experience see: Peter Land, “The experimental housing project PREVI Lima, antecedents and ideas,” in: Time Builds, The Experimental Housing Project (PREVI) Lima genesis and outcome, eds. Fernando Garcia Huidobro, Diego Torres Torrito, Nicolas Tugas, Barcelona: Gustavo Gilli editions, 2008.

Experimental housing competition — The PREVI competition called for the design of 1500 low-cost, low-rise and high-density housing on a site of 40 ha in Barriada Pampa de Comas located in Lima’s northern periphery. The contest was open to all Peruvian architects and 13 invited foreign teams. 26 of the entrants each built 20 houses of their own design.



Models for future expansion — The PREVI pilot project aspired to conceive a viable low-cost housing solution for application throughout the Peruvian capital. It assumed a high-density, low-rise neighborhood composed of growing houses organized in clusters as the preferred urban model. The placement of public amenities by designers was tackled by condensing them along a spine, as the examples by Candilis, Josic and Woods (above) Crousse, Paéz and Pérez León (middle) and Alexander (below) underscore.





Platforms for transformation —— The question of expansion, flexibility and adaptation of the clustered dwellings was a key factor for the competition participants. Winning entry by Kikutake, Maki and Kurokawa (left) imagined two potential extensions on the second floor terraces to allow for landscaped surroundings. Charles Correa (right) foresaw the enlargement on the first-storey slab. The interlocking pattern of dwellings with common and meandering walls aimed to create a seamless continuum of enclosed and open spaces.

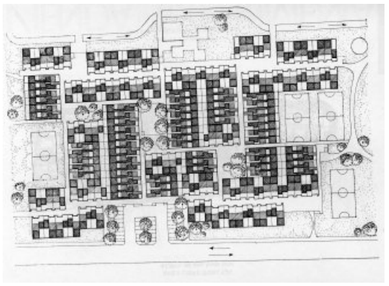
of the original schemes for an 'ordinary' urban image. Here the dwellers played the game beyond expectations, with the result that it has now become almost impossible to recognize the originals. However, the loss of the original image went hand in hand with an increment in other qualities: it can all be summed up as a substitution of the ready-made for the made-to-measure. Houses, nurseries, shops and schools arose upon the original foundations. It is true, however, that the imagery construed through this collective effort of adaptation apes middle-class taste, yet PREVI is vital and interesting at the level of experience, as it is also varied in its configurations, and it definitely looks well-kept. Most likely it has also accrued market value, while it also stands for a viable urban alternative vis-à-vis debased urban models such as the gated community and low density suburban housing.

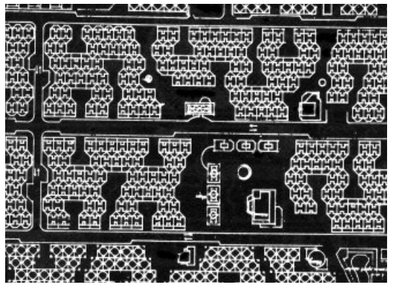
If the experience was so successful, why was it received so reluctantly by the architectural media, and why was it so easily forgotten? In the absence of other considerations, an aesthetic criterion is one factor that may account for a critique of PREVI: the disfigurement of its houses under the weight of indiscriminate transformation caused their loss of image, easily equated with a loss of significance. On the other hand PREVI's strength seems to derive in great measure from its very ordinariness, a condition that bespeaks of its striking capacity for urban integration. Such a stance is anything but heroic, thus, when confronted with other transformational models (the megastructure, metabolism, capsule-based nomadic schemas) PREVI may also appear trivial, unsubstantial. Furthermore, there is no technological glamour to be found there, rather an intelligent use of available technologies, as well as a strategic usage of the surplus structural capacity inbuilt in the original schemes (both are critical to its positive outcome). Thus the reasons that may have relegated PREVI to oblivion seem to confirm the very basis for its current revaluation.

UNRAVELING TIME

Surveying this incremental process requires a method similar in kind to the archaeologist's disentanglement of historical diverse parts which have cohered into monolithic fabrics. This mode of representation bespeaks of the dialectics of life and architecture we have mentioned before, and as such it supplies one

[2] Fernando Garcia Huidobro, Diego Torres Torrito, Nicolas Tugas, 2008.
[3] Philippe Boudon, Lived in architecture. Cambridge: MIT Press, 1972.
[4] "Chandigarh Reurbanized" in: Architectural Design, April 1978.
[5] Fred Scott. On Alterating Architecture. London: Routledge, 2008: p. 11





Prototypical housing concepts —— The clustering pattern of Atelier 5 followed the logic of interweaving small open areas and sports fields with housing and used topographical manipulations to reinforce the collective space. The walking lane was filled in with earth from excavations, which made accessible mid-floor entrances to the dwellings (left). Aldo van Eyck relied instead on the honeycomb module to direct housing expansion vertically rather than horizontally (right).

perspective not easily attained otherwise. The survey of PREVI conducted by García Huidobro, Torres and Tugas displays three decades[2] of occupancy, revealing the sophisticated tactics with which dwellers sought after fruitful alliances between their needs and the attributes of each foundational building. It supplies an assessment of residential design performance, its time span being ample enough to make this reciprocal game substantial. Previously used by Boudon as a way of interpreting the fate of Corbusier Pessac housing,[3] it remains a rare method for representing architecture, but it does hit upon one of its fundamental dimensions. My article "Chandigarh Reurbanized"[4] posed a similar question – yet prospectively, as it speculated about the extent to which a master plan could hold itself up against change.

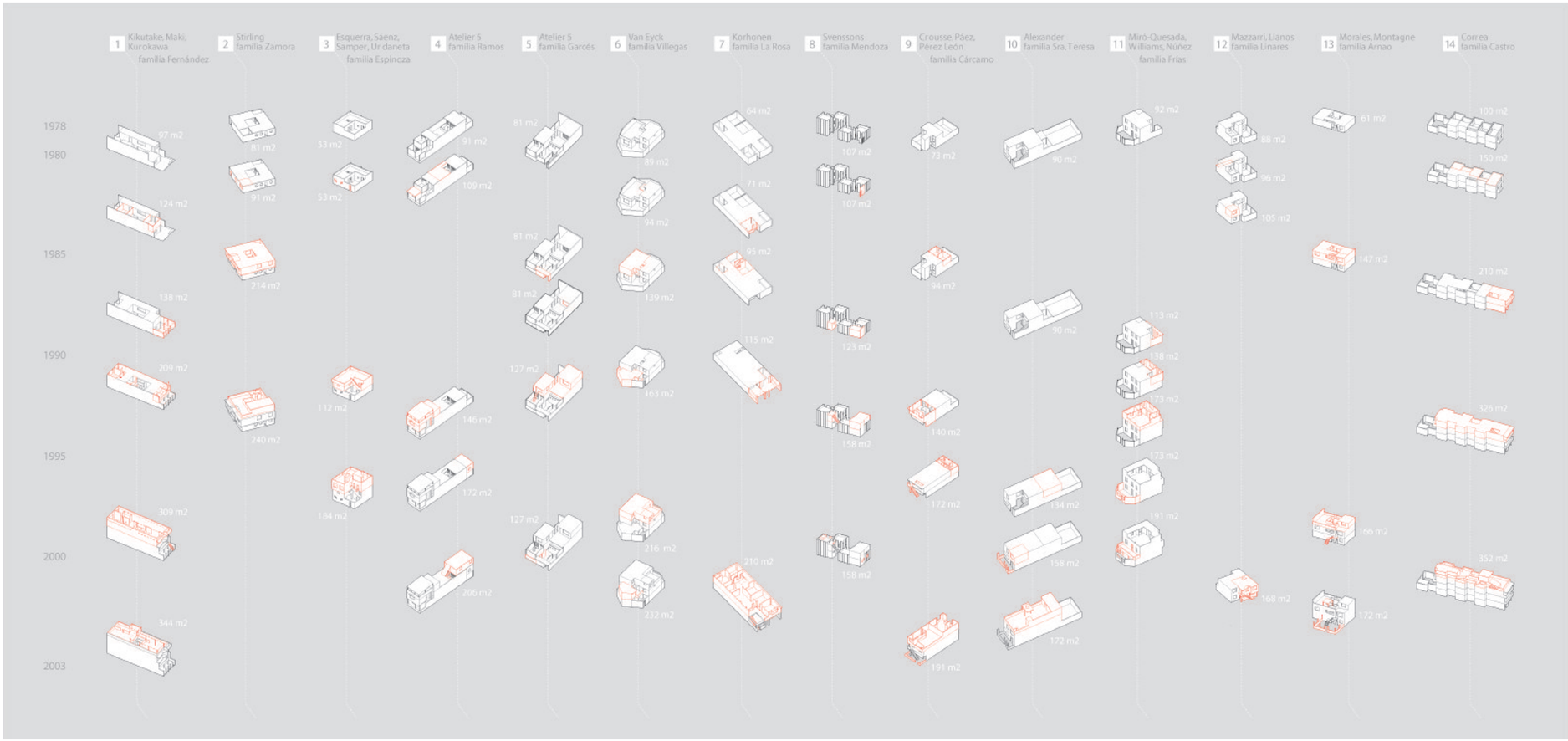
PREVI's 30 years deserve to be celebrated as a lesson of architecture, albeit a sobering one, since the directions the project takes will exceed the original vision of the designer. It also teaches us by way of confirmation, qua the original buildings, their strategies and postulates, about the conviction of their designers and promoters. Cast in its survey the PREVI lesson brings us closer to an understanding of the veritable mission and destiny of the architectural project.

"AS LIVED": LIFE, BUILT FORM AND REPRESENTATION

A building is a point of encounter, a material articulation of intentions: originally, the client's and the architect's, later on those of the consecutive occupants, according to their requirements over time. In this way, the architectural opus is subject to interpellations over extensive periods of use. A slow, sometimes invisible development marks the effect of time upon it, a register of its exposure to both the natural environment and the life of its occupants who progressively adjust it, to fit their lives. To quote Aldo Van Eyck, if architecture is no less than a counter-form to life, life – active as it is – must strive to adjust it, following need, imagination and desire. The architectonic structure frames and confronts the evolving habits of its residents. Within the sphere of dwelling, this everyday encounter naturally becomes reiterative and all-encompassing, for it is there that one grasps the highest degree of intimacy between inert matter and life, to a point where memories conflate buildings and events.

As architects, we increasingly loose touch with the fact that building completion, a prime goal of our professional labors, predates building's life, which is to say that it only signals the mere initiation of its destiny. An excessive emphasis on the project "as designed" and the project "as built" has rendered the dimension of the project "as lived" insignificant. Furthermore, the latter is dynamic, difficult to record and often unpredictable in its turns. Yet the city – any city, however much it may stand for youthfulness – exudes material for the drama of the project "as lived". Such dimension conjoins human experience with material aging, and yet, contradicting this basic fact, the astonishing productivity of the architectural media over the last decades has promoted the circulation of virginal images of architecture that stand for an unprecedented value of the new (coincident with the "as built"). It is unprecedented because a bunch of woodcuts, etchings, and technical documents is all we have inherited as an account of building representations of the "as built" prior to the modern age. However, it is not just the image that provokes this value. In a sense such widespread dissemination only confirms a more profound conviction about completeness, whereby the deliverance of the project is also understood as the moment of its closure; a supreme instance of synthesis, its epiphany.

Yet inhabitation is the goal. Furthermore, its effect is to accrue as well as subtract architectural value from the host structure. Use does also reactivate inert matter as when ruins were brought back into life, a common occurrence prior to the industrial age. However, use does not exist outside convention. Convention explains why the modern sense of history attempts at arresting the passage of time over certain buildings singled out as *heritage*, a predicament, which can only aspire to success at the cost of eradicating life. "In this respect," Fred Scott argues, "buildings chosen for preservation are memorials to failed collective architectural endeavor."[5] The overwhelming melancholy that a visit to Ville Savoye elicits, confirms the high price that the denial of occupation exacts from architectural experience.

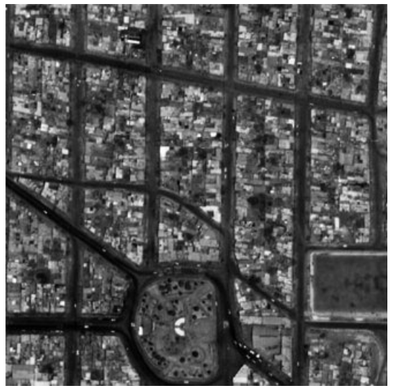


PREVI, 30 years later —— The PREVI endeavor was premised on the definition of rules structural enough to guide the self-managed transformations which would arise through dwelling use and adaptation over the years. Recent documentation of contemporary PREVI have underscored the crucial importance of the dwelling understood as a platform for transformation and the potentials of open, progressive urban planning.

Mapping Mariano Melgar

Esther Jacobs, Viviana d'Auria

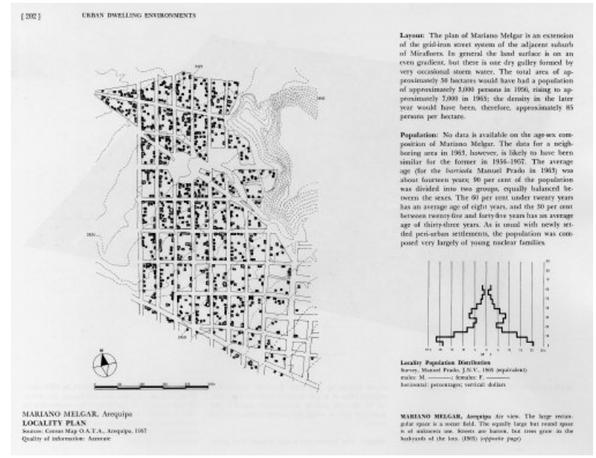
The Mariano Melgar *urbanización* in Arequipa, settled only in the mid-20th century, was very much still in the making in 1966, when the School of Architecture and Planning at Massachusetts Institute of Technology (MIT) began mapping the area as part of an education-research program on "Urban Settlements in Developing Countries."[1] The neighborhood as one of the eight elementary surveys for the study of design determinants from Latin America that was included in *Urban Dwelling Environments*. Mariano Melgar was systematically analyzed following the standardized categories established by the Boston-based academics: urban area, locality, locality segment, dwelling group and dwelling. Spectacular aerial views and photographs taken "from below" of particular details, such as public wells, complemented the detailed mapping investigation. The objectives, as stated in the opening pages of the highly influential study, were to: "(I) dramatize the correlation between settlements and the geographic and cultural context in the rapidly urbanizing world of today; (II) to illustrate various levels and aspects of the physical environment; (III) to compare and contrast different 'products' and their relationship to effective demands; (IV) to find a framework for a more comprehensive approach to settlement development and design".[2] Square samples of 400 x 400 meters were identified for this purpose as a basic unit or sample tissue of the analysis.



