

URBAN TRANSFORMATION IN DEVELOPING TERRITORIES

Marc Angéllil

Africa, the alleged “dark continent,” and its patterns of urbanization processes are the focus of a design research program entitled Urban Transformation in Developing Territories. In a case study that considers Ethiopia, one of the poorest nations on earth, and its capital Addis Ababa, a form of projective investigation is promoted combining analysis, design, and implementation strategies—an inquiry directed toward practical performance.

Rather than upholding an *a priori* vision of an ideal city—one suggesting *tabula rasa* as a predominant practice—the transformation and gradual change of existing urban conditions is foregrounded. Following the saying that “Rome wasn’t built in a day,” the inquiry emphasizes the role of time-based techniques and process-oriented approaches. The urban fabric is understood not as a fixed entity in time but as a constantly evolving and adaptable system. Thus, design also entails the design of processes.

While research can use diagnostic techniques of analysis to trace the past evolution of urban systems in order to understand the *status quo*, it must also project and anticipate future developments. Accordingly, one of the key aspects of the work involves scenario planning: designing potential future conditions according to varying constraints. The long-term effect of changing parameters is tested and analyzed. Examples include shrinking and growing scenarios, the rate of developmental speed, questions of density, migration from rural to urban areas, changes in the demographic constitution of the social body, the allocation or lack of energy and monetary resources, the impact of forms of governance, etc.

Central to this undertaking are the transdisciplinary disposition of the work and the involvement of local stakeholders. A network of collaborators—including students, members of the academic community, professionals, governmental agencies, industry partners, and representatives of the public at large—frames the dialogue and negotiations pertaining to potential conversions of the built environment. These transformations are guided by the mandate to promote means for achieving socially, ecologically, and economically balanced urban settlements. The three-year project is structured according to three phases of investigation, each characterized by specific methods and conceptions of design research.

LEARNING FROM ADDIS (2007) builds on Robert Venturi and Denise Scott Brown's analysis of Las Vegas using mapping techniques as design tools to delineate both rereadings and rewritings of Addis Ababa's social and physical spaces.

ADDIS THROUGH THE LOOKING-GLASS (2008) explores, as in Lewis Carroll's Alice adventures, the possibilities of viewing the world from another vantage point in order to test design propositions as prototypical urban strategies in the different cultural contexts of Ethiopia and Switzerland.

QUO VADIS, ADDIS? (2009), with a nod to Henryk Sienkiewicz's political novel, seeks to generate design projects for implementation at the local level, and thus to counter prevalent tendencies to engulf Ethiopia in the global economic game.

Consider in this respect the mirror as a trope indexing different methods of design research. First, research might be regarded as an identity-forming device in the introspective, Lacanian sense: while looking at another culture, unexpected mirror-effects come into play; we see our own mirror image reflected in the very object of investigation. Second, research might be perceived as a type of mirror that entices us to penetrate its surface, to enter into another world, and from there to glimpse, through the mirror, the same familiarities of our own—a seemingly known world, though this time twisted, stretched, or magnified. Third, research might be looked at as a rearview mirror revealing players and events about to overtake us in the fast lane, in a type of *Back to the Future* setting—we know very well that “objects in the mirror are closer than they appear.”

ADDIS THROUGH THE LOOKING-GLASS

Marc Angélil and Cary Siress

*“There is the room you can see through the glass—
that's just the same as our drawing room, only the things go the other way.”*
—Lewis Carroll, *Through the Looking-Glass*¹

The back-and-forth of transactions, hustle and bustle of activities, hodgepodge assortment of goods, colors and smells are all simply breathtaking. Corrugated metal roofs cover stalls piled with diverse products offered for sale: woven baskets, coffee, charcoal, manure, used tires, building materials of every sort, and coffins made of wood. Thousands of people crowd the streets and alleys bartering along the way in the hope of making a good deal where possible. As the popular saying goes, “around here one can even bargain for a new soul.”¹¹

This ostensibly simple spatial scheme is supported by a complex social network that ensures the performance of the overall urban system. The collective web is reinforced by craftsmen associations and trade unions housed in low-rise clusters, market halls, or, more recently, two- and three-story buildings. In turn, the neighborhood is zoned according to specific categories of services and products. For example, one encounters a sector for spices, another for agricultural produce, still others for light metalwork, textiles, plastics, and imported electronic equipment. Although the various subdivisions are ordered, the boundaries between them are blurred by the casual unfolding of events—or simply by the way things go, since the quasi-formal market organization is persistently thrown off balance by informal market practices.

With respect to the coexistence of formal and informal frameworks, the *Mercato* takes on the role of a key relay between rural and urban communities. It provides an arena for the sale of agricultural goods and serves as a landing pad for ever-increasing numbers of migrant farmers hoping to earn a better living in the city. As the majority of these migrants are not legally registered, they stand little chance of getting a commercial license. Nevertheless, their presence is tolerated. They occupy temporarily unclaimed spots wherever possible, peddling their products in the middle of the street, if necessary. Here, one encounters yet another level of land appropriation, this time in the form of a roaming proprietorship.

This machinery encompasses not only people who are on the move, but also the material resources of the city. Goods no longer used are salvaged and revalued for sale in the market—a type of recycling *avant la lettre*, a literal and opportunistic mining of the city that involves reprocessing whatever is at hand. That which in the West is typically considered waste—and thus worthless—is reappropriated in Addis Ababa through modest means and on-the-spot ingenuity: old tires are converted into satchels for pack-mules, soft drink bottles are turned into toys, and scrap metal is transformed into household utensils.^{III} Other products, from discarded plastic sheets to recovered copper pipes, reinforcing bars, or beverage crates, need only be cleaned before being recirculated as building material. When the interplay of supply and demand is constrained by an economy of scarcity, there is no limit to improvisation. Bottom-up resourcing is the rule. When set into motion, such a principle gives rise to a self-fuelling system operating across multiple scales—a trickle-up urban ecology that re-frames the discourse on sustainability.

I Lewis Carroll, *Through the Looking-Glass*, first published 1872 (London: Penguin Books Ltd., 1998), 125–126.

II Katrin Hildemann and Martin Fitzenreiter, *Äthiopien*

(Bielefeld: Peter Rump Publishers, 1999), 199.

III Lukas Küng and Dirk Hebel, “Lernen von Addis Ababa,” *archithese* (March/April 2007): 26, 31.

Despite dire conditions, such makeshift processing of resources gives rise to a special form of market economy, namely that of small-scale measures of subsistence carried out by the masses, organized from below, and empowered through the thousandfold repetition of minute elements. And yet, this frail economy recently faced a threat to its existence when the livelihood of local merchants and residents was directly confronted by the interests of a global consortium seeking a takeover of the quarter. What sparked the crisis was the offer of a Malaysian investment firm to buy all rights for use of the area, with the intention of turning the *Mercato* into a business and shopping district—an infringement from the outside hinting at a new form of domination. Followed scrupulously by the local press, the affair set off a public debate on the future development of the city. While politicians were occupied with the question of whether partaking in the global game would be either desirable or feasible, it was ultimately the cost of mass relocation that brought the entire venture to a grinding halt.^{IV}

Two occurrences facilitated resolution of the conflict. First, the standoff reinforced social ties within the community and galvanized its political representation within the city at large. The worker associations were proactive in demanding an equal voice in shaping their environment, and new trade unions and building cooperatives were formed that further strengthened communal bonds. Second, at the time of the clash, the municipal administration was in the process of revising the existing zoning ordinance, the so-called *Addis Ababa Development Plan*. An entire chapter of building regulations was drafted for the *Mercato* area. To those responsible, it became clear that neither planning from the outside nor an exclusively top-down approach would serve the cause of appeasing the merchants and residents: their involvement in decision-making processes was paramount.^V

What is referred to as “participatory” or “discursive” planning was legally ratified. Rather than succumbing to the demands of potential investors attempting to secure provisions for a high-rise business district, the city government sought consultation with citizens.^{VI} Self-empowerment in place of dictated power became the maxim for all planning matters. Notable from the perspective of urban discourse is that the mandate in Addis Ababa to move from informal to formal structures is only possible under the condition of dialogue between public interests framed from above and those determined from below by the needs of the local population.

If we were to take another look in the mirror, another image of Africa would surface. Whereas the purported “dark continent” seemed ghostly to Michel Leiris in its sheer otherness and invisibility, as the title of his travel log *Phantom Africa*, from the 1930s suggests, what appears phantasmal today is the strain of market economy that is engulfing the planet.^{VII} Reflecting on the case of Addis Ababa shows us that what appears to be backward is actually a forward-looking tactic that can effectively circumvent the dictates of global capital through the implementation of communicative action in planning.