Arequipa, 1957–2007 —— The Mariano Melgar *urbanización* has been one of the eight Latin American sites investigated by the MIT research group. In 2007, documentation of the same samples was considered as an opportunity for better grasping patterns of dwelling appropriation, urban transformation and the growing importance of environmental dynamics.

[1] The material for the work was gathered by the three authors during the following periods: Boston, 1966–1968 (Steffian); Lima and Arequipa, 1957–64 (Turner); Ciudad Guayana, 1965 (Caminos), 1967 (Turner); Medellín, 1966–68 (Caminos). Preliminary studies were initiated in 1966, followed by student sessions in Boston and production of drawings of the 16 cases developed by some members of the 1968 graduate class as part of their course work. For more detail see *Urban Dwelling Environments*, p. IV.

[2] *Urban Dwelling Environments*, p. V.



[202] URBAN DWELLING ENVIRONMENTS

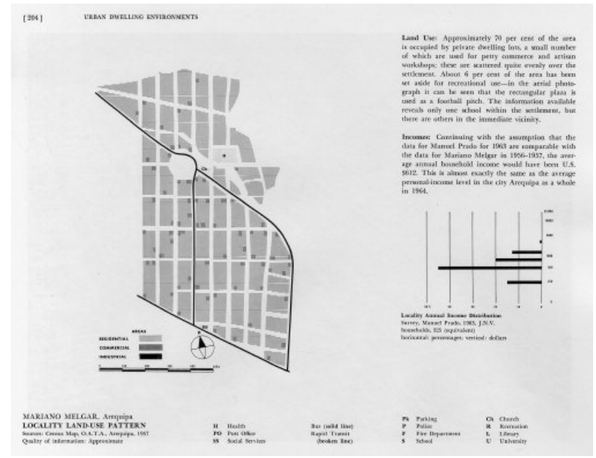
Layout: The plan of Mariano Melgar is an extension of the grid-iron street system of the adjacent suburb of Miraflores. In general the land surface is on an even gradient, but there is one dry gulley formed by very occasional storm water. The total area of approximately 50 hectares would have had a population of approximately 3,000 persons in 1956, rising to approximately 7,000 in 1963; the density in the later year would have been, therefore, approximately 85 persons per hectare.

Population: No data is available on the age-sex composition of Mariano Melgar. The data for a neighboring area in 1963, however, is likely to have been similar for the former in 1956-1957. The average age (for the barriada Manuel Prado in 1963) was about fourteen years; 90 per cent of the population was divided into two groups, equally balanced between the sexes. The 90 per cent under twenty years has an average age of eight years, and the 10 per cent between twenty-five and forty-five years has an average age of thirty-three years. As is usual with newly settled peri-urban settlements, the population was composed very largely of young nuclear families.

Locality Population Distribution
Survey, Manuel Prado, J.N.V., 1963 (equivalent)
males: M. ———— females: F. ————
horizontal: percentages; vertical: dollars

MARIANO MELGAR, Arequipa
LOCALITY PLAN
Sources: Census Map O.A.T.A., Arequipa, 1957
Quality of information: Accurate

MARIANO MELGAR, Arequipa Air view. The large rectangular space is a soccer field. The equally large but vacant space to all unknown use. Streets are narrow, but trees grow in the backyards of the lots. (1963) (opposite page)



[204] URBAN DWELLING ENVIRONMENTS

Land Use: Approximately 70 per cent of the area is occupied by private dwelling lots, a small number of which are used for petty commerce and artisan workshops; these are scattered quite evenly over the settlement. About 6 per cent of the area has been set aside for recreational use—in the aerial photograph it can be seen that the rectangular plaza is used as a football pitch. The information available reveals only one school within the settlement, but there are others in the immediate vicinity.

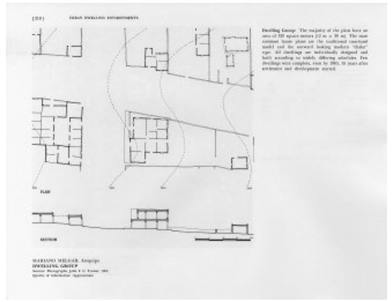
Income: Continuing with the assumption that the data for Manuel Prado for 1963 are comparable with the data for Mariano Melgar in 1956–1957, the average annual household income would have been U.S. $612. This is almost exactly the same as the average personal-income level in the city Arequipa as a whole in 1964.

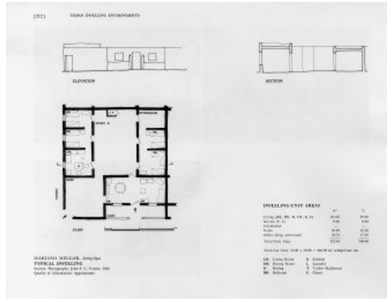
Locality Annual Income Distribution
Survey, Manuel Prado, 1963, J.N.V.
households, 325 (equivalent)
horizontal: percentages; vertical: dollars

MARIANO MELGAR, Arequipa
LOCALITY LAND-USE PATTERN
Sources: Census Map, O.A.T.A., Arequipa, 1957
Quality of information: Approximate

H Health
PO Post Office
SS Social Services
Bus (solid line)
Rapid Transit (broken line)
Pk Parking
P Police
F Fire Department
S School
Ch Church
R Recreation
L Library
U University

Urban Dwelling Environments: locality plan and land use plan —— At the urban scale, large, wall-bound blocks arranged along a relatively wide infrastructure grid create a uniform environment. Collective open areas are very few and large in scale, thus creating strong breaks in the otherwise repetitive layout.



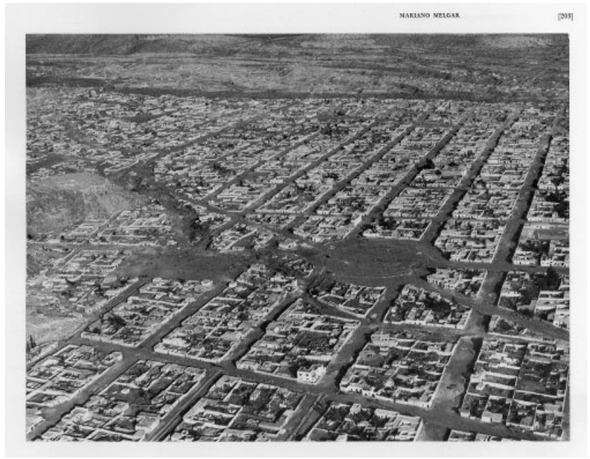


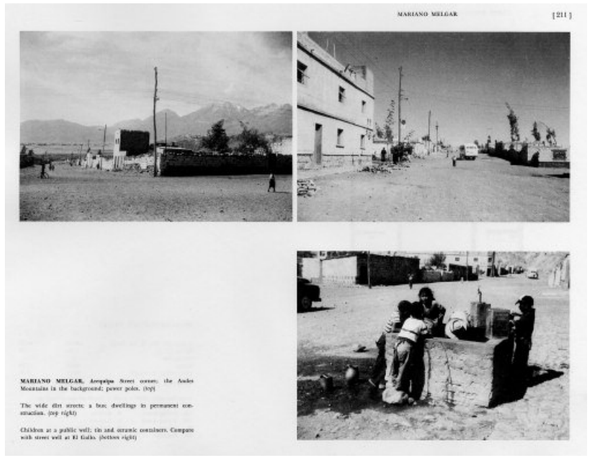
Urban Dwelling Environments: dwelling group and typical dwelling —— The young nuclear families residing in the surveyed neighborhood for the most part lived in traditional courtyard dwellings, a type still preponderant today. In their analysis of the dwelling group, the increasing presence of the more extrovert "chalet type" was also documented by the surveyors.

Through their collection of surveys Caminos, Turner and Steffian denounced what they felt was an increasing superficiality, irrelevance and impotency of planning vis-à-vis a number of pressing environmental problems and urban poverty. By drawing lessons from existing conditions in a range of environments, their study produced context-based knowledge on the determining factors influencing the form and design of dwelling environments. Their work was premised on the conviction that "the values and things designed and built lie in their relationships to the users and makers and not in any quantifiable characteristics of the isolated object".[3] The conclusions derived from their comparative mappings of North and South American environments displayed some of John F.C.Turner's and Horacio Caminos' findings from their respective experiences in Peru (Lima, Arequipa) and Venezuela (Ciudad Guayana). This is particularly evident in terms of household priorities expressed by the different social groups and investigated in terms of amenities, tenure and location. Patterns of life in a rapidly urbanizing country, framed by what was assumed to be a "transitional economy," meant considerable social mobility in response to the quest for permanent tenure. This was a marked difference with the studies made for Boston's urban tissue samples, which (unsurprisingly) revealed an opposite tendency, with a much higher demand for facilities than for ownership and status.

In the MIT surveys, the Mariano Melgar neighborhood was presented as an environment prototypical of the autonomously developed settlements located in the peri-urban fringe of a Peruvian city, with largely unfinished, low-rise, courtyard dwellings arranged within a barren grid-iron layout which was a continuation of the contiguous neighborhood into the *urbanización popular*. In 1965, Mariano Melgar housed an estimated 7000 persons, composed mainly of young nuclear families. The settlement primarily consisted of private dwelling lots consistently punctuated by artisan workshops and small commercial activities. Street elevations were characterized by masonry walls fencing off all properties and marking the perimeter of

3/ Ibid, p. vi.





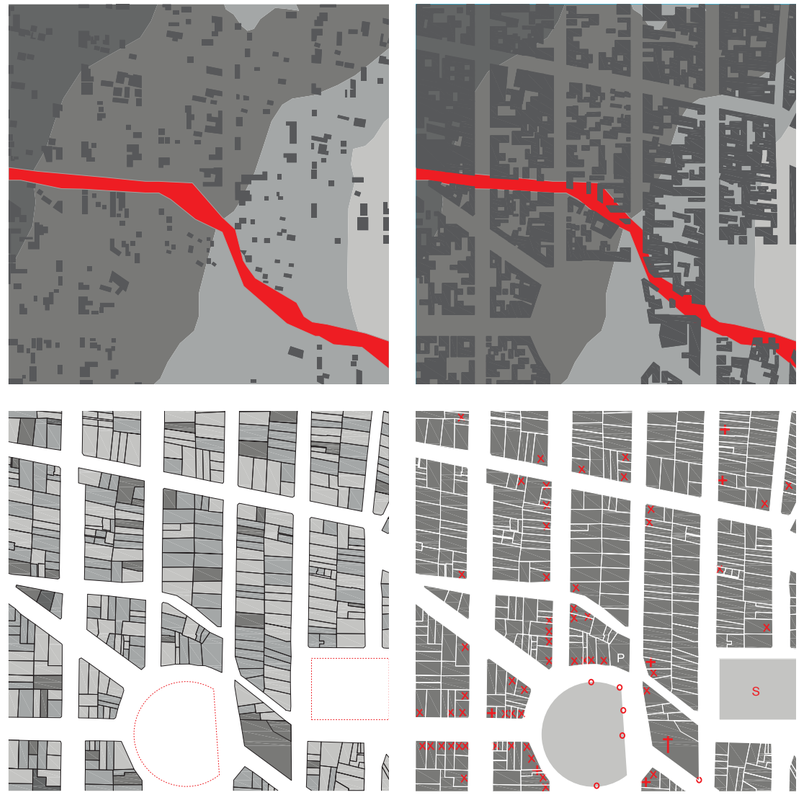
Urban Dwelling Environments: air views and street corners —— The combined use of dramatic aerial views with photographs "from below" presents the Mariano Melgar neighborhood as a prototypical and self-developed peri-urban environment. Both images underscore the barren grid-iron layout composed of largely unfinished and low-rise courtyard houses.

approximately 120 x 60m lots. The areas was incrementally developed and the only vegetation in the area was in privatein their backyards. The individual lots were agglomerated into blocks, which, in turn, were separated by relatively wide streets (8–12 m). The uniformity of the grid-iron layout was broken only by the two main open spaces, one of which was informally used as a football field, and by the dry gulleys which occasionally filled with storm water. At the scale of the locality segment, the totality of publically-owned land (approximately 40 %) was composed of streets, parking and pedestrian walks; no parks, playgrounds or schools existed. The average size of dwellings plots was 250 square meters and followed either the traditional courtyard layout or, as the surveyors noted, the "outward looking modern 'chalet' type"[4] and were primarily inhabited by extended families.

In 2007, the same 400x400 meter sample urban tissues of Mariano Melgar were studied via fieldwork. The main goal of the analysis was to determine how and why a settlement that had originated as a well-functioning, self-organized community had transformed into an unsafe neighborhood with little-to-no public life or social control. The main findings drawn from the comparative evaluation are related to the largely underestimated importance of the semi-public space within the urban tissue during its improvement. Omitted by the MIT survey system, since it relied on the strict separation of public and private ownership, were various degrees of accessibility and openness in the urban tissue. A number of everyday use patterns fell through the cracks of the standardized categories developed by the researchers. The original roads that were wide and barren and housed basic services and communal wells, actually served as semi-public meeting places for the community. These roads were successively upgraded by the COFOPRI [Commission for the Formalization of Informal Property], a governmental organization in charge of formalizing informal developments. Streets were paved and delimited by narrow sidewalks, a process which attenuated the implicit hierarchy of the infrastructural web. In terms of urban quality and vibrancy, the infrastructure upgrading did not engender an improvement, but conversely resulted in an urban tissue with no clear hierarchy, in some instances too strictly defined to entail appropriation residents.