But just as any mirror can be shattered, so too can this fragile grassroots vision. A new form of colonization is well underway. For now, China, having spied lucrative trading prospects, has stepped through the window of opportunity. Putting the West ill at ease, an unexpected Sino-African dynamic is building, evoking memories of the European seizure of the continent. Notwithstanding complaints from Western companies that Chinese bids are impossible to match, the People's Republic has learned to play the game of coaxing African countries along the path of development. In marked contrast to Western investments that tie trade incentives to human rights, China's policy of "no-strings aid" is simply more seductive.

Ethiopia is not exempt from this lure. Here new infrastructures, schools, and factories are being built, favorable trading agreements signed, and vocational programs sponsored. On top of this, China recently gave a gift in the amount of 150 million US dollars for an annex to the African Union headquarters in Addis Ababa. But all of this comes at a price: substandard wages; no retirement benefits; no customs revenue from imports; no income from tax-free accords; and, above all, general disregard for the rights of citizens. Those browsing through the *Mercato* today would not be surprised to discover artifacts bearing the ubiquitous label "Made in China." In effect, exploitation is the name of the game. "Let's pretend" we in the West are out in front, looking back at the rest of the world.^{VIII} But a second glance in the rearview mirror reveals another player about to overtake us in the fast lane. We would do well to recall that objects in the mirror are closer than they appear.

IV The authors were informed of the unfolding of events in discussions with representatives from the Association of Ethiopian Architects in Addis Ababa in May 2007.

V *Addis Ababa Development Plan*, 5, 43, 73, 74.

VI See Jürgen Habermas's thesis pertaining to communicative action in *Theorie des kommunikativen Handelns* (Frankfurt: Suhrkamp Publishers, 1981).

VII Michel Leiris, *L'Afrique fantôme* (1934), in *Michel Leiris. Miroir de l'Afrique*, ed. Jean Jamin (Paris: Quarto Gallimard 1996), 851, 855.

VIII Lewis Carroll, *Through the Looking-Glass*, 124.

1 Africa as Alice's looking-glass, original illustration by John Tenniel, montage by Charlotte Malterre-Barthes

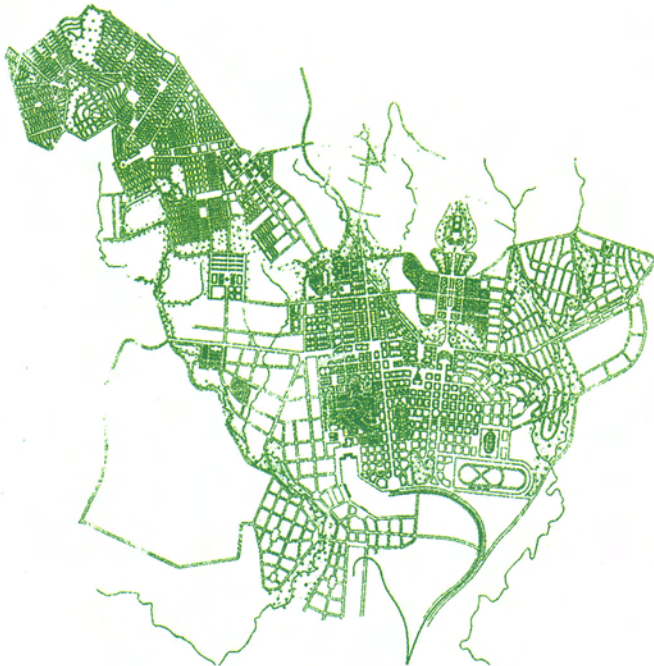
2 Italian master plan for Addis Ababa, circa 1939

3 Italian master plan for the relocated market quarter, circa 1939

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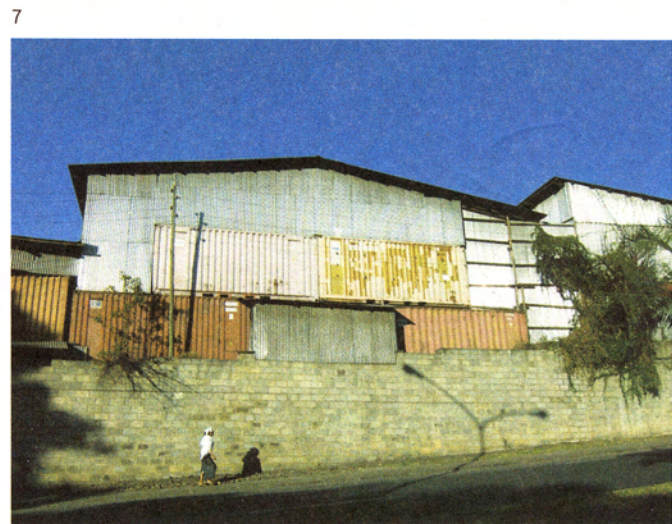
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4 Main street in Mercato district,
photo by *Darius Karacsony*
5 Side alley in Mercato district,
photo by *Darius Karacsony*

6 New worker's cooperative in Mercato
district, photo by *Kathrin Gimmel*
7 Shipping containers integrated in
building facade, photo by *Lukas Kueng*

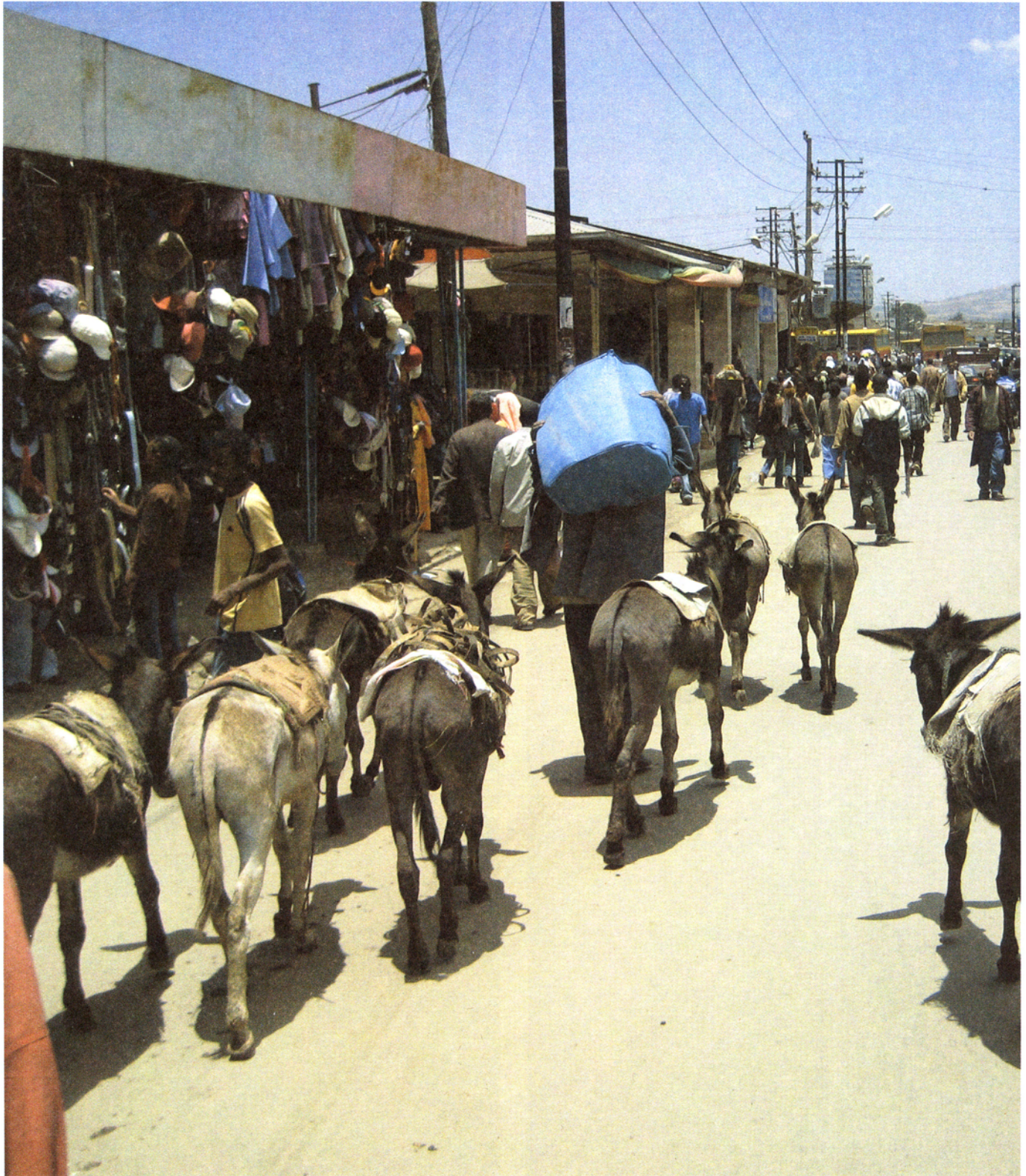
8 Proposed Chinese infrastructure
project for "Confusion Square," Addis Ababa
9 Chinese gift to the African Union,
Addis Ababa



LEARNING FROM ADDIS

The first design research studio of the postgraduate Master of Advanced Studies program Urban Transformation in Developing Territories (2007) examines the role of methods of analysis and mapping techniques as design tools to delineate both rereadings and rewritings of Addis Ababa's social and physical spaces. What can be learned from the case study and how can research spark design propositions? Avoiding the traps of exoticism and moral projections, the

studio takes Addis Ababa's territorial organization and collective fabric as a model for understanding the forces at work in the formation of urban territories in developing countries—uncoordinated growth patterns, the lack of technical infrastructure, omnipresent poverty, migration from rural to urban regions, colliding financial interests, difficult negotiations between formal and informal processes, and complex social networks.