As part of the progressive *urbanización*, dwellings have incrementally grown, and the great majority are now built in durable materials such as concrete and masonry, and no longer use sillar.[5] The courtyard typology remains the prevailing house type, though three-storey apartment buildings are increasingly found along the main roads. Commercial activities have further developed, whereas all basic communal services have become privatized. The open circular space, considered "undefined" by the MIT team, is today – as a public park – the heart of the consolidated Mariano Melgar neighborhood. Planted with palm trees, paved and equipped with urban furniture, it provides a valuable, shaded meeting space for residents. Additionally, the dry gulley mentioned in the documentation by Caminos, Turner and Steffian's team was canalized in 2007. Surrounding the initial 400 x 400 meter sample, representing by now the more layered area of the neighborhood, lies Mariano Melgar's less consolidated areas, located at the edges of (and occasionally in) the mountain torrents. It should here also be mentioned that attempts to tame the torrents through canalization in more centrally-located upper and middle-class neighborhoods has had repercussions on the storm water's velocity and consequent erosion, posing a real threat to the dwellings located in the torrents' proximity. The fieldwork elaborated in 2007 shows an expected consolidation of the *urbanización* analyzed in the late 1960s, especially when related to the steadily expanding settlements located at the margins of Mariano Melgar. This process has corresponded to a shift in the demarcation of open spaces, whereby the transitional areas once accessible for multiple uses have been manipulated as to be either civic and equipped, or protected and claimed for private use only.[6]

[4] Ibid., p. 210
[5] Sillar is a whitish volcanic stone from which many colonial buildings in the city of Arequipa, Peru, are made. The stone, a vapour-phase crystallized tuff produced by the now-extinct Chachani volcano during the Pleistocene era, was named by the geologist Clarence Fenner in 1948.
[6] See Caymax, Liesbeth and Jacobs, Esther (2008) *Design Strategy for Low-Cost Housing Project in the Latin American Context. A Case Study in the Desert Periphery of Arequipa, Peru (Part I).* Leuven: KU Leuven, unpublished Masters' thesis.



From liminal *barraida* to consolidated periphery — Today, streets and open areas in the Mariano Melgar *urbanización* have been upgraded and qualified, leading to the weakening of the intermediate semi-public and semi-private spaces often used for temporary and changing activities. Dwellings have grown in size and their construction has been reinforced by the use of concrete and masonry.

[Re]Calibrating Human Settlements

OPERATIONS IN THE FIELD 1990–2010

Planning in a (post-)Conflict Society: The Case of Somalia[1]

Filiep Decorte, Ombretta Tempra

PLAN VERSUS PLANNING

Planning is still too often seen as an activity to 'control' development, detailed in the 'Plan,' cooked up by planning experts. In a post-conflict context, urban development often just 'happens,' with or without a plan, and is geared towards securing private or sectoral interests. There are hardly institutions and professionals capable and/or willing to exercise the classic 'planning' control, designed to make the common good prevail and guide development down well-studied paths. In contexts where there is no formal, appropriate planning framework and limited capacities there is no choice but to creatively re-constitute a toolbox which can steer development towards sustainable direction. This article looks at the recent experience of UN-HABITAT in Somalia.

SOMALIA: POST-CONFLICT? POST-NOMADIC?

The Somali context is particularly complex. The traditional clan-based system and the teething problems of Somali democratic governance structures complement, as well as undermine, one another. The growing pains caused by rapid urbanization, that characterizes sub-Saharan Africa, are exacerbated by the swift change from a nomadic society to an urban one. In the absence of land laws, policies and urban management systems, cities are ruled by black-market principles. All seems to be for sale or up for grabs and power games and clan affiliation tend to define where legality lies. In extreme cases, the gun replaces dialogue. Transparency, equitable sharing and common good are the first victims in such a context. Conflicts are often over control of key urban infrastructure and urban land.

The lack of understanding of basic urban planning practices further facilitates the transformation of urban areas into bundles of haphazardly laid-out buildings with a multitude of users fighting over the same unorganized public spaces. Massive land-grabbing occurred in the immediate aftermath of the main conflict, in a deliberate effort to pre-empt any administrative control. This, coupled with the relative absence of urban management, makes the insertion of urban

[1] / This article is dedicated to Ahmed Bario, Abdullahi Dahir and Isnino Muse, three national project officers who played a crucial role in engaging with all stakeholders. Joana Cameira, Betlehem Demissie and Khalied Jacobs, alumni of the Post Graduate Centre for Human Settlements, and Gerry Reddy worked as planners at city level in Somalia and played a crucial role in making planning real. The article is the responsibility of the authors and does not represent the view of UN-HABITAT.

infrastructure and services a difficult task. The lack of urban culture makes it difficult to 'sell' the potential advantages of a well-planned urban context. Reconstruction efforts, including those sponsored by the international community, are often characterized by ad-hoc investments. Somalia is littered with market buildings, health clinics, and schools that materialized as free standing idle objects, rather than strategically inserted into the urban fabric grounded on basic urban planning principles.

WHOSE CITY IS IT ANYWAY?

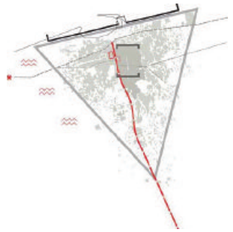
Spatial reality mirrors the values governing a society and the predominant ideology. A democracy should reflect the needs of many competing forces and result in inclusive cities. In Somalia, the emerging democratic practices do not yet allow for a balance of power and do not take into account the needs of the underprivileged. The question how to strike a balance between the short-term aspirations of the Somali society on the one hand and more global humanitarian and development principles on the other, is a critical one.

(SPATIAL) PLANNING AND DESIGN: KILLING MULTIPLE BIRDS WITH A VERY SMALL STONE

In Somalia, a handful of planners and community activists used simple planning techniques and urban design to help reconcile the interests of all actors involved. It was clear to the planners that it was crucial to acknowledge and understand all the urban actors in order to contextualize various spatial manifestations, the sum of which is evidently not a harmonious city but a contested spatial reality. Planning, as such, is not just the act of 'making a plan' or defining a project, but includes broad community discussions on baseline principles, derived from negotiated core values and global agendas. It entails finding ways to balance profit-making, while safeguarding space for the common good, including spaces for urban poor to pursue their livelihoods. This requires a continuous building of bridges between conflicting sides.

Bossaso, Somalia's main port —— Since the civil war, the city has been growing rapidly due to the in-migration of IDPs.

Dire conditions of existing infrastructure and shelter —— The city suffers from an inadequate road network and is completely unequipped to provide services to the IDPs.



Urban delta —— Bossaso is structured by the port to the north, wetlands to the west and an uncultivated landscape to the east. The urban core is concentrated in the centre of the delta and is crossed by one primary vehicular connection.

Water supply and water cost relations —— The poor public infrastructure and the vested interests of those who speculate on water provision result in high costs, especially for the poor.

The planning approach used tries to develop a broad consensus on an integrative spatial framework, constructed upon basic urban concepts. Planners used simple diagrams, satellite images and visual three-dimensional projections, superimposed on present-day photographs and interacted with stakeholders through multiple town hall meetings, guided walks, and TV reports. Visual communication was an essential component of the process. The aim was to steer the different types of investments taking place, be it by the public or private sector or the individual households, towards a shared long-term vision of a growing and better functioning city.

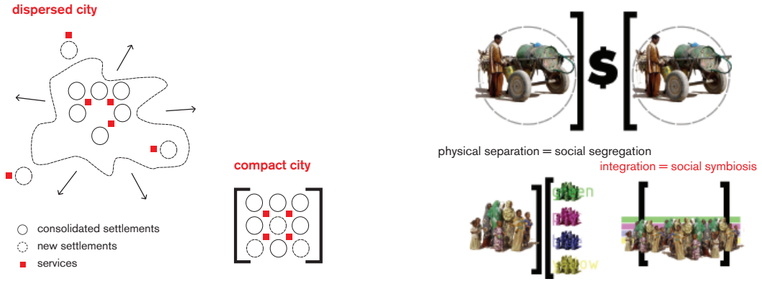
Strategic projects were also a keystone in the process. In a post-conflict environment, planning discussions only makes sense to people if they result in clearly visible improvements. In the context of Somalia, where funding was always an obstacle, the simple tracing of a road by a bulldozer became a strategic move. The hidden infrastructure of the extended waterlines was paralleled by the visible marking of the trajectory by street lamps. Such visibility built confidence amongst stakeholders and allowed for testing their willingness to jointly engage in planning and co-produce projects.

In Somalia there are large in-roads to be made. The improvement of municipal revenue, for instance, would allow for more leverage and strategic investment in infrastructure. A basic legal framework would create a more enabling environment, that could actively protect the public realm and the rights of the urban poor. The country's development of its planning capacity needs to focus on basic planning concepts, using simplified tools, since technicians and surveyors, or at best architects, constitute the planning unit within a municipality.

STRATEGIC PROJECTS: THE CENTRAL MARKET AREA IN HARGEISA

In the rapidly expanding city of Hargeisa, the end of the civil war ushered in a blossoming of commercial activities and created new pressures in the central market area, with hundreds of petty traders clogging the roads. Meanwhile, nearby two market structures were unused and several neighborhoods unserviced, due to their lack of accessibility. As a consequence, traffic and public transport were chaotic, meat and vegetables were sold in unhygienic conditions and formal vendors moved into the street, leaving many buildings empty and consequently reducing the tax revenues of the municipality.

Markets are important engines of local develop-



From a dispersed to a compact city —— The strategy works to densify the existing urban fabric and efficiently serve integrated communities with much needed public facilities.

ment and their role in structuring urban life makes them ideal entry points for planning. The initial request for physical rehabilitation of the existing buildings was easily broadened into the overall upgrading of a specific urban area, which, in turn, led to the improvement of the transportation network, a revision of the distribution of markets across town and a 'regularization' of informal commercial activities.

Planners carried out basic planning and design exercises to guide the negotiation process, demonstrating to what extent the interests of the informal vendors, the bus drivers, the formal shopkeepers and the municipality could be accommodated in the same contested space. Key was the visualization of different spatial scenarios. As a result of such a process of co-production, the vendors took an initiative to re-align their structures in order to allow emergency vehicles and buses to pass and, as well, space was secured for the informal vendors, guaranteeing them their vital livelihoods.

AN INTEGRATIVE FRAMEWORK: MAKING SPACE FOR THE DISPLACED AND URBAN POOR IN BOSSASO

Decades of civil war and recurrent droughts have displaced many of Somalia's once agricultural and pastoralist communities, moving them to the urban centers. Newcomers squat inside public compounds which were abandoned during the civil war, reside on fringe land such as eroded riverbanks or rent out unserviced land from private landlords, since the local authorities have little or no public land to offer. Often, the internally displaced persons (IDPs) are a substantial source of income for landlords, who charge high rents and act as 'middlemen' for humanitarian assistance. In this way, landlords also secure control over land by giving it a temporary use. Unfortunately, yet predictably, this results in a reluctance to make improvements on these properties.

In the port city of Bossaso, requests to the authorities to identify suitable land for resettlement were highly problematic. Land in the urban growth areas is considered too valuable to be allocated for resettlement. Therefore, land identified for resettlement would typically be low-value land, disconnected from the existing city. Nonetheless, planners subverted the development of 'housing schemes' for the displaced as entry points to engage in city-wide planning exercises. The authority's original intention was to resettle all displaced communities, one fourth of the population (20,000 people), to an isolated location, 11 kilometers outside town, which would have, de facto, precluded

the creation of a future slum. Their physical and social isolation would deprive families of affordable access to livelihoods, of basic assistance from better-off neighbors and the unproductive time spent on transport would further heighten the risk of family disintegration.

The authority's proposal was rejected following community-level discussions on core values and basic planning principles. The discussions resulted in the formulation of criteria for land resettlement identification: social sustainability (security, integration into existing host community); spatial sustainability (compact city growth); economic sustainability (access to livelihood opportunities); and the possibility of providing adequate, affordable and sustainable basic services and infrastructure (with cross-subsidizing possibilities and benefits for the host community). It was agreed that land which fits the above criteria offers 'sustainable space,' covering a key dimension of human settlements. In the discussions, it became clear that the 'empty' land in the periphery already had an invisible layer of control by the landlords. Any plan projected into this area had to find a way to engage the landlords, and in a language they could understand. From their perspective, the landlords saw the advantage of working with external planning efforts in order to overcome the chaotic land grabbing process which made it nearly impossible to introduce proper road networks, basic services and infrastructure.

The basic concept employed was that of land-sharing. Landowners were convinced to handover a certain percentage of their land, not only for the construction of roads, services, and public infrastructure, but also for small plots affordable to urban poor and displaced communities. Resettlement of the latter by the international community was responsible for bringing in fundamental investments. Planned and serviced land evidently resulted in an overall increase in land value. The win-win situation for the host and the displaced community, the prospect to guide the city's growth, and the capital investment projects have proven to be the convincing arguments to mobilize local decision-makers and landlords in favor of a more inclusive planning approach.

The exercise used basic urban concepts to frame the land-sharing notions and to focus half of the discussion on urban growth models. The urban concepts utilized were limited in number and in the level of detail. The main ideas pursued included the transformation of a major by-pass road to the port into an urban boulevard which would string together public infrastructure and green spaces; a green belt following the current urban limits, incorporating existing informal recreational spaces; a future outer limit which was to be organized by livestock holding areas and access routes to the port, as well as a broad grid easily traced by a bulldozer, within which land re-adjustment could occur and pockets the size of soccer fields could be made accessible for temporary housing of the urban poor and displaced communities.

The different structuring elements needed to be easy to grasp, appealing enough to attract broad community support, implementable with the available means and giving spaces a concrete use and value. A simple line or designation on a plan is hereby clearly insufficient. The act of planning required the daily and sustained grassroot planning work with the council, communities and landlords so as to absorb the plan and spread the ownership of ideas.