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|---|--------------------------------------|---|---------------------------------|---|---|
| 1 | Colonial Africa 1935 | 4 | Topography, Ethiopia | 7 | Rivers and green spaces, Addis Ababa |
| 2 | Post-Colonial Africa | 5 | Groundwater resources, Ethiopia | 8 | Sub-cities and <i>kebeles</i> , Addis Ababa |
| 3 | African Union since 9 September 1999 | 6 | Conflicts Map, Ethiopia | 9 | Density: 4,000,000 inhabitants |

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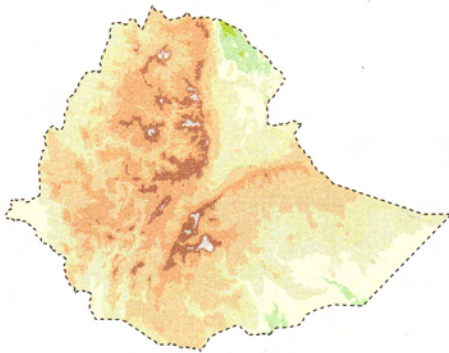
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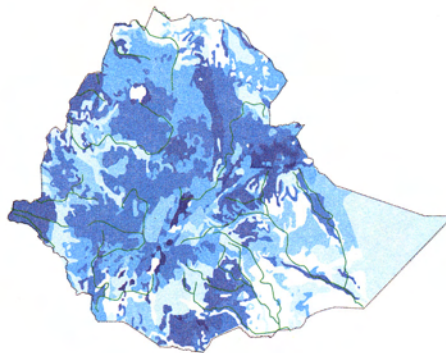
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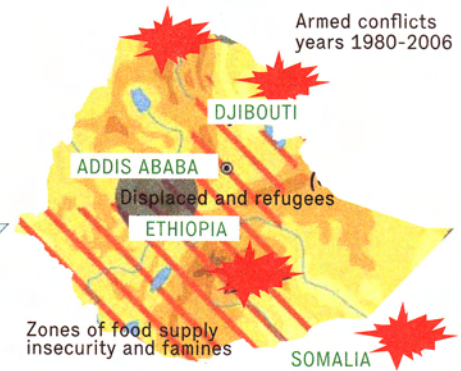
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MIXCITY

Duan Fei, Kathrin Gimmel, Imke Mumm, Stefanie Scherer

1 COLLECTING-RECYCLING-RESELLING

Characteristic of Ethiopia's economy at both macro and micro scales is the interaction of formal and informal production processes. A complex arrangement of activities is supported by many involved groups: gatherers, craftsmen, shopkeepers, traders, brokers, manufacturers, etc. Of importance within this framework is the collecting-recycling-reselling network centered around the Mercato district. The collectors, who come from rural regions, gather waste and scrap material from all over the country, finance their endeavors with loans from traders, and sell their wares to wholesalers, who then resell or recycle available products.

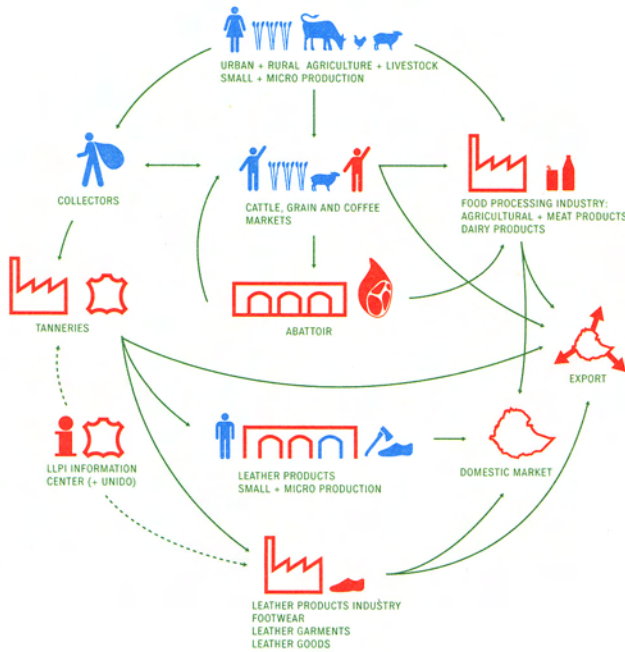
2 SYNERGY URBANISM

Addis Ababa consists of a uniquely decentralized, socially and programmatically mixed urban fabric based on remarkable self-organizing processes. Small-scale, informal economic activities determine everyday life. Streets are used for market purposes, the production of goods, or religious and secular festivities. Neighborhood organizations act as welfare and community institutions. Different income groups share the same districts. This amalgam of participants, programs, and social frameworks contributes to a specific spatial quality, one marked by the interaction of multiple components and diverse forces at work. Such a condition suggests a type of "synergy urbanism" that reinforces so-called social and programmatic "mixity" in new developments, while maintaining the hybrid urban properties of Addis Ababa.

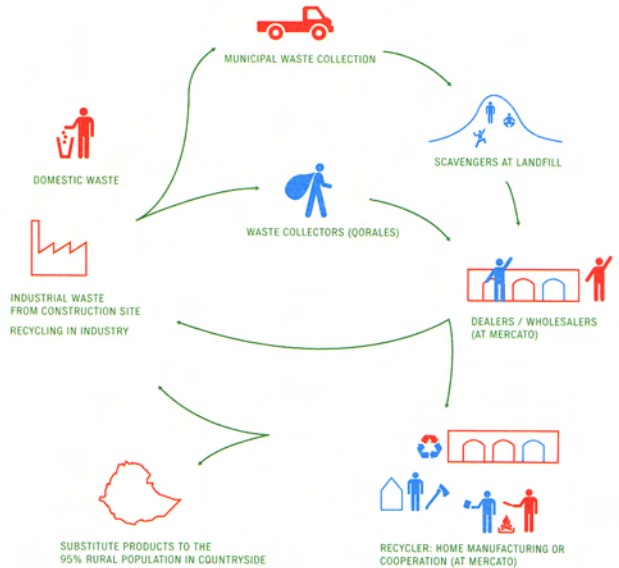
3 MIXCITY

The project intends to activate synergies on different scales. Based on an analysis of existing conditions, a catalog of rules and multiple architectural prototypes is compiled. Considering site-specific historical traces, an urban strategy is identified that produces "mixity" in every phase of development.

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4 PLANNING GUIDELINES

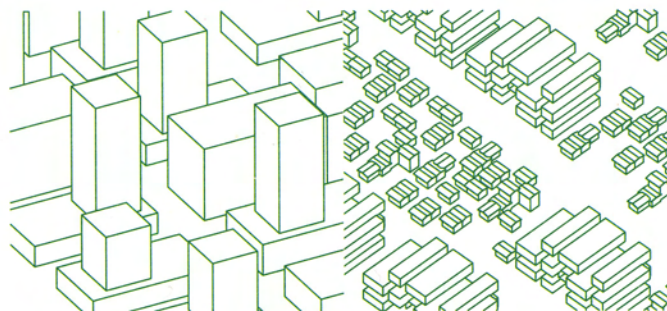
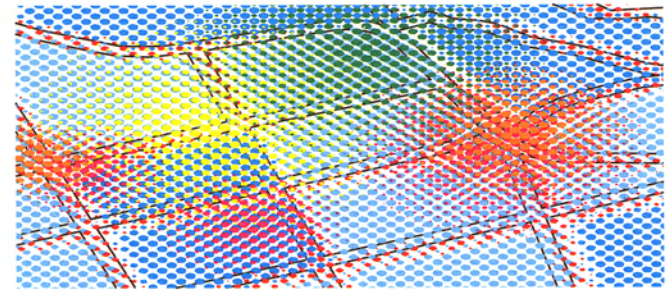
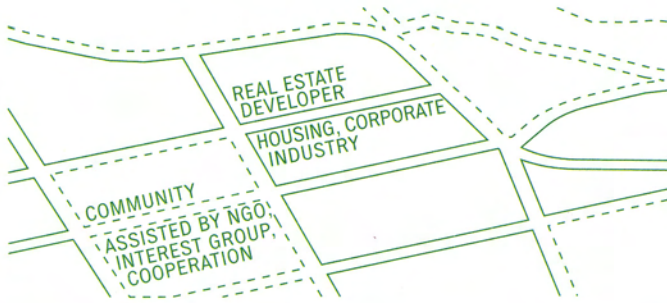
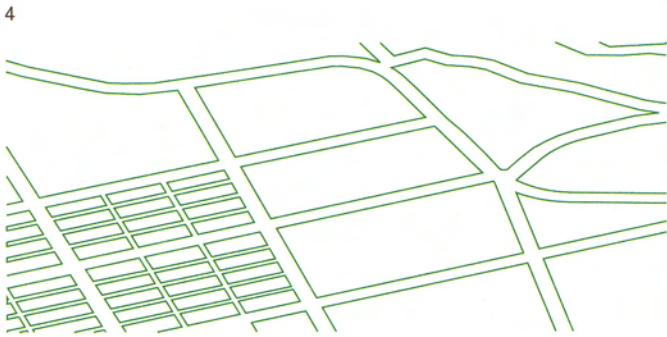
The proposed guidelines, addressing equally formal and informal market forces, ensure that the diverse social fabric is maintained. A matrix of streets structures the neighborhood into distinct districts with identifiable qualities. The grid is further subdivided to define public spaces in both low- and high-end areas. 40% of any new project must be low-income housing to guarantee an appropriate mix. Additionally, slum-upgrading efforts must be undertaken in neighboring quarters, in collaboration with non-governmental organizations supporting the urban poor and their communities. To enhance programmatic synergies on the site, different functional clusters must overlap. Projected density regulations are adjusted to meet the needs of prospective users, such as low-density for low-income groups and high-density for the high-income population.