Introducing planning in a post-conflict society is both a necessary and feasible. Planning in such a context as Somalia can trigger an efficient use of the limited human, financial and technical resources, aim towards maximum impact and multiplier effects, and place 'emergency interventions' in a broader development perspective. The approach described above gives a few examples of how planning and urban design can help balance the rights of the urban poor with the more powerful actors on the urban stage. Such planning needs to be kept simple and pragmatic, focusing on the drivers of change, and using design to add value and negotiate the use of space.

Strategic urban development plan —— The delta structure of Bossaso is strengthened by creating by agricultural reserves and livestock holding grounds, on the one hand, and injecting new economic activities on the other hand.

Reconstructing the Oxymoron: The Palestinian Refugee Camp of Nahr el Bared, North Lebanon

Ismae'l Sheikh Hassan

IN SEARCH OF A DEFINITION ...

Today, it is very difficult to talk about the issue of Nahr el Bared refugee camp and its reconstruction. The more immediate practical reason for this difficulty is that the reconstruction has not taken place yet and is continuously stalled by the unstable political context within Lebanon. But there are more fundamental reasons behind this difficulty. They stem from the inherit complexity of the Palestinian refugee camp issue itself and the ironic circumstances under which they have been sustained in a temporary condition for the past 60 years. The very statement 'reconstructing Nahr el Bared refugee camp' becomes increasingly oxymoronic.

Palestinian space today is composed of an assortment of changing territories, camps and occupied zones within host states that are obviously transnational and spatially disconnected, yet socially linked. This came about as a result of the UN decision to partition Palestine in 1947 and its eventual total occupation by the newly created State of Israel (in 1948 and 1967). This decision lead to the forcible displacement of more than half of the Palestinian population from their lands, villages and cities. Israel, moreover, erased and demolished more than 400 villages in historic Palestine.

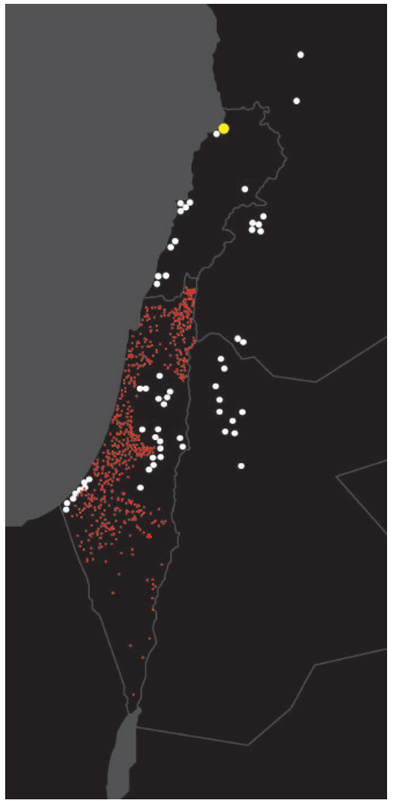
The contemporary Palestinian Refugee Camps are the consequence of a post-1948 space where Palestinians reside but cannot rule, and their sovereignty is continuously contested, challenged and denied. While the Palestinian diaspora is dispersed across the world, a significant portion remains concentrated in the 50 refugee camps bordering their homeland within historic Palestine. They await their legal right to return (UN Resolution 194, 1948) and struggle to attain basic civic rights in the countries that hosts them.

Recently, Palestinian camps have gained new attention in the urban discourse, due to their classification as 'Camp Cities' and an increasing interest in spaces of exception, exclusion and various studies related to refugees, migrants and transnational practices. With the 'State of Exception' being described as the most prevalent paradigm of the twenty-first century – due to the normalization of the suspension of law and various extreme judicial measures validated by the global war

on terror – it is evident that the Palestinian 'Camp-City' has become the symbol of such a paradigm. Furthermore, in the case of camps this 'exceptionality' is not merely a temporarily induced status, but has become a permanent system within which an urban entity, as well as a national identity, is created and transformed.

Palestinian camps arise as urban forms juxtaposing notions of exceptionality, extremity and acceleration. Exceptionality in the sense of the possibility for any incident to happen in camps, because they house refugees in contexts of conflict and where the applications of laws are often overlooked. Thus, acts of destruction, erasure and exclusion become predominant themes for the Palestinian refugee. The notion of extremity refers to the difficult human condition within the camps and the extension of the permanently temporary condition for over 60 years. The limitation of space for camps and the increasing Palestinian population contributes to creating incredibly dense urban environments (for example, in Nahr el Bared there are 120,000 inhabitants per square kilometer) where open space is nearly non-existent. Acceleration is the surprising speed at which the camp landscape has transformed and produced very different urban forms over the past 60 years.

What is interesting in the context of the Palestinian camps is that their architectural/social/urban structure has been spontaneously produced and developed by the refugees themselves – separated and dispersed by thousands of kilometers and across five different host countries. What is important is that the act of formation and transformation of Palestinian refugee camps has typically been fuelled by the refugees' social and political mobilizations. Such mobilizations were either attempts to 'return' to Palestine, or resistance to regional or global attempts to resolve the Palestinian question of resettlement outside Palestine. For example, the urban structure of camps in the 1940s was based on a model of dispersed village communities. The urbanization of the camps in the 1960s and 70s were the result of a liberation movement that capitalized on the camps as centers from which such a movement was launched. What becomes relevant in



Villages of Origin and Camps of Exile — After the forced displacement and eventual erasure and demolition of homes, almost half of the Palestinian refugees live in temporary refugee camps. Mapping the 400 erased villages together (red) with today's 50 camps (white) symbolizes the refugees' refusal to forget their homes and to preserve their village communities.

Extreme urban density —— The permanently temporary condition has led to the accumulative build-up and a diminishment of open space.

Nahr el Bared is that with its destruction and subsequent debates on its reconstruction a new transformation is taking place.

CAMPS MAPPING PALESTINE AND REFUGEES MAPPING CAMPS

Nahr el Bared is located in the northern Lebanese rural landscape, on an axis of historic and modern roads that connect Lebanon to Syria. The active entrepreneurial spirit of the refugees, combined with the camp's density and location, has proved to be a strategic advantage. Before its destruction, Nahr el Bared was an important commercial center where Lebanese farmers came to sell their produce and purchase goods, taking advantage of the camp's competitive prices. The presence of a cheap and dense assortment of businesses which constitute markets – in the absence of the State – has proven to be a formidable asset that attracted customers from Tripoli and other northern cities of Lebanon, cities which have been severely effected by inflation and high prices. The refugees of Nahr el Bared thus took advantage of particular exceptions and capitalized on the local context.

However, all this changed in the summer of 2006 when an outsider fundamentalist Islamic Salafist group known as Fateh el Islam started to set up base on the outskirts of the camp. In 2007, as a result of an attack by Fateh el Islam on the Lebanese Army, the army launched a military campaign to eradicate the Islamist armed group. As a result of this conflict, the Nahr el Bared refugee community was displaced from their camp; the camp was completely destroyed by the end of 2007. While the destroyed camp site was a closed military zone, the government began to publicly discuss plans for reconstructing a 'new camp' that should be modern and secure.

Historically, Palestinian camps are refugee-generated urban forms that develop progressively and organically over time. 'Planning' practices, outside the scope of emergency provision, were never historically associated with camps due to their supposed temporary nature. The State's 'vision' for planning the 'new camp,'

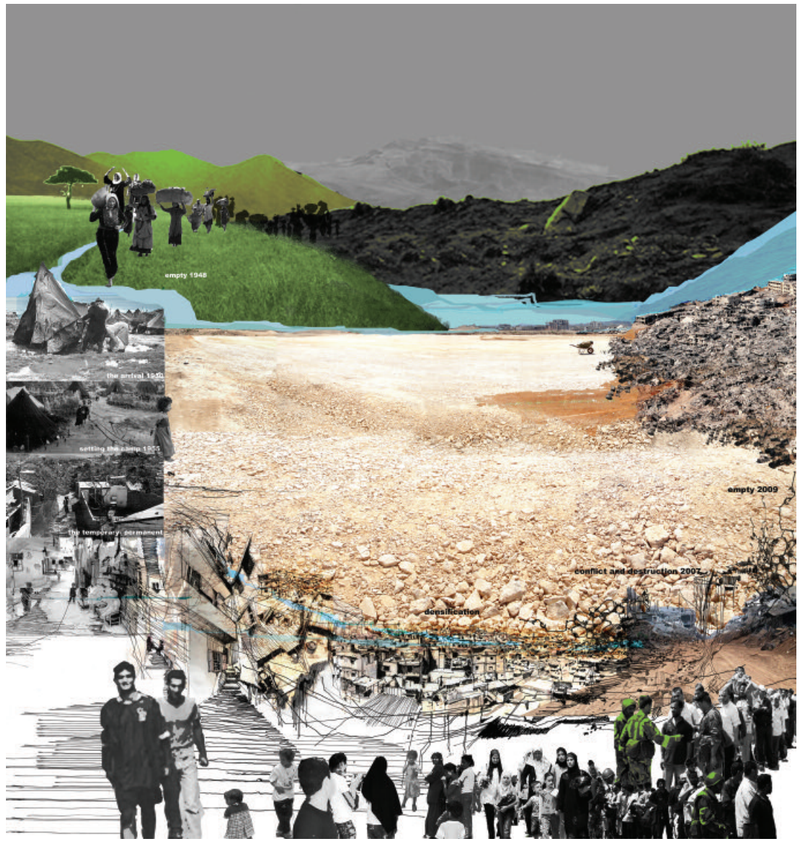
without consulting the local community, was combined with the refugees' fear of the political consequences for the issue of return caused by the destruction and constructing of a 'new' camp. As the refugees were now displaced from the physical space of the original camp and incapable of transforming it and reconstructing it, local grassroots initiatives started to formulate the community's counter vision for reconstruction.

A community consultation and consensus-building process took place during the destruction of the camp. The community's principles included: the reconstruction of Nahr el Bared as a camp and not a city; preservation of the original social fabric and neighborhood locations; and the preservation of the extended family building typology. The process included intensive mapping and documentation of the camp in order to illustrate families' locations, the urban structure and form of the camp, socio-economic data, current locations of displaced residents and even the internal architectural layout of the 1700 buildings that constituted the camp's fabric.

Ever since their exile in 1948, Palestinians have been obsessed by preserving and passing on the memory of their denied home. This has taken many forms: from orally passing down the history and memories to the new generations to the production of diverse forms of poetry, storytelling, song and literature. However, with the prolongation of the Palestinian refugee issue, new forms of documenting, preserving and narrating of space have been developed, including the writing of books on individual villages and drawing maps that document ownership and social relations in the village of origin.

What is important in Nahr el Bared is the use of such practices to document the camp which was being erased and, not just to remember, but also to display a vision for the future. Another important factor is the continuation of the community's belief, after 60 years of exile, in the importance of the camp. It is an importance that is manifested in the social relationships and networks within the camp and its capacity for political mobilization in relation to the aspirations of the community and their right to return to their homes.

The remains of the village of Damoun —— On 15 July 1948, 1,520 villagers of Damoun were forced to leave their settlement. In 1949 the village was demolished by the Israeli military in order to prevent the return of its original residents. Most of the original dwellers of Damoun resided as refugees in Nahr el Bared refugee camp before it was demolished in 2007.



The Cycle of Refuge —— The refugees from the northern Galilee in Palestine were displaced to the empty site of Nahr el bared in 1948. In the course of 60 years, the camp was urbanized. In 2007, the camp was demolished – and is thus representative of the Palestinian cycle of displacement, emptiness and refuge.

Nahr el Bared Refugee Camp —— The camp is strategically located at the intersection of the Mediterranean coast and the al bared River. The extremely high density of the camp is bisected by the historic route connecting Lebanon and Syria.

Thus, the local community's initiative not only launches a counter proposal to the government's 'new camp,' but also creates strategies for its realization. This took place through the creation of a partnership with UNRWA's Camp Improvement Program to set up a joint planning and design unit in order to document the camp's reality as well as to plan/design/negotiate its reconstruction. Simultaneously, various civil campaigns were manifested that placed pressure on actors in Lebanon in terms of approving the community's plan and objecting to the militarization of the camp which was delaying reconstruction.

IN SEARCH OF SPACE: DESIGN CHALLENGES

Parallel to the complex political context is the spatial design challenge of constructing 1700 individual buildings that housed 22,000 refugees in a plot of land of just 180,000 square meters. Prior to the destruction, only 11 percent of the total area was unbuilt open space, constituting a tight, compressed 'semi-public' realm composed primarily of 1.5 meter-wide alleys. While the windows overlooking these alleys faced buildings that sometimes reached up to three and four floors, the majority of the rooms on the first and second floors had no windows at all, as the buildings were built back-to-back and wall-to-wall. The community of Nahr el Bared was living in extremely dark and damp spaces, where natural light and fresh air never reached the interior of their homes, even in the middle of the day.

The basic design problem was to increase the percentage of open space in the urban tissue in order to improve daylight conditions and ventilation, while remaining within the existing camp boundaries (as

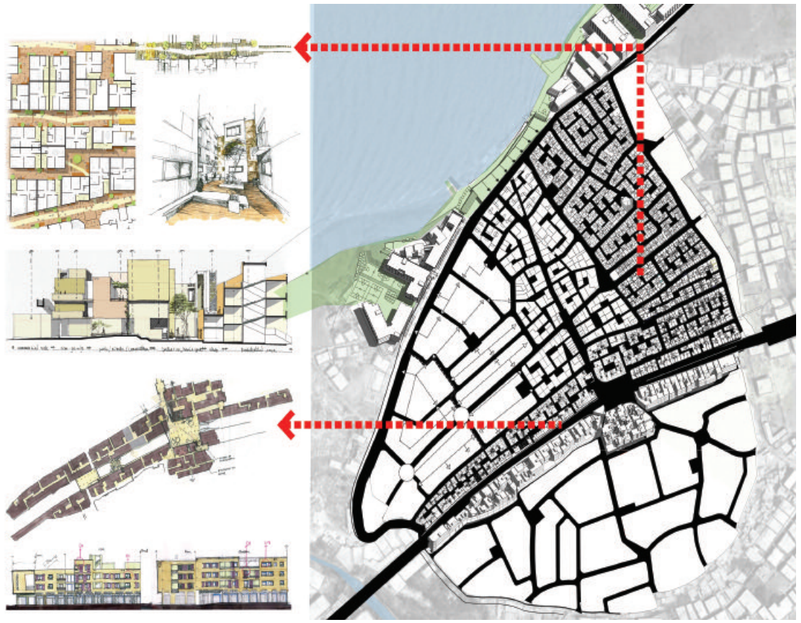
Original Nahr el Bared morphology —— The mapping of the community's spatial structure, ownership and family distribution enabled the community to later reassemble its social structure and prepare its own vision for the reconstruction Nahr el Bared.

required by the Lebanese government). To do this, a system was created which deducted land from each of the 1700 building plots and transferred it to the public realm. As the footprints of each building became smaller, the total built area of the building was maintained by increasing its number of floors.