5 HYBRID PROTOTYPES

The proposed prototypes range from programming green open spaces to infrastructural networks and housing typologies targeting the involvement of a variety of participants. Those prototypes form the basic urban elements to be implemented depending on the programmatic and social mix of the individual urban sectors.

6 DEVELOPMENT PROCESS

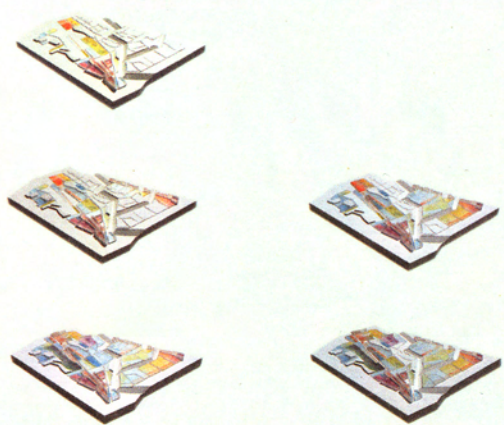
To protect the overall organization of the site, a grid is implemented as soon as the land is available, creating fields of different width. Within these parcels, development can vary from self-built, temporary, to upgraded or permanent structures. This process is visualized in 5 possible scenarios.



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|-----------------------|--|-------------------------------------|------------------------------|-----------------------------|----------------------------|
| | | ECONOM IC | #1 SQUARE MARKING | | #2 SHOPPING GALERIES |
| #3 COMPOST SHOP | #4 GREEN + CLEAN | | #5 VIADUCT ACTIVITIES | #6 SHOPPING BEAM | |
| | | #7 TERRACED LIVING | #8 MARKET HALL | #9 KEBELE CENTER | #10 BLOW-UP STREET |
| | #11 URBAN AGRICULTURE HOUSING | #12 AGRO-PARK | #13 HOUSING KIOSK | #14 IMPROVED SIDEWALK | SOCIAL |
| ENVIRON MENT | | #15 DAIRY POWER STATION | | | #16 MEETING POINT |
| | #17 TREE LINE HOUSING | #18 UPGRADING LIVING FIELD | #19 G+4 KEBELE HOUSING | #20 CONTAINER VILLAGE | |
| | | #21 G+ VILLA | | #22 HIGH-RISE DREAM | |
| | | | HOUSING | | |

6



UNITE!

Charis Christodoulou, Hyeri Park

AIKIDO STRATEGY

The current real estate boom in Addis Ababa challenges existing low-income neighborhoods. The urban poor are the first to be displaced from the inner city to the outskirts in order to make the land accessible for more profitable developments. Accepting the fact that market forces are stronger than any potential resistance of the local population, the project suggests establishing synergies between market-driven densification supported by the

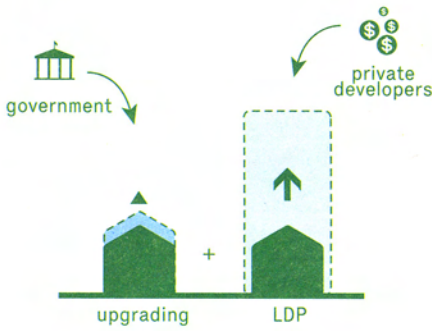
Local Development Plans (LDP) and inner-city slum upgrading processes. The LDP areas are currently exploited far beyond approved planning regulations, generating a high return for both the private and public sectors. The project proposes using this surplus profit to finance the step-by-step densification of adjacent slum areas.

- 1
- a Current situation of upgrading and LDP
- b UNITE, upgrading and LDP
- c actively, UNITE!, upgrading and LDP

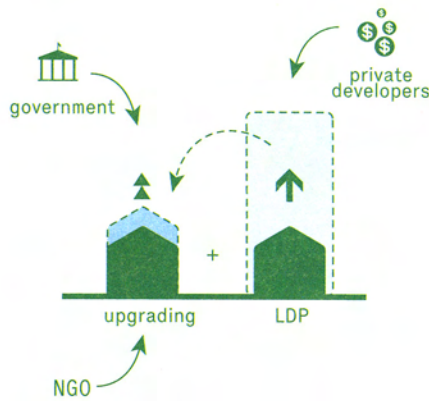
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- a roof material: corrugated iron
- b vertical open space
- c self-infill housing
- d material: mainly brick
- e container informal housing
- f housing: for inhabitants (informal, self-infill) + selling to others (fully-furnished)
- g commercial: small offices and shops
- street infill: according to the original street of existing informal housing or mall shops

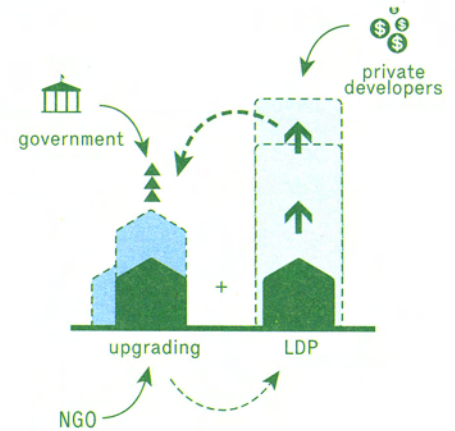
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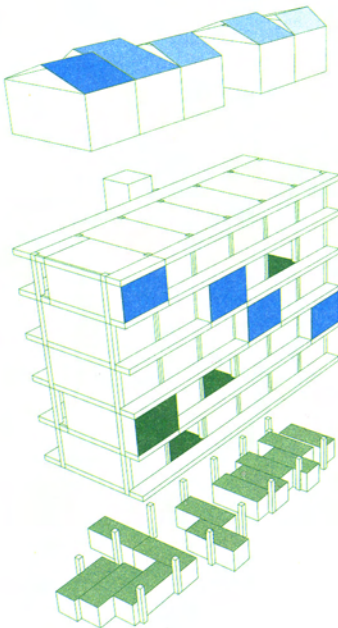
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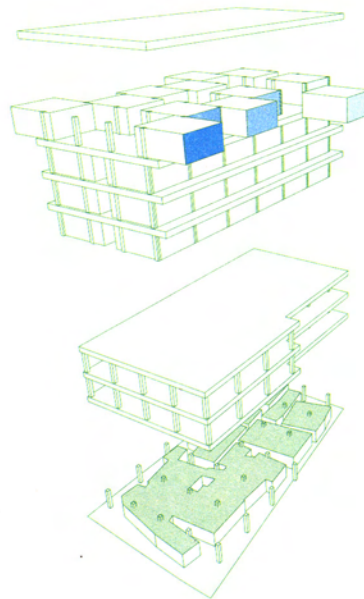
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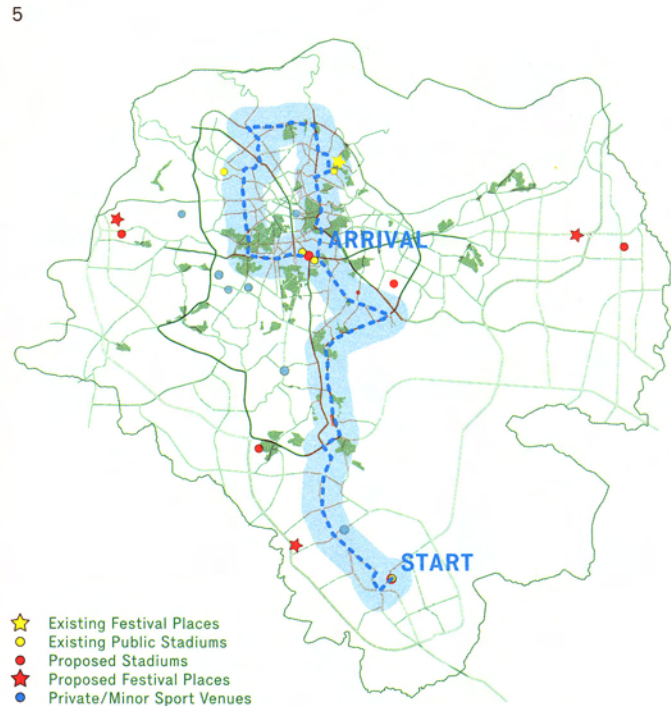
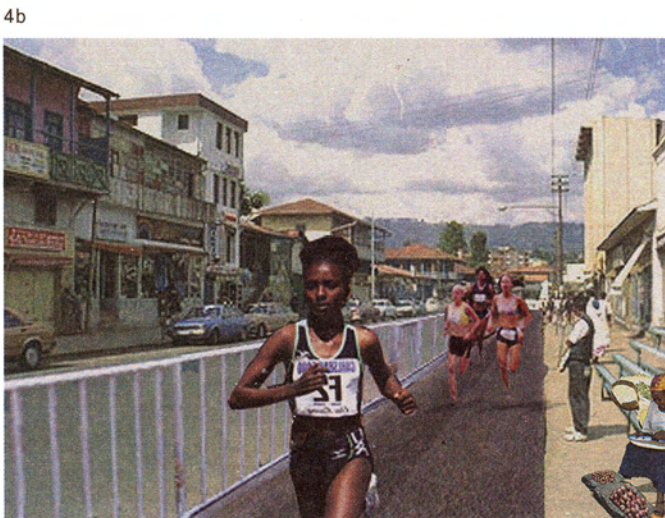
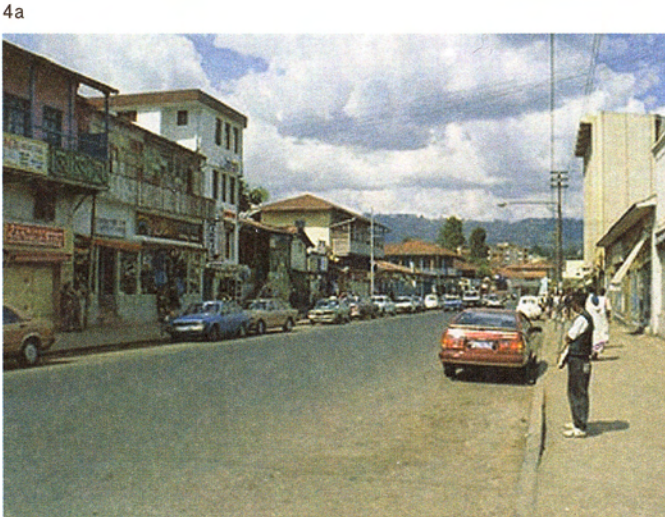
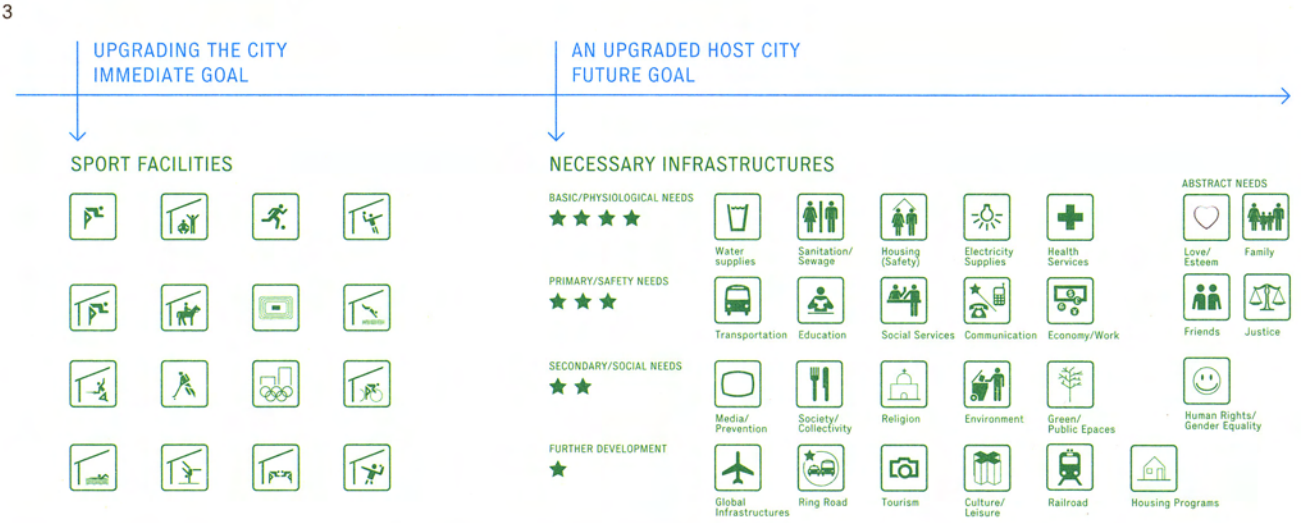
- e
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OLYMPIC CITY
Ann-Charlotte Malterre-Barthes,
Valentina Genini

ALIBI STRATEGY
The project Olympic City uses a design strategy based on a Trojan horse tactic. A long-term goal is proclaimed in order to achieve an otherwise impossible urban planning coordination. The project suggests that Addis Ababa could compete to become an Olympic City in the nearby future. As a virtual scenario, "Olympia"

becomes the catalyst for a series of upgrade initiatives related to national and international sport events—creating public open spaces and promoting infrastructure improvements for the city. According to a detailed timeline, the major sports events—such as the Great Ethiopian Run and the Pan-African Games—are evaluated in relation to potential urban propositions. This strategy derives its design principles from an understanding of existing political agendas and economic speculations—as irrational and absurd as they might be.