A hierarchy was introduced into the homogeneously-sized alleys by introducing different forms of open space, possible due to the net gain of open space (which had increased to 35 percent). This was done by combining the old urban blocks into larger blocks surrounded by 4.5 meter-wide pedestrian streets. The old alleys would be retained within the new, larger blocks, but would be interspersed and complemented by open spaces cutting through the block at right angles to the alleys. These so-called 'pockets' ensure that light enters every room, while at the same time creating interesting semi-public spaces between every two or three homes. Important strategic elements such as the souks and the main commercial roads were also given larger urban profiles. Plazas were distributed along these main axes and in front of former public buildings, providing a public space for each neighborhood.

Buildings were individually designed in consultation with the families that previously occupied them. The public space includes planting areas and seating in front of each building where people traditionally sit and socialize at different times of the day. The profile of the historical alley is inscribed within the new street paving, preserving and memorializing the previous form of the destroyed camp.

The reconstruction of any completely destroyed urban fabric is the creation of its first physical layer of form and meaning – the canvas upon which future layers, meanings and forms will appear. The challenge is to embed within that first layer the strategic and essential values extracted from the destroyed context. In Nahr el Bared, the ruins that have been excavated are the social relationships and locations of the refugees, expressing their sense of community, relating them to their original Palestinian villages and enabling them to maintain their identity as a society in a temporary refugee camp.



Nahr el Bared reconstructed morphology —— The reconstruction plan maintained the important socio-economic relationships of the original settlement structure while radically improving the interplay of open and built space.

Between Damage Repair and Grand Project: Tsunami Reconstruction in Southern Sri Lanka

André Loeckx

At the dawn of the millennium, Sri Lanka seems to have rediscovered optimism and vigor for planning and development. After the gigantic Mahaweli irrigation and resettlement project in the dry and poor inland – an enterprise that dominated the development agenda of the 1960s and 1970s[1] – a new era of grand projects has started. This time the south and southwest of the island are at stake. This area is not particularly poor or deserted, but was, on the contrary, a territory disputed by Dutch, Portuguese and British colonial powers and later became one of the most populated areas of the country outside the capital city. However, it is a region which has been neglected by formal planning and major investment for a long time. From Colombo on the west coast, a 130 kilometers-long ribbon development stretches south along a single track railroad and a two-lane coastal road. The unplanned strip hugs the shoreline, cuts beaches, bays, and river mouths from their hinterland, and links a sequence of ocean front villages, fishermen hamlets, tourist resorts and former colonial towns such as Galle and Matara.[2] Nowhere, however, did the ribbon urbanize into a coherent seafront development. In spite of their beautiful scenery and their historical heritage, Galle, Matara and the surrounding territory experiences stagnation, generic and piecemeal construction, and ad hoc dispersal. The coastal road suffers from low capacity and congestion. The railroad has lost its economical function.

But the end of the 1990s brought on a wind of change. The realization of the prestigious Ruhuna University near Matara heralded a new planning vision. Planning and policy recast the dormant southern towns as active nuclei of a new "southern development corridor" that would run from Galle through Matara to the future mega-harbor of Hambantota in the south-east. A new expressway from Colombo to the south was envisioned as the lifeline of this southern development corridor. On its way to Hambantota, the 80 meter-wide Southern Expressway runs five to 15 kilometers inland from the coastline and provisionally ends at Matara. Along its trajectory, several new urban centers were conceived and imagined to be linked by connector roads to the existing coastal

1/ See: Amanda Chanaki Rajapakse, "Analysis of the Mahaweli Towns of Digana and Karalliadda – Sri Lanka," in: *Emerging South Asian Urban Design Practices and Paradigms*, papers presented at the Asia Link-Urbs Conference, University of Moratuwa, Colombo, 7–9 June, 2007: pp. 219–240. See also: Nihal Perera, *Society and Space-Colonialism and Postcolonial Identity in Sri-Lanka*. Boulder: Westview Press, 1992.

2/ See: Kelly Shannon. "Structuring Southwest Sri Lanka's urban (re)construction through landscape." *Kerb: journal of landscape architecture*, 15, 2007: pp. 72–77.

3/ See: "Urban Development Authority. Planning and Development of Interchanges of the Southern Expressway," in: *UDA Journal*, 2001.

4/ Tsunami data is taken from: Thomas L. Daniels and Harris Steinberg, "Lessons from Sri Lanka," in: Eugenie L. Birch and Susan M. Wachter (eds.), *Rebuilding Urban Places After Disaster: Lessons from Hurricane Katrina*. Philadelphia: University of Pennsylvania Press, 2006: pp. 244–255. See also: Post Tsunami Recovery and Reconstruction in Sri Lanka. Key Policy Issues and Concerns, http:www.achr.net/00ACHRTsunami

5/ See: Thomas L. Daniels and Harris Steinberg, 2006: pp. 245–246, 252–254.

towns.[3] Contestation arose when implementation of the expressway took off, because its trajectory disrupted larger inland eco-systems and productive landscapes by cutting across vast swaths of paddy, plantations and forest. At the same time, no attention was paid to the upgrading and integration of the largely obsolete coastal infrastructure.

And then, on December 26, 2004, the world stood still. In Sri Lanka the tsunami ravaged the entire eastern, southern and parts of the western coast, affecting a coastal strip of approximately 900 kilometers long and over a few hundred meters up to two kilometers wide.[4] More than 35,000 Sri Lankans were killed, nearly 120,000 houses destroyed or badly damaged. Between 500,000 and 800,000 people were left homeless. Roads, railroads, harbor facilities, boats, health centers, schools, sanitation and water supplies were fully or partly annihilated. Above all, fishing communities most dramatically lost lives and livelihoods. In the south, Galle (91,000 inhabitants) counted 4,800 people killed or missing; Matara (population 43,000) mourned 2,000 victims, Hambantota (11,000 inhabitants) lost more than a 1,000 people. Outside Galle, 2,000 travelers perished when a coastal train was swallowed by the killer waves.

Global solidarity mobilized generous funds for disaster relief and set in motion the international aid machinery, which included the involvement of several multinational NGOs. Although in shock, the Sri Lankan government, trained in centralized decision-making, managed to establish overall coordination and rapid intervention overnight. Two days after the tsunami, a central "Task Force to Rebuild the Nation" was operational and several national agencies such as the Urban Development Authority (UDA) and the National Physical Planning Department (NPPD) were fully mobilized for reconstruction. This centralized structure contributed to Sri Lanka's remarkable performance in emergency relief. Great efforts were made in channeling national and international aid and in coordinating the enormous diversity of aid organizations and initiatives that suddenly became active on-site. Nevertheless, bureaucracy, lack of transparency,

Obliterated infrastructure —— Roads, railways and harbors were extensively damaged by the tsunami. Scarred by infrastructural fragments and debris, the coast required intensive [re]construction.

limited knowledge of local conditions and inadequate and top-down decision making also caused inefficiency and confusion. At the same time, donor organizations and NGOs demonstrated their own inability and/or unwillingness to cooperate with government agencies, local authorities and with one another.[5]

As a result, the reconstruction of the affected areas shows a remarkable ambivalence. After six months 55,000 temporary shelters were provided and the construction of 60,000 dwelling units had begun. However, in qualitative terms, the achievements are much less convincing. The heterogeneity of actors on site, most of which were totally alien to the local situation, entailed a cacophony of interventions. The pressures to relieve the emergency and to show convincing results to international donors and media, led to generalized ad-hoc-ism and drop-shot project dumping. The heavily contested buffer zone – a no-construction belt 100 to 200 meters from the high water line – contributed to the proliferation of 'out of the blue'-resettlement projects all over the rural hinterland, and also inhibited community involvement and self-help in the reconstruction of damaged settlements along the

Before the buffer —— Prior to the determination of the no-construction belt from the high water line, temporary relief structures dotted the coastal zone.

6/ See: "Housing by People in Asia," Newsletter of the Asian Coalition for Housing Rights, Number 16, August 2005.
7/ See: Thomas L. Daniels and Harris Steinberg, 2006: p. 247.
8/ See: Anojie Amerasinghe and Michiel Dehaene (eds.) *Matara: Structuring Dispersion*, published by the EC on behalf of KU Leuven, TU Eindhoven, University of Moratuwa, NED University of Engineering and Technology, CEPT University, 2007.
9/ See: Naomi Klein, "The Rise of Disaster Capitalism," in: *The Nation*, May 2, 2005.

26 December 2004 —— 900 km of Sri Lanka's coast, coinciding mainly with its eastern and southern shore, were affected by the tsunami.

waterfront. Sources estimate that the imposition of the no-construction zone prevented nearly 30 percent of the affected population from returning to their damaged homes and livelihoods.[6] Especially for fishing communities the forced transfer to new inland settlements evidently caused problems. Many considered the imposition of the buffer zone as a 'government land grab' to cleanse the beaches from poverty and to promote lucrative tourism.[7]

Similarly, in the south and south-west, outside the buffer zone, an impressive number and variety of reconstruction projects were inserted into the old ribbon settlement pattern,[8] but this was, however, done without the will to improve the spatial coherence and urban quality of that ribbon. At the same time, numerous resettlement villages were dropped somewhere halfway between the coastal road and the future Southern Expressway, as much disconnected from the existing rural surroundings as from the coming infrastructures. In no way did the UDA or the NPPD consider any link between, on the one hand, tsunami reconstruction and resettlement, and, on the other, the ambitious but contested schemes of the Southern Expressway and the Galle-Hambantota development corridor. Nor was there any attempt made to integrate reconstruction efforts in a coherent upgrading program of the coastal ribbon.

Disaster relief remains a contradictory issue in human settlements policy. Without considering the intrigues of 'disaster capitalism' to dismantle the public sector, to get rid of inappropriate appropriation of valuable sites by the poor or to sell disaster products,[9] two different purposes of post-disaster intervention can be outlined. There is a 'return to before'-objective that seeks to repair damage so that survivors may return to their individual life agendas. Such an attitude considers the disaster an accident with no link to the normal course of events. It is an attitude of compassion and respect, but also of conservationism. Power, richness and poverty stay what they were before the disaster struck, and so do the spatial conditions of waste, exclusion, underdevelopment and environmental damage. By contrast, there is the 'disaster as opportunity'-conviction that stresses the fact that a disaster

Tsunami reconstruction projects —— The proliferation of tsunami projects realized in Sri Lanka's Southern Province reflect the multiple actors involved in the reconstruction process and range from the introduction of new housing typologies on stilts to rationalized camp layouts.

may not only erase lives and livelihoods, but also eliminate the mistakes and miseries of the past, together with some of the burdens that inhibit progress and development. This attitude – often blamed for its brutality and lack of empathy – starts from the unexpected tabula rasa caused by disaster and transforms the extraordinary mobilization of willingness, resources and capacities into incentives for radical change.

The actions of the Sri Lankan government were a blend of both perspectives. The centralizing government tolerated and facilitated NGO and donor 'interventionism' in order to relieve pain, to overcome emergency and to return as quick as possible to 'business as usual.' The buffer zone policy, on the other hand, showed a touch of brutality and a willingness to change. However, the ad-hoc-ism shown by reconstruction and resettlement and their disconnection from existing spatial planning and development programs was predominant.

Although its contribution has been marginal, one of the lessons to be learnt from the tsunami reconstruction relates to the new roles of urban and landscape design for sustainable human settlements development. The capacity of design reaches far beyond the making of plans for decent houses and attractive new villages. It also departs from technocratic implementation of infrastructural interventions. A prime task and irreplaceable capacity of design lies in relating disconnected projects and programs and in negotiating their contradictions. In southern Sri Lanka, it would have meant connecting and correcting old and new; the contested buffer zone; the wasteful coastal ribbon; its dormant towns and underachieving infrastructure; the neglected and damaged historical heritage; the uncountable reconstruction initiatives; the rural productive and ecologically vulnerable landscapes dotted with new resettlement villages; the disruptive but powerful expressway and its problematic connection to the coastal town, etc. Neither a return to before, nor a revenge of frustrated development. Neither grassroots poverty, nor destructive top-down planning. Design is able to offer a unique and appropriate medium for reformative interaction, negotiation and synthesis.

Shelter Response in Galle

Jim Kennedy

Work began in post-tsunami Sri Lanka just two weeks after the initiation of tsunami shelter management by various international NGOs, as the search for missing persons/bodies was still being conducted, and when different arms of the Sri Lankan military were still exercising administration. Some NGOs were involved in the Colombo-level development of a national shelter strategy which advocated a 'transitional shelter'-approach, thus emphasizing the importance of considering settlement and shelter provision in a post-disaster context as a process of transition from temporary to permanent.[1] As a consequence, addressing settlement and community issues throughout the process was considered as important as providing physical structures and addressing individuals' needs.

The Sri Lankan National Shelter Strategy was developed by UNHCR and the Sri Lankan government, with the support of a number of NGOs. Using the Sphere standards,[2] the ambition was to come up with a model which could be quickly and easily constructed, but which was still adaptable, moveable and reusable. In line with the endorsement of 'transitional shelter,' the Sri Lankan government's policy tended to support household involvement in managing construction. This strategy recognized that active participation in reconstructing one's own home and community would not only contribute to achieving the best possible results, but also provide energy for enhancing mental health recovery.