- 3 Olympic Diagram
- 4a Before
- 4b After
- 5 Proposed Marathon Route

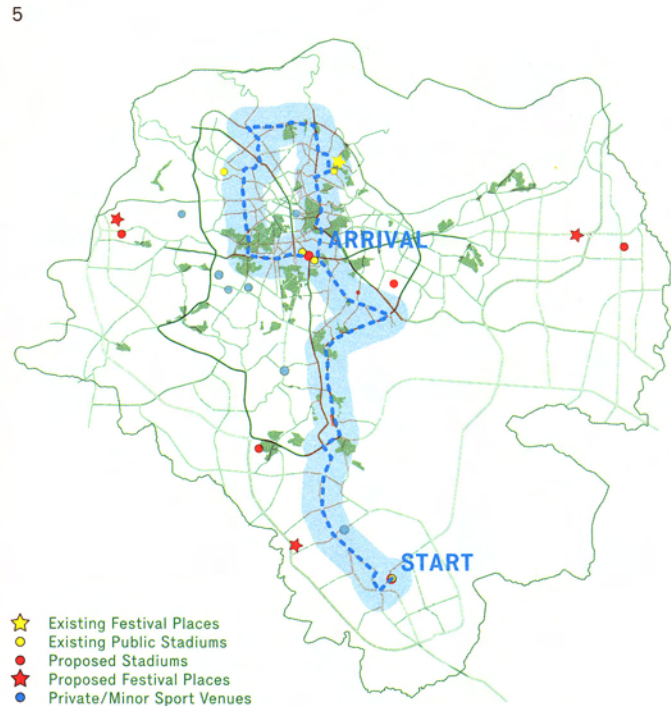
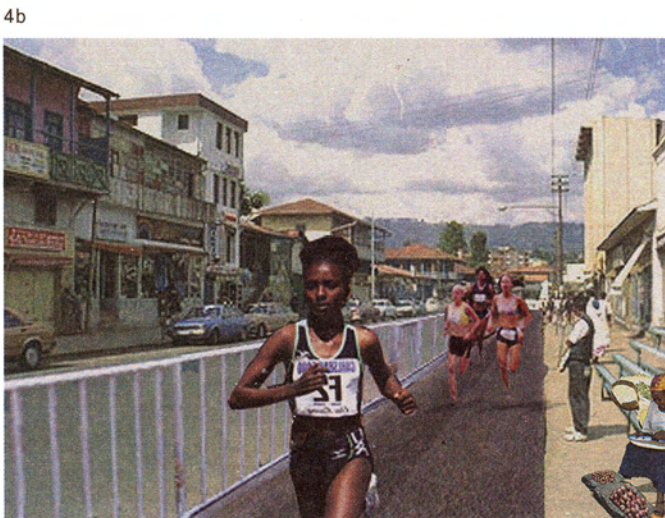
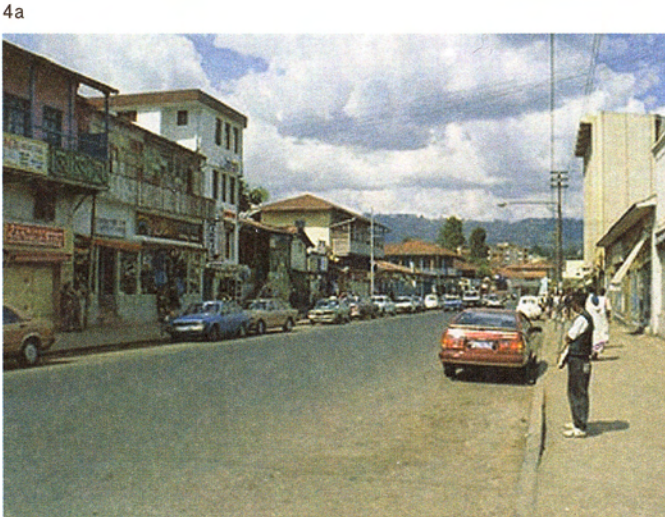
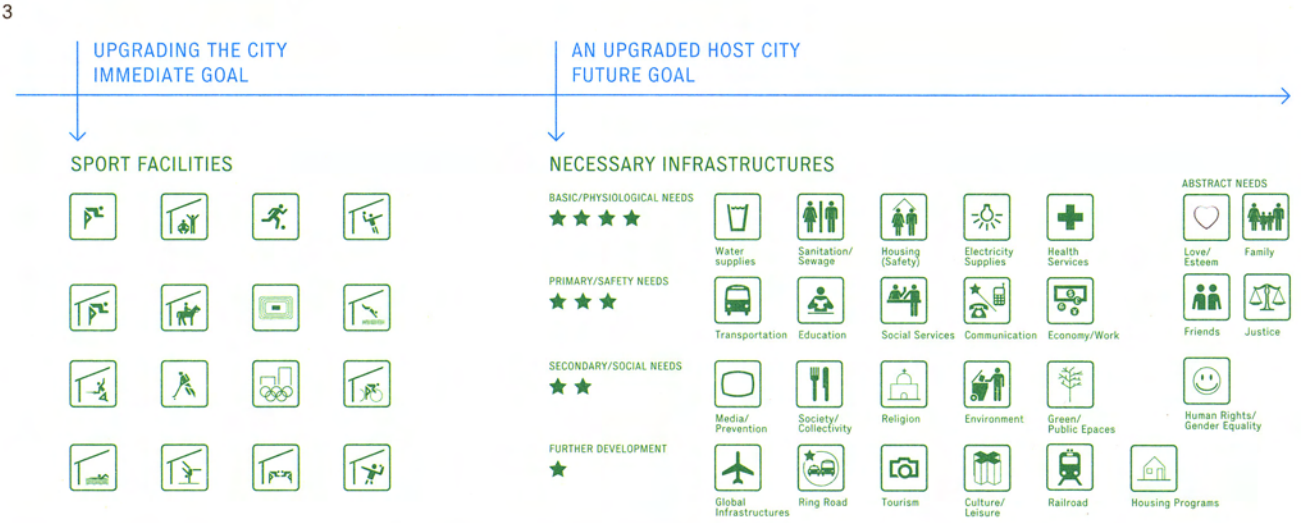


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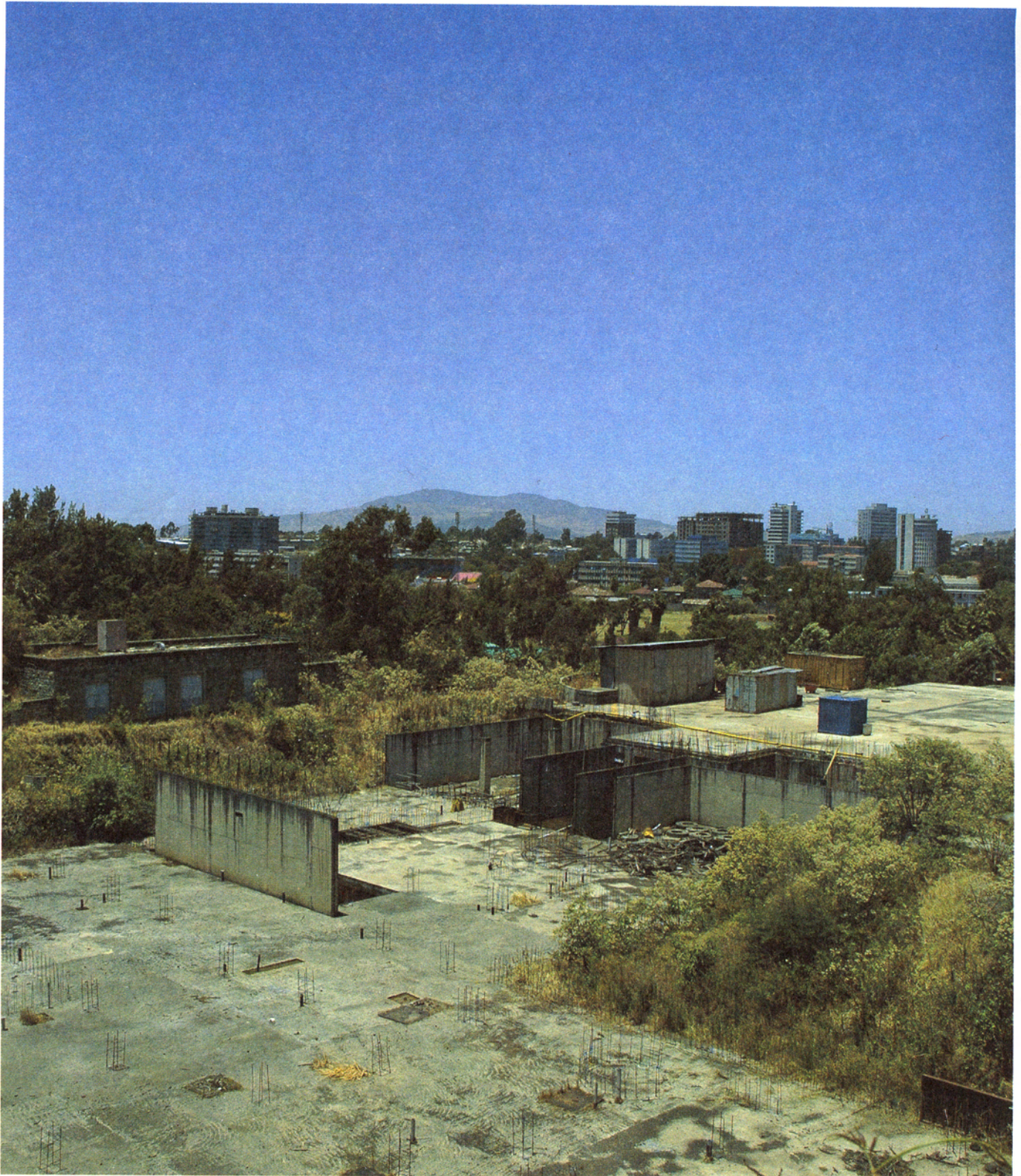
- 3 Olympic Diagram
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ADDIS THROUGH THE LOOKING-GLASS

The second phase (2008) in the sequence of three design research studios explores the potential of comparative analysis to test design propositions as prototypical urban strategies in the different cultural contexts of Ethiopia and Switzerland. The two case studies—Addis Ababa and the Schwyz Valley—could not be more dissimilar: one represents a rapidly growing metropolis in one of the poorest countries on the African continent and the other a rural agglomeration

in one of the richest nations of the world. Questions relevant to both places are tested and transfers of concepts investigated, foregrounding similarities and differences. A mirror effect comes into play. Of significance for the research is not only the focus on physical products but also the interest in the design of processes. So-called toolboxes, comprising analytical, design, and communication instruments, are developed to help identify and structure future courses of action.



PUBLIC SPACE AS URBAN INFRASTRUCTURE

COMPARATIVE PROJECTING

A design proposition is concurrently tested in two fundamentally different contexts: Switzerland and Ethiopia. In spite of their differences, a discontinuous urban fabric and a lack of public spaces mark both sites. Taking this condition as a point of departure, the projects introduce a series of parks and open spaces within the existing urban terrain—a type of green infrastructure as a matrix to guide future developments.

ZENTRALPARK / CENTRAL PARK
Case Study Schwyz, Lukas Kueng

The Schwyz Valley, a compound of independent small municipalities at the fringes of the Zurich metropolitan region, has recently evolved into an urbanized landscape, displaying all the properties of a typical agglomeration—a terrain formed by a heterogeneous assembly of buildings, punctuated by agricultural fields, and crisscrossed by massive traffic infrastructure. Open spaces in-between offer a last glimpse of a rural countryside about to be replaced by scattered housing developments.

In order to generate a common ground that provides the basis for coordinated, inter-municipal urban planning, the project proposes a continuous park and network of open spaces for public use. The low-maintenance green spaces frame a type of landscape infrastructure, providing retention basins to prevent flooding, missing links between disconnected areas, alternative energy production sites, and sports facilities for the whole valley.

- 1a Temporary Lake
- 1b Densification of Former Concrete Factory
- 1c Metropolitan Playground
- 2 Brunnen, Switzerland

1a



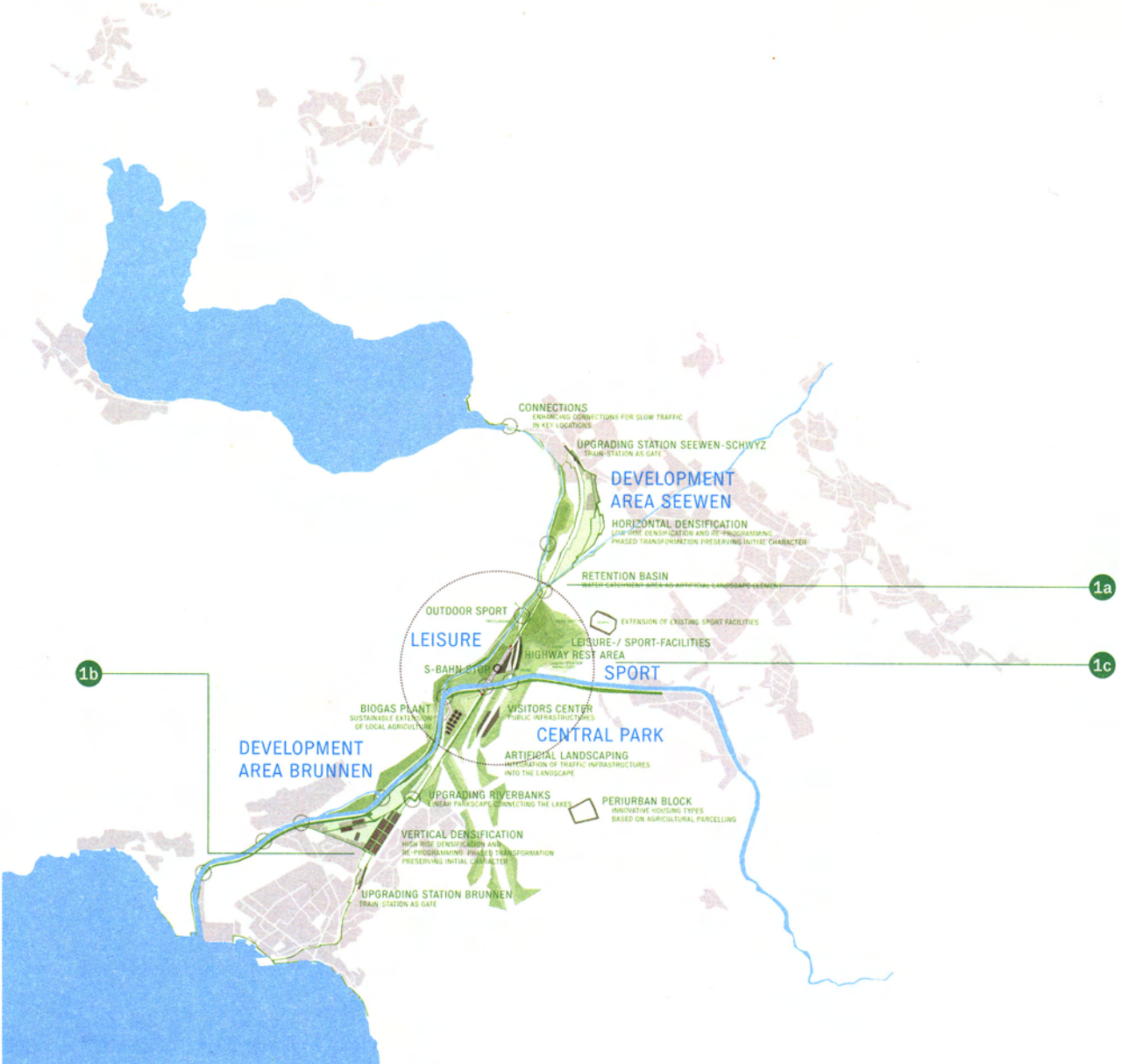
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NETWORK PARK—DECENTRALIZED PUBLIC SPACE

Tibebu Desta Daniel, Sander Laureys

Behind the official facade of Addis Ababa's city center with its large boulevards and monumental buildings is a dense fabric of single-storey informal housing, fully secluded inside the larger urban blocks. Beneath the city and all the more out of sight are the multiple rivers and creeks that traverse the capital from north to south. Part of the city's drainage system and mostly used as waste dumps, the contaminated canals are a major hazard to public health.

This project proposes a system of landscape connections along the existing waterways—an infrastructural framework with greenery, including pathways, sanitary and waste collection facilities, as well as spaces for public activities. The initial project phase introduces a path on top of a newly constructed sewage line. The path follows the river bank and connects areas of urban agriculture with the city's central market. Going beyond the mere provision of technical infrastructure, the project underscores the significance of public space as a means to foster social identity.

TOP-DOWN AND BOTTOM-UP

Both projects rely on top-down decision-making processes and on public institutions' ability to incorporate urban concepts into planning guidelines, such as the "Richtplan" in Switzerland and the "Structural Plan" in Ethiopia. Yet the proposals also necessitate community-based, bottom-up support: use and maintenance schemes require participation in collective matters at the local level.

- 3a Uncovering, Filwoha
- 3b Connecting, Meskel Square
- 3c Extending, Peacock Park
- 4 Addis Ababa, Ethiopia

3a



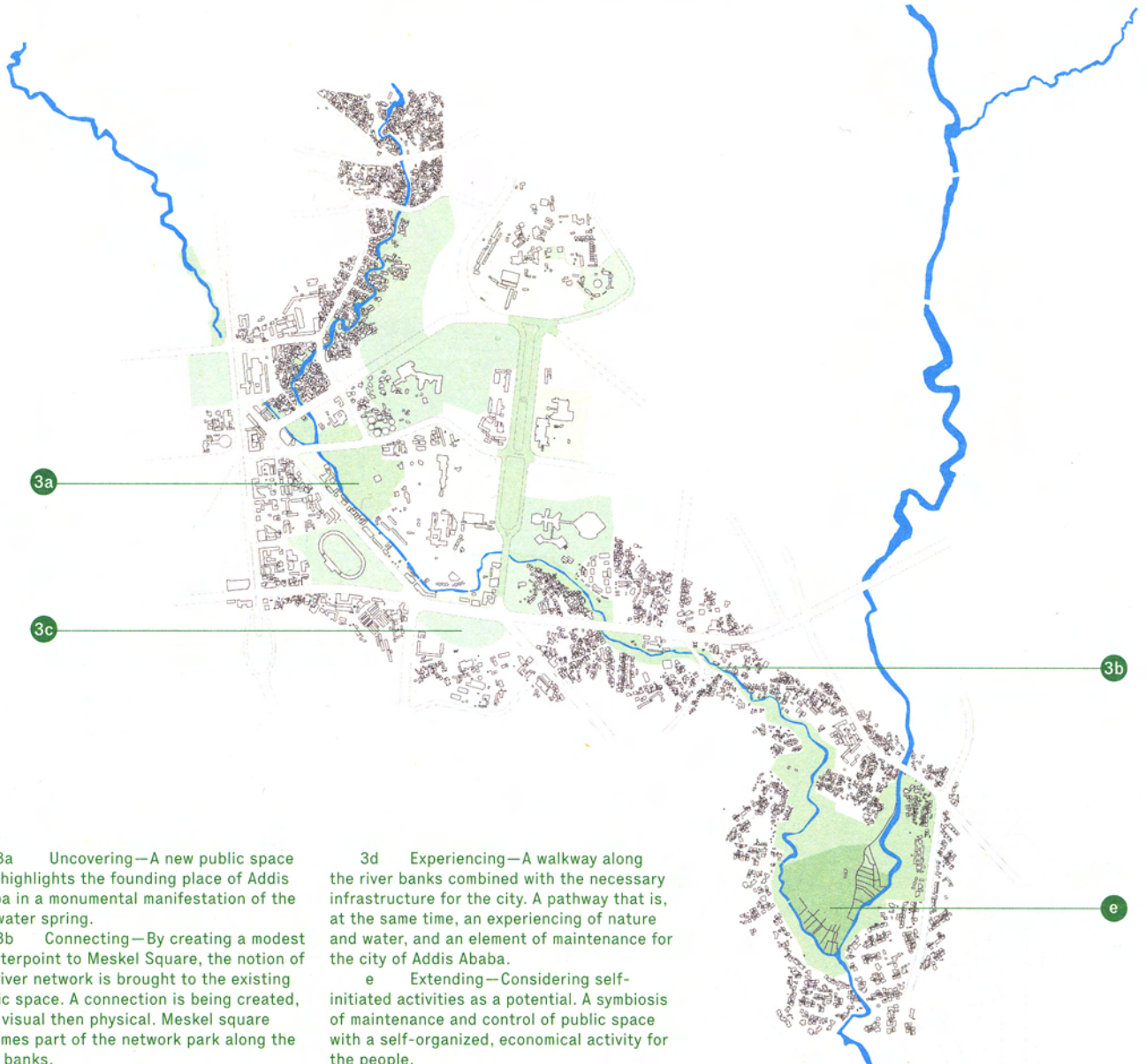
3b



3c



4



3a Uncovering—A new public space that highlights the founding place of Addis Ababa in a monumental manifestation of the hot water spring.