Along the south-western coastline, the initial intentions were to move people into camp-type settlements with government-built barracks. After seeing the first attempts at defining the country's post-tsunami transitional settlement and shelter strategy drafted by international organizations, the government ensured that beneficiaries would remain on or in proximity of their original plots, and that private, safe shelters and land security would be provided at an early stage. The initial buffer zone of 100 meters setback from the coastline was smaller than the 200 meters applied in the north-east, so that a smaller percentage of the tsunami-affected population was threatened by permanent displacement.

In Galle District, a program of 850 shelters in 27 different villages along an 80 kilometers-stretch of coastline was implemented. Most of the villages consisted of low-density, ribbon developments, although some of the settlements had turned into slums at the edges of the region's main towns. None of the communities had adequate drainage or sewerage systems, and much of what existed had been blocked by tsunami debris. Due to the emergency situation, the NGOs and the coordinating groups for the first few months concentrated simply on getting families into shelters. With the exception of small camps for those who were forced by the government to leave their customary plots within the 100 meter-coastal buffer zone, there were no programs which systematically looked at a wider settlements-level response. In many cases, the largest individual challenge was to find a way to squeeze the shelter in between the edges of the housing plots and the spaces which the families wanted to reserve for permanent reconstruction.

When, in May 2005, most of the shelters had been constructed, funding started being used for "Quick Impact Projects," in order to address some of the infrastructure issues. Amongst these projects were simple tasks such as the clearing ditches or irrigation channels, and the rehabilitation of roads. In all cases, the projects were identified by the communities and representatives of the local civil service, in consultation with NGOs. As far as possible, projects were chosen for their potential to form the basis for future possible programs which addressed larger infrastructure issues; thus, septic tanks were designed in such a way that they could also connect to other septic tanks to form a neighborhood-level system.

NOTES

1/ Jim Kennedy et al., "Post-tsunami transitional settlement and shelter: field experience from Aceh and Sri Lanka," in: *Humanitarian Exchange*, no. 37, March 2007: pp. 28–31.
2/ *Sphere Humanitarian Charter and Minimum Standards in Disaster Response*. Geneva: Sphere Project, 2004.

Ismailpuram Donor-driven Housing in Ampara

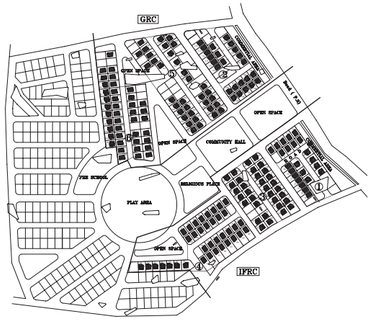
Cecilia Braedt

Permanent housing construction —— The project developed fairly standard housing types with small transitional exterior spaces from the public to the private realm.

The Ampara District was one of the most tsunami-affected areas of the Sri Lankan coast, with more than 10,000 people losing their lives and just under 12,800 houses destroyed. By May 2006, only 10% of the total pledged housing units were completed, a figure deriving from several difficulties that were encountered throughout the process, not least the problematic co-presence of Sinhalese, Tamil and Muslim communities in the area. Almost two years after the occurrence of the devastating event itself, an overall master plan for Ampara District was produced by the Canadian Agro-Sustainability Partnership (CASP) with the joint support of the Canadian International Development Agency (CIDA) and the Sri Lankan Ministry of Housing and Construction. Within such framework a number of housing programs were initiated under two main categories, namely donor- and owner-driven.

Amongst such initiatives, a large international NGO, in collaboration with the Sri Lanka Red Cross Society (SLRCS), undertook the task of large-scale permanent housing provision in Ismailpuram for the tsunami victims formerly settled in Kalmunai. The project included infrastructure (water, electricity and roads), as well as services such as a pre-school, a community centre and commercial buildings. The site, located on a small hill some 5 km outside of Ampara and just off the main road to the coast, is dotted with several boulders which are extensively found throughout the area.

As the whole coastal strip is very densely populated, the allocation of land in proximity of the beneficiaries' original homes was often impossible. As a consequence, families agreed to be relocated away from the sea even though many of them relied on fishing for their subsistence. The initial proposal conceived 400 houses for a Muslim community. The houses were grouped around a large communal open space. However, a mismatch between actual population accepting relocation and the plan's projections, allowed for construction of only half



Public space core —— The housing complex is spatially structured around a large, undefined communal open space.

of the foreseen units. Fortunately, such a reduction in the number of dwellings did not entail any modifications to the layout in the initial scheme.

Nonetheless, the built result is disappointing. The road infrastructure (with 6–7 meters wide profiles) is disproportionately large and untailored to the site's specificities when compared with local practices, landscape and topography. In light of the region's overall land shortage and plot size, the space allocated for parking appears misused, just as the absence of through-traffic underscores the overstated presence of the road system. The settlement layout itself also leaves a lot to question. The lack of public space is compounded by the fact that what is provided is not cared for but rather left as residual, unqualified areas currently serving as a grazing ground or a garbage dump. Overall, what was intended as shared space tends to separate the houses located along its edges instead of fruitfully weaving them together. The houses follow a rather standard design, with a small entrance hall, two rooms, a kitchen and an attached toilet accessible from the outside—a formula suited to the cultural context. Besides the dwelling unit, the plots allow for small spaces for gardening or animal husbandry (mainly poultry).

A new school and a small mosque have been built within walking distance, but no other communal or commercial infrastructure serves the housing development. An approximately 20-meter wide strip located along the access road and reserved as a "commercial zone" on the plan, has yet to be in-filled by the vibrancy of trade and related businesses. In the absence of this part of the project, the inhabitants residing in the first row of dwellings (which turn their back to the intended commercial zone) have begun to extend their plots and gardens into the area.

In spite of these shortcomings the beneficiaries that moved into the houses in November 2008 have settled there on rather stable terms. A large number of the current residents commute to the coast for fishing, and though sometimes remaining there for several days, nevertheless return to their homes regularly. At the same time, others, have taken up alternative forms of livelihood activities such as weaving, or have established small shops in one of their rooms.

Tropical village landscape —— The new housing area created a lush landscape from an arid terrain

New Kalametiya Village

Madhura Prematilleke

Kalametiya is a small fishing village on the southern coast of Sri Lanka, which was wiped out by the tsunami of 2004. All 30 homes were completely destroyed, and 11 villagers died—mostly the very young and the very old.

The new Kalametiya village was built on a site four kilometers from the sea, in accordance with government policy at the time. While we vehemently disagreed with the policy, there was little that could be done to change it in the short term.

The site was separated from a state reservation by the local authorities, and the single natural feature left by the bulldozers was a tree at the centre of the site. This single shade tree in a hot, arid landscape became a point of departure for the planning of the village: the village square was laid out around it, with provision for the growth of a community centre, health centre, pre-school, library and resource centre.

A large playground forms the public face of the village, and is shared with other, older villages in the vicinity. Additional common spaces include a memorial garden and a village forest.

Homes are clustered into groups of six, and each cluster is arranged around a common core space. The rigidity of the plot layout is a product of the strict adherence to a 20-perch (500 square meters) plot size, which is both a bureaucratic requirement and a cultural imperative.

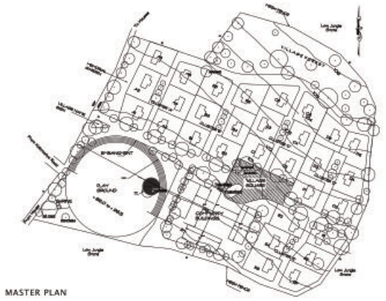
Each house is surrounded by its garden: urban order was intended to be an understated presence within the natural order of a tropical village landscape.

The houses are defined by front and rear verandahs, the former being the face of the house and the latter the day-to-day functional space: respectively the formal/male/masculine domain and the informal/female/feminine domain. The two bedrooms and a living room offer a limited extent of internalized space.

The villagers moved into their homes exactly a year after the tsunami.

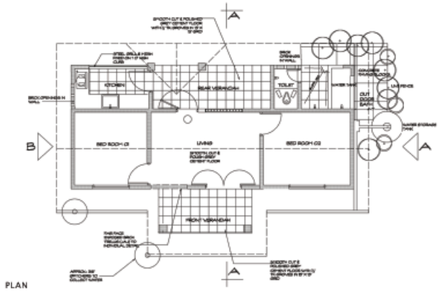
With guidance from the Green Movement of Sri Lanka, the villagers of Kalametiya have embraced the practice of organic home-gardening. Consequently, the most significant experience of the evolution of the village has been its transformation from an arid, dusty terrain to a lush, verdant landscape.

Collective community —— The one existing tree was complemented by a large playground, while individual homes are clustered around common public spaces.

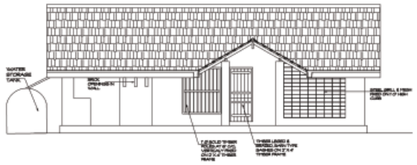


MASTER PLAN

Verandah houses —— Local customs informed the new housing typologies in a clear definition of socially-coded domains.



PLAN



REAR ELEVATION

Favela-Bairro: Rewriting the History of Rio[1]

Sérgio F. Magalhães

[…] Respecting the existing environmental and cultural legacies became the benchmark for the Favela-Bairro. This involved an understanding that slums did not constitute a problem because of ethnic, religious or cultural reasons; nor were they a temporary phenomenon – indeed, they are part and parcel of the Brazilian development process.

In terms of urban layout, slums come in a variety of morphologic patterns, just as any regular city. It would not be advisable to renovate them according to a hard-and-fast model. On the contrary, the best approach would be to develop urban patterns shaped by each settlement and designed according to the residents' wishes. The pattern chosen has to suit a seamless and fast interconnection with the surrounding neighborhoods in order to create an interdependent local network. […]

A pluralistic city like Rio de Janeiro cannot be understood merely as an area split in two: streets versus hills; a legal city versus its slums; a city of the rich versus one of the poor. This multifaceted city will not bear any such oversimplification. […] A major city poses a challenge to anyone wishing to study it or approach it conscientiously. […] Major metropolises are shaped by an overlapping of matter and culture, by dovetailing of past, present and future times. Such total, overwhelming plurality must be considered from the standpoints of architecture, of urban development, and each and every activity that directly or indirectly intervene in public spaces. […]

The apparent plurality of big cities, however, is no simple matter. […] It is crucial, therefore, that spaces be not merely multiple, but first and foremost democratic, with neighborhoods and streets leading to close interactions and to a dialogue between different values. […] Laid out in intricate patterns of subjects, discourses, objects, dreams, experiences, expectations and much more, major urban centers should expel any areas where differences give rise to discrimination. […]

1/ This text is made up of excerpts from "Do it, tell it, show it" by Sérgio Magalhães in: *Favela-Bairro: rewriting the history of Rio*, eds. Luiz Paulo Conde and Sérgio Magalhães: pp. 6–15.

Complex coexistence — Though pockets of poverty are rife amidst the formal city, *favelas* are characterized by multiple morphologies.

The Favela-Bairro program has become a benchmark, earning national and international acclaim precisely for trying to upgrade the existing city, its culture, and its accomplishments, honoring the past generations and their struggle to build homes, streets, monuments, and a history. The success of this urban and social integration effort was due to a number of factors, but essentially it was underpinned by the decision to harmonize each and every intervention made on landscape and culture, the uniqueness and variety of each target area. […] Some important lessons were learned from the history of low-income settlements in the city. The solution of the housing problem right in the slums and subdivisions made it quite clear that a complex social dynamics involving strong ties and mutual help systems had resulted in the production of thousands of homes, but that solution had not been sufficient to produce a city. […]

The housing issue could no longer be approached solely from the standpoint of building more homes. The so-called housing deficit had to be expanded by the notion of urban deficit. Strategies were needed to offer a maximum in terms of equipment and basic services, as well as to solve an old and persistent problem, namely the increasing distances between one's home and place of work. […] The underlying assumption was to acknowledge that every citizen is entitled to live in a proper city. As an offshoot of this, housing means not only a house but also its full integration with the surrounding city fabric in tune with the requirements of contemporary life. It is up to policy-makers to provide the underpinning structure complete with drainage and sewage works, public services, transportation, and education, health, cultural, and recreational facilities. The goal, therefore, was to match individual rights to the government's ability to build a truly democratic city. […]

[Favela-Bairro was one of six working programs involving concerted actions to address Rio's housing]. […] Favela-Bairro, was created to build or upgrade the urban structure of long-standing medium-sized existing slums, and provide the environmental conditions

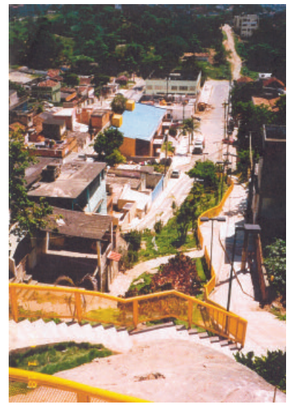
Navigating difficult terrain —— The program invested substantially in pedestrian infrastructure provision.

to change and integrate them into city neighborhoods. […] When it was approved, Favela-Bairro targeted 15 communities, benefiting roughly 5,000 people. […] By the end of 2000 the program had reached over 150 slum communities. The number of beneficiaries topped 550,000 people, over half of the total slum population of Rio de Janeiro. […]

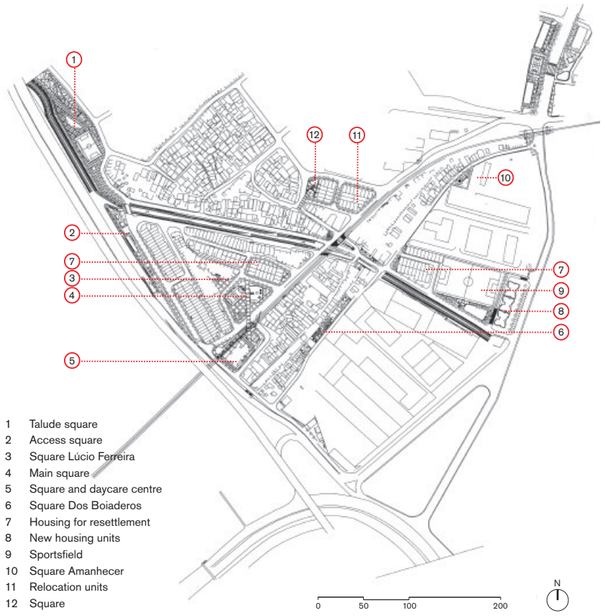
The key reason for the success of Favela-Bairro for the most part lies in the program's coverage of a broad range of practices where the intended changes always considered the characteristics of each location. […] Right from the start it was understood that all slums shared one major problem: the total absence of public services. They were probably seen as 'urban ghettos.' Fighting this mindset would become a central issue for Favela-Bairro. […] While one might say that slums are 'urban ghettos,' it is also true that no slum is unique in ethnic, religious or cultural patterns. […] Before moving to the drawing board, it was necessary to become familiar with the reality of the slums so that a true understanding could replace the vague opinions so often repeated that they are finally accepted as hard facts. […]

It is a known fact that people who live on the hillsides and those on the asphalt enjoy a reasonably close relationship. […] Nevertheless, as a result of ignorance and fear a preconceived notion took hold: the idea that slum residents live in 'another' city and belong to 'another' social sphere, both different and irreconcilable with the rest of society and the city. […] The first step was to solidify the idea that no massive practical barriers erected by ethnic or racial segregation existed, and therefore only a few interventions would be enough to promote the social integration of a large percentage of society in a reasonably short time span. […]

Slums have also proven to be far from a temporary, passing phenomenon. Though they have been in Rio for over one century many people believe that slums would vanish if the economy improved, and if they



Quinta do Caju/Fubà Campinho —— Waterfronts and public pathways were formalized in order to provide structure (and safety) to the organic growth of the dense city.