3b Connecting—By creating a modest counterpoint to Meskel Square, the notion of the river network is brought to the existing public space. A connection is being created, first visual then physical. Meskel square becomes part of the network park along the river banks.

3d Experiencing—A walkway along the river banks combined with the necessary infrastructure for the city. A pathway that is, at the same time, an experiencing of nature and water, and an element of maintenance for the city of Addis Ababa.

e Extending—Considering self-initiated activities as a potential. A symbiosis of maintenance and control of public space with a self-organized, economical activity for the people.

UPGRADING COMMERCIAL ZONES
Lincoln Lewis, Simon Kramer Vrscaj

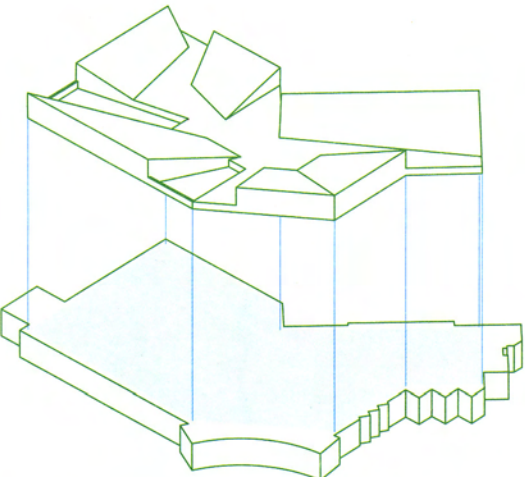
COMPARATIVE PROJECTING
The method tracks the development of specific design solutions in essentially different cultural contexts. Commercial zones in Switzerland and Ethiopia are analyzed and scenarios for their potential future development identified. Both urban probes and proposed projects focus on the relation between the private and

public sectors, the interdependency of retail uses on the one hand and communal activities on the other. The case studies selected are a shopping center in the Zurich agglomeration and the market quarter of Addis Ababa—a mono-functional suburban mall vs. a multi-functional urban neighborhood.

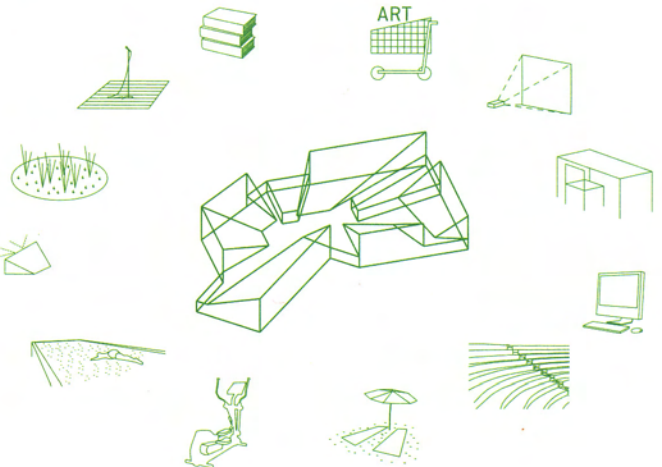
MYTHEN CENTER
The Mythen Center in the Schwyz Valley is the most important shopping mall of the region,

attracting local and regional customers. The proposed strategy aims at an integration of additional uses within the existing complex: production facilities, housing, a cultural center, and public spaces. Instead of replacing the existing and currently profitable urban fabric, the strategy is based on fill-ins and add-ons.
1a-c Mythen Center, Schwyz

1a



1b



1c



MERCATO

The project in the Mercato district of Addis Ababa suggests a series of upgrading measures strengthening community-based retail and protecting informal trade. Local associations of craftsmen and trade unions assert control over

their neighborhood as an alternative to current proposals by global consortia, to develop the Mercato into a business and shopping area.

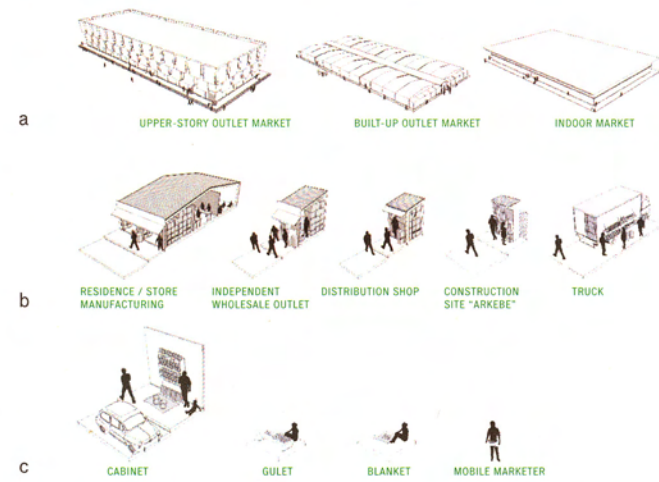
2 Overview of Mercato, Addis Ababa

- 3 Scales of Commerce in Addis Ababa
- a Associations
- b Formal
- c Informal/Illegal
- 4 Space Stuffers
- 5 Mercato, Addis Ababa

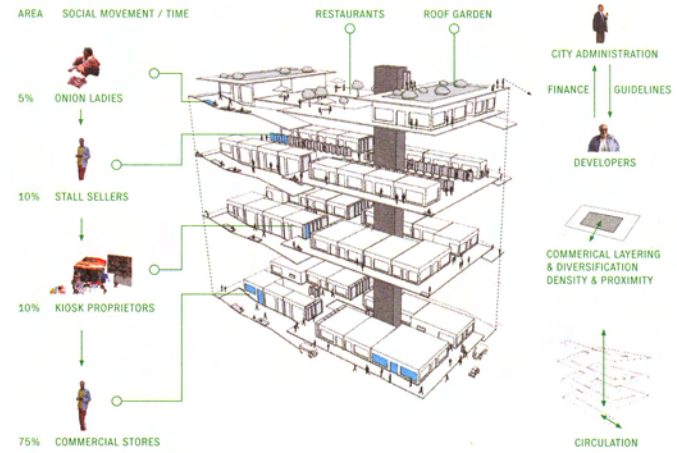
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5



QUO VADIS, ADDIS?

Quo vadis, Addis (2009) focuses on the relation between research inquiry and practical performance. Reaching beyond academia, the approach strives to generate tangible design projects for potential implementation, working together with universities, aid organizations, governmental agencies, professional associations, and community representatives. Questioning ubiquitous tendencies to engulf Ethiopia in the global economic game, strategies are pursued to strengthen community-based projects that combine bottom-up and

top-down approaches. The ambition is to promote future-oriented strategies in building construction, urban design, and territorial planning that implement new aptitudes in sustainable development. The work builds on a series of projects that are currently being developed by project partners, including proposals for new towns to counter migration, slum up-grading housing prototypes based on modular assemblies, and recycling strategies for new construction.



1 NEW ENERGY SELF-SUFFICIENT TOWN

Franz Oswald

NEST (New Energy Self-sufficient Town) is an initiative offering a proactive solution to the rapid expansion of Ethiopian cities due to population growth and migration from rural to urban regions. The project proposes a set of strategies for the development of new towns that can accommodate up to 10,000 inhabitants. Conceived as an adaptable system, the proposed scheme provides an urban matrix that can evolve and transform over time. Going beyond the construction of shelter, the undertaking aims at community-building. The core of the settlement, understood as a kind of town builder's center, includes a series of workshops and social amenities needed for both the formation and maintenance of a sustainable collective where inhabitants can learn, build, produce, or trade. The town provides its inhabitants sources of income, professional education, and communal institutions.

Of significance is the objective to create synergies through the coordinated deployment of renewable energy and material resources. Electrical power is locally