1 Talude square
2 Access square
3 Square Lúcio Ferreira
4 Main square
5 Square and daycare centre
6 Square Dos Boiaderos
7 Housing for resettlement
8 New housing units
9 Sportsfield
10 Square Amanhecer
11 Relocation units
12 Square

Parque Boa Esperança —— The housing enclave was formally connected to the city proper by the strengthening of landscape elements in relation to the articulation of the public realm.

were slow in dismantling, the government should remove them by force. Such arguments have served as the basis for a dominant political slant for more than five decades, and despite the fact that slums kept growing, many still held (and hold) that belief. [. . .] Likewise, slums are not an issue of urban morphology. [. . .] The diverse topography of Rio contributed significantly to the formation of various urban environments, where an equally rich and varied cultural life took shape and developed. But this setting of environmental and urban multiplicity would be incomplete if the slums and their unique morphology were ignored. [. . .]

The crucial issue was recognizing that the problem to be overcome had nothing to do with the ethnic, religious or cultural backgrounds of the slum population; that it was not a passing problem, nor was it caused by the urban layout of any settlement. Such was the framework set by the Favela-Bairro initiative, which overcame prejudice in order to raise slums to the status of the city. [. . .] However, raising slums to the status of a city does not mean simply to do construction work. Before that, one must create and/or preserve the wide range of features inherent in urban life. It is a sine qua non condition for any intervention to preserve the wide range of features inherent in urban life, as well as to respect the pre-existing environmental and cultural legacy built by several generations, while at the same time removing the urban problems founding those settlements.

But what is a carioca slum from the urban planning standpoint? Slums do not all obey a single pattern: they may be on slopes or flatlands; they may be very crowded or have a low population density; they may have straight or serpentine paths. But while the combination of these elements can come in different shapes and forms, slums share a number of urban characteristics. The first and perhaps most salient one is the predominance of private areas over public spaces. This is easy to understand, because, with no predesigned street layouts, both housing needs and topography determine the pattern of each settlement.

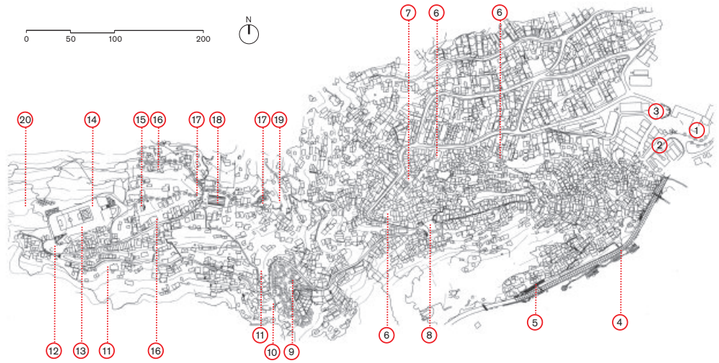
A second constant is the ambiguity of public spaces for circulation, recreation and gathering, as a result of the lack of formal definition and/or use. The serious outcome is that often the public realm is compromised. The improper sizing of road systems is a third constant, usually combined with an equally poor layout, particularly along slopes often so steep as to make vehicular access virtually impossible.

This set of factors is crucial because it gives rise to an urban sector with (1) inadequate accessed equipments or homes, (2) lacking proper connection with the city fabric around it, (3) where it is difficult to establish public services, and (4) space perception is confused.

In addition to the problems listed above (that most powerfully make up the urban fabric and are of a morphologic, functional and symbolic nature), other major drawbacks are common to the near totality of slum settlements. These are an insufficient infrastructure, especially with respect to sanitation; precarious or non-existent public equipment, and an indeterminate ownership status.

The urban guidelines set for the Favela-Bairro program focused precisely on those problems. To achieve integration of slums with the city, each individual project started from the assumption that those areas would have to strengthen some existing spatial relationships. New formal and symbolic ones would be added, and the essential infrastructure for sanitation and modern-day facilities would be built.

In each case, the initiative sought to improve inner access-ways to provide a flow of services to the entire area (1). Slopes are the hardest sites to tackle in terms of transportation and movement. Residents usually ride uphill in vans (their only mode of public transport), or else cover long distances on foot to reach their homes. At lowland slums, although free of the steep slopes, the biggest problem lies in flooded areas. Again there is the issue of poor or altogether absent transportation and long distances covered on foot



1 Comlurb centre
2 Cabritinhos point
3 Meeting point
4 Area for the elderly
5 Access to the street Eugenio Chavez
6 Communal square
7 Daycare centre
8 Cultural centre
9 Ecological park
10 Training centre
11 Widening of Av. Joaõ Goulart
12 New street layout
13 Olympic village
14 Public services
15 Collective laundry
16 Housing for resettlement
17 New street layout
18 Gym
19 Vidigal viewpoint
20 Afforestation area

(Un)ambiguous uses — In Vidigal, the strategic location of civic activities counters the predominance of private over public spaces.

through hazardous dirt roads. The narrow streets, many dead end and unpaved, are a hindrance to the provision of public services that require any sort of vehicle: garbage trucks, ambulances, police patrol cars, and others. The focus on pedestrian flows was a key issue in every Favela-Bairro project. The goal was to offer comfort as well as to make a clear distinction between public and private spaces.

To avoid the existing confinement – that often turns slums into real urban ghettos – the plan included more interconnections with the surrounding neighborhoods (2) by multiplying the number of contact points to the street systems, and via construction of public equipment that would serve both the slum and neighborhood residents. […]

By building new accesses and expanding the connection with the regular neighborhood, public services can reach the slums more easily (3) with their vehicles that provide garbage collection, power line repair, ambulance service, etc. So, at the same time that construction moved ahead, the services also expanded. […]

Last but not least, public spaces were better defined (4), particularly those which are landmarks of each community, in its own perception or relative to the city. This led to another essential goal of the program: tearing down the symbolic borders between slum and neighborhood, i.e. changing the widely held perception of a slum as an anti-city. This new perception had to be developed on two fronts: among the slum residents and among the neighborhood residents. After all, neighborhood-to-slum and slum-to-neighborhood integration is achieved not by one encroaching on the other's space, and loosing their unique characteristics. Rather, integration must be underpinned by a process of mutual understanding and respect of one another's differences. City-slum, city-neighborhood, they are both our city. […]

The two dimensions of integration – urban interconnection between the road systems and between the services, and building a new perception of urban diversity – embody the essential goals of tearing down material and symbolic barriers between slum and neighborhood.

1 Area for future resettlement
2 Sports centre
3 Square Paraiso
4 Viewpoint
5 Civic Centre
6 Neighbors association
7 Laundrywomen corner
8 Lagoinha
9 Stairs

Slum as city — By providing new infrastructure and networks of public amenities, the Complexo do Borel is woven into the urban fabric.

Urban Upgrading in Ho Chi Minh City: The Tan Hoa – Lo Gom Canal Project

Benoit Legrand, Paul Verlé

In order to deal with transport challenges and flooding, Ho Chi Minh City (HCMC) developed an ambitious policy to tackle the five main canals of the city, including canal enlargement and alley widening combined with evictions. The Nhieu Loc-Thi Nghe canal project, funded by the World Bank, is the best-known example of this strategy, leading to the relocation of 40,000 people. Although presented as a success story, there has been criticism of its social repercussions, including a brutal gentrification process, in which illegal squatters were excluded from the relocation program (Wust et al. 2002). Therefore there was a need to look for alternatives.

The Tan Hoa – Lo Gom (THLG) canal is the most polluted canal of the city, located on the west side of Cholon, the Chinese area. Between 1998 and 2006, a 20 million euros-sanitation and urban upgrading project was conducted in the framework of the cooperation between Belgium and Vietnam, each partner providing half of the funds. The project intended to tackle the environment, degraded infrastructure and social problems and look for innovative solutions in a holistic way. The approach was based on a mix of interventions, capacity development and partnership-building between different stakeholders. An important component was the inclusion throughout the process of socio-economic and community participation activities.

Different pilot projects were concentrated in two specific areas. In District 6, located at the south-west part of the THLG canal, the objective was to tackle the main issues of the inner city core at once – i.e. canal pollution, flood management, slum eviction and rehabilitation – while considering the canal as the backbone for the renewal of the area. In Binh Tan District, situated at the north edge of the city, the aim was to structure part of a periphery under a fast and chaotic urbanization process, through the provision of infrastructure (Legrand 2008).

In District 6, a portion of the THLG was widened and embanked, leading to the relocation of households encroached along the canal. Families were given the choice to inhabit new in situ mid-rise apartment blocks with different services including a hawkers' market and a community hall, or to move to a sites-and-

services project in Bin Tan District. The former was favoured, as it decreased the potential risks of social and economic vulnerability, while the latter was a way to answer to the Vietnamese's dream of being owner of a plot of land.

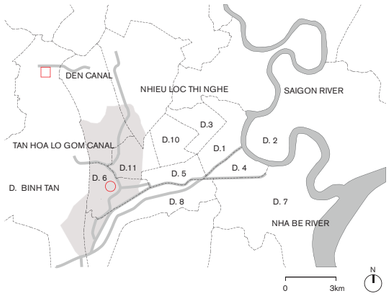
The apartments were built as a way to maximize the views and access to the canal and therefore the blocks were arranged perpendicular to the water, while a series of public and semi-public spaces for both social and informal production purposes were also introduced. Once widened and dredged, the canal was once again navigable, while the canal served as an attractive front-side for housing and market instead of its usual treatment as a rear of the households (Legrand, Shannon, 2008).

Next to the relocation project, an integrated low-cost housing upgrading project was being tested, including infrastructure improvement (drainage, water and electricity networks, concrete paving and public lighting), as well as a saving-and-credit program, providing households the opportunity to develop alternative income-generation activities. It took over a year, but the provision of an official number to the houses was an important precedent for the future as this de facto legalization allowed illegal households to connect to the city's networks.

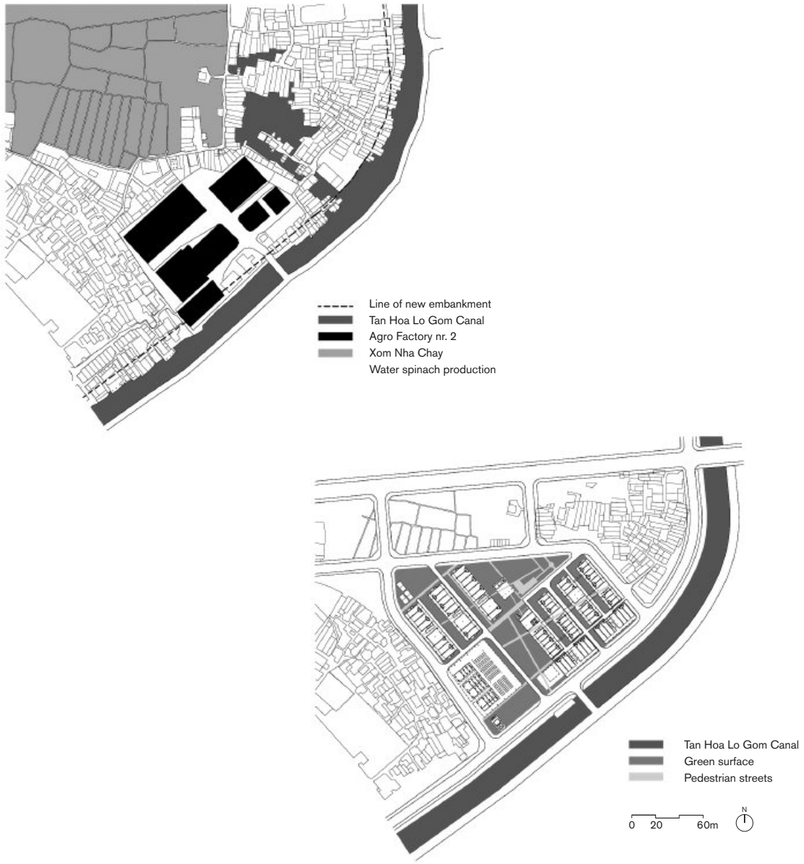
In order to improve the solid waste collection within the narrow alleys of the area that was managed by private collectors, the project created a cooperative, reorganized collection routes, provided efficient equipments, and built a small transfer station. Replacing the previous unhygienic rendezvous points in the street, this set-up allowed the collectors to dump the waste throughout the day in containers that are sent to the landfill during the night time.

The site in Binh Tan included a large-scale lagoon designed to treat the Dem canal that collects the wastewater of 200,000 equivalent inhabitants through 33 hectares of aerated lagoon and stabilization ponds. The project was the first of its kind at such scale in Vietnam and was offered as a low-cost and natural treatment alternative for wastewater purification, a place of decongestion in an otherwise dense and

Encoraged canal —— New rural residents to the mega-city tend to settle along canals and other low-land areas.



Pilot Project sites —— The 7km-long Tan Hoa – Lo Gom canal basin is adjacent to Cholon. The new housing construction, slum upgrading project and the small transfer station are located in District 6. The aerated lagoon and the sites-and-services area are on the Den Canal, in Bin Than District.



Formal/ Informal programs —— The site of the apartment and slum upgrading projects align the canal and is a lively mixed-use area.

New urban form —— The housing complex combines modernist composition with locally-embedded and climatic-responsive details.

rapidly urbanizing district, and a reservoir for the seasonal monsoon. Its banks are used both as buffer zone and as a green recreation park for the nearby residents.

The sites-and-services project was set up on the east banks of the lagoons. The concept of sites-and-services is not new in HCMC, but until recently such initiatives were applied only in suburban districts for higher income groups. Besides plots, roads and utilities, the project also built a primary school. The plots were relatively small, to make them affordable for the poor, while the project proposed a hierarchy of roads and public spaces. This project was an opportunity for both providing an urban façade along the lagoon and for structuring and equipping the adjacent informal residential area.

INTEGRATED AND CONTEXTUAL APPROACH VERSUS TECHNOCRATIC APPROACH

The THLG project was conceived as an alternative to the technocratic and rather brutal approach developed so far for canal upgrading. Several differences can be pointed out in comparison with previous experiences. The involvement of all stakeholders from the start, including authorities of all levels and the local communities, was an important asset. Authorities were concerned with the dismantlement of the official migrant control policy and hesitant to change, while the households were mainly worried by the costs of relocation and the possibility to continue their informal economic activities. If the process was time consuming, it is mainly the complicated local administrative process that explains the project delays. Most difficulties were observed at the intermediate level of administration, which is not directly in contact with the population, in particular the poorest, and less oriented towards results. The technical city departments rejected some requests to adapt the design of investment works to local conditions, which would have considerably reduced the costs. In contrast, the highest authorities and the ward authorities acted as drivers of change.

The project worked bottom-up with an enthusiastic team of social workers in charge of mobilisation of community participation in urban upgrading and resettlement pilot projects during the design and construction supervision phases. This allowed taking into consideration some of the community concerns, while integrating even the illegal in the relocation process.

Reconfigured canal edge —— The widened and newly embanked canal was equipped with a boat launch.

The real pitfall was the lack of 'trialogue' between the community, project and local/city authorities. This may explain why the apartment project missed the opportunity of reconciling the authority requirement of high density and the population's request of low-cost housing adapted to their way of living. In contrast, some successes finally reached out far beyond the project itself, e.g. the small transfer station and the slum upgrading experiments that have been scale-up.

By using one of the remaining large plots of land occupied by obsolete industries within the inner city, the apartment project has shown that in situ relocation is possible. Most of such areas are State property, and could be renewed for relocating slum dwellers without having to spend huge amounts on land acquisition. The project demonstrated the interest of integrating not only various income housing, but also producing and selling activities, as well as social equipments that are still in need. Hence it is possible to preserve the diversity of functions and social mix that characterizes the city.

The Binh Tan pilot projects are a good example of how well-targeted interventions can structure a periphery under fast and uncontrolled urbanization. They managed to take a large portion of land out of the hand of the speculators for the interest of the collectivity, while giving the landmarks to the future illegal settlements for building a city front around the lagoon.

The project did not start around the approved and rigid master plan of the city, but rather with the identification of interrelated problems: canal pollution, slums and poverty in two critical parts of the city. Through this integrated approach, it demonstrated the interest of coordinating a series of activities related to the same area but dealing with different interrelated issues, within a single strategy. By doing so, the different pilot projects succeeded in improving the environment and the living conditions of the population, while structuring the chaotic urban fabric through the inclusion of strategic projects.

As a combination of pilot projects, this intervention was not able to at once tackle the major environmental problems of the area. It needs to be scaled-up and the city authorities are still looking for the funds to clean the water of the THLG canal. It is hoped that these future major sewers and wastewater treatment works will endorse the participatory and comprehensive approach of the project.

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Sheltering informal economies —— The large roof of the hawkers' market simply and cost-effectively accommodates local trade activity.

Aerated lagoon linear park —— The edge of the aerated lagoon was designed as a community park for the sites-and-services housing relocation area.

Fishermen Housing Resettlement: Tyre, Abbesiyeh, South Lebanon

Hashim Sarkis

The fishermen's community of Tyre, a city of 25,000 residents on the southern coast of Lebanon, has been suffering from a housing shortage and overcrowding. Fishermen of Tyre belong to one of the most marginalized socio-economic groups in the country. Their families have no access to health and social insurance programs or retirement support schemes. An obsolete technology coupled with military and security considerations limit the possibility of fishing far beyond the seashore and thus result in serious overfishing. A continuous drop in the catch has yielded a systematic decline in the average income of many fishermen (15 USD per day decreasing to less than 7 USD during the winter season and bad weather). The fishermen's families in Tyre were did not to benefit from the construction boom that the region witnessed during the last three decades, due to their lack of financial resources or urban regulation and constraints in the old city quarters. Their small, old and damp houses have become overcrowded. Public health experts testify to the high levels of asthmatic and rheumatic problems amongst the members of this community.

In 1998, fishermen families from the city of Tyre organized themselves into the cooperative Al Baqaa. Through their partnership with the Association for Rural Development in south Lebanon (ADR) they were able to join efforts with the Greek Catholic Archdiocese of Tyre, the Spanish Agency for International Cooperation, as well as generous Lebanese locals and expatriates to support a social housing project. The project aims to provide housing to 80 families of young fishermen and at the same time to provide public spaces that serve as a platform for developing other productive, social as well as educational activities.

Construction funding came from various local and international organizations. The new site measured 0.7 hectare agricultural field outside Tyre, surrounded by tobacco fields, citrus orchards, a hospital, and chaotic development that mushroomed illegally during the war. A new master plan for Tyre allowed development in this area and replaced the agricultural road with a main road between Tyre and its hinterland. Most of the surrounding agricultural property was already being subdivided for speculative construction.

New housing tissue site —— The site was one of the rare large-scale parcels in the area comprised of agricultural plots under substantial pressure due to speculative real estate development.

Self-wrap and permeability —— Fragmented by passages, the linear building winds-in on itself acts as a porous complex of edifices rather than an introvert urban block. The gaps used for public circulation allow access to the courtyard and an internal road adds variety within to the massing.

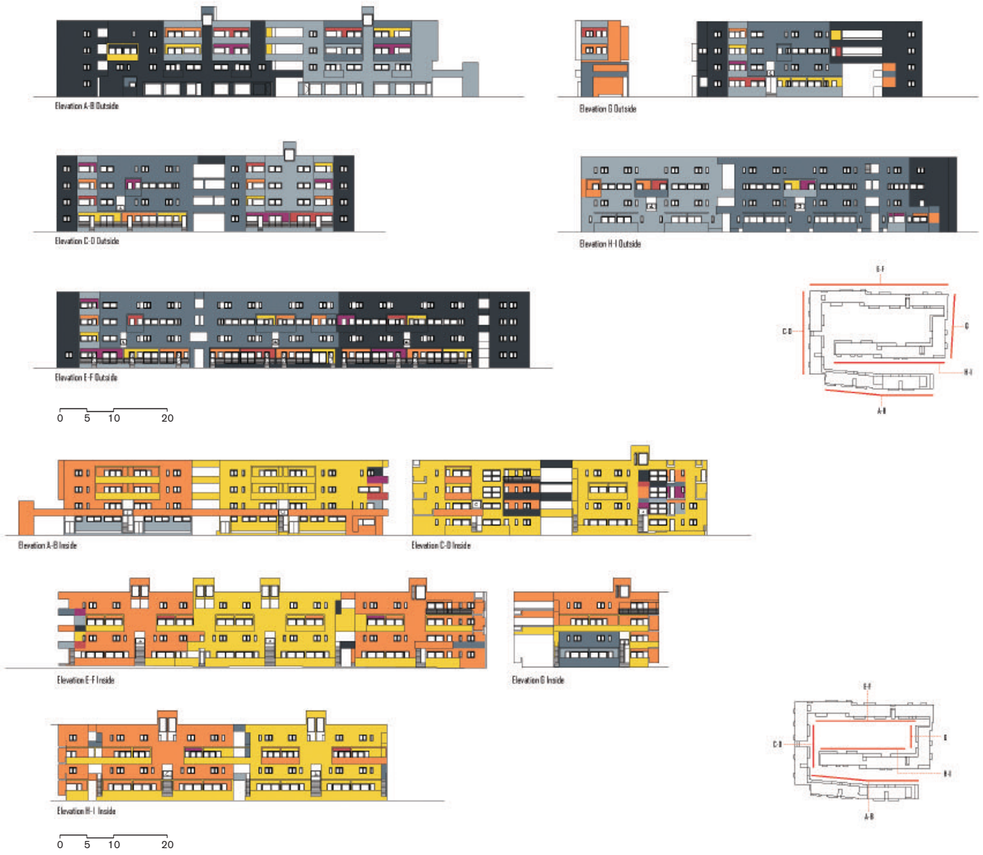
Internal oasis —— The agricultural field is taken as the basic unit of measure for the design of the open space, composed of a public garden and a playground. A planted area and a collective water tank covered by a paved zone are the crucial components of the courtyard.

Colorful passages —— Guaranteeing the permeability of the complex's linear mass, several small passages connect the interior open space to the outside perimeter.

The site will therefore be one of the few large-scale parcels in the area. Given the unpredictable conditions of the site and its distance from the city, the design introduces an organizational frame for the surrounding streets, new parcels and a variety of scales of public space. The form is made of an extended building (7.6 meters deep) that wraps on itself creating an internal road and a courtyard.

The internal road prolongs the side street, provides access to the units and connects the two main access points. The complex preserves the scale of the agricultural field as a collective open space. The open space provides a common public garden and a playground. The courtyard is made up of two parts: a paved area with a collective water tank underneath and a planted area. This difference in treatment creates a difference in temperature, thereby increasing air movement during the hot summer days and enhancing cross-ventilation in the units. Instead of framing the parts with trees, trees are used to mark the entrances to the paths between buildings. The landscape filters through these gaps between the buildings to the exterior, and thereby the connection between the interior open space and the street is emphasized. The trees are linked to the agricultural landscape: olives, a local variety of the ficus, poplars, palms and oranges are used. The oranges are reminiscent of the orange groves in the area and the poplars of the tree edges that defined waterways and created windbreaks. Each main floor unit has a small garden that can be used for planting. The roof can also be used for planting, in particular the trellises, which can be used for grapevines – a very typical feature of the region's houses. Car ownership is low among the co-op members. One parking space for every two units is sufficient. A common van is used to commute to the port. Most cars park on a piece of land separated from the main parcel by the new master plan. The parking will eventually be moved underground with a community auditorium built on the corner to complement the open space and street intersection.

In order to avoid a closed, urban-block effect, the linear mass is broken down into a series of buildings



inside warm – outside cool —— The color strategy for the elevations marks the difference between exterior and interior façades. The chromatic treatment is accentuated at corners, where shades of either blue or yellow continue on to the other side, mixing with each other to create new tints. The presence of balconies, windows and passages is further accentuated by the color selection used for mediating between small and large scales within the complex.

Singular corners —— Corners are treated distinctively from other parts of the blocks, both spatially and chromatically.

separated by gaps that are used for public circulation. These spaces provide variety within the building volume. The corners are treated differently in response to various external conditions. For example, a small public space is created at the intersection of the main road and the secondary road, where a waiting area and a bus stop is located and a small thicket of ficus trees to shade the waiting area. Another small area along the main road between the building blocks provides space for an outdoor café and a passage to the interior. A series of small passages lead from the outside perimeter to the interior courtyard at the main corners, heightening the porosity of the project.

The fishermen insisted on maintaining equality among the units. To meet this requirement, particularly in terms of outdoor space and views, the units had to be different, depending on their location in plan. The project consists of 80 two-bedroom units, each about 86 square meters inside and about half the area in private outdoor space. The units are arranged in three types of blocks or groupings. The first type consists of simple one-story flats (simplexes) arranged around a common scissor stair. The second type of block consists of four duplexes, each duplex consisting of an open floor plan for living spaces and a second floor for bedrooms. This type is located around the main open space. All living floors have cross views and cross ventilation and are extended to the outside by private outdoors spaces (gardens and porches for the lower units and balconies and roofgardens for the upper units). The third type is a combination of duplexes and simplexes and is located at the corners of the main open space. There are nine total blocks (A to I); each has a separate entrance with a letter from the Arabic alphabet marking its doorway.

The exterior façade colors are grey-blues, while the interior courtyard façades are yellow-oranges. At the corners, these colors blend. Similarly colored surfaces form blocks that mediate between the overall building scale and smaller elements like windows, doorways and balconies. The public stairs are left open on the sides in order to help ventilate them and decrease the need for maintenance and electric lighting. In the simplex blocks, the balconies of the units extend in front of the landings in order to shade them. The public stairs in the duplex buildings are reduced to one long flight that runs through the building and is open on both sides.

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UFO 2_URBANISM FASCICLES OSA

The UFO Series aims to critically document worthwhile episodes of ongoing research in the field of urbanism. The progressive accumulation of the series' fascicles will incrementally generate a component of the contemporary archives of urbanism. The series is envisioned as inclusive and open-ended – exposing a broad spectrum of investigations that work across disciplinary boundaries and/or which actively engage new forms of interpretation. It seeks not only to re-read/re-write urban histories, but also search for new tools to describe, understand, interpret and qualitatively and structurally intervene in the transformative processes conditioning urbanism.

The iconographic component of urban research is emphasized for its power in representing and unlocking the understanding of spatial phenomena, and for its complementarity to language. Drawing and the creation of maps are tools to select, compare, combine, analyze and describe tendencies and the latent capacities of territories and their relation to urbanization.

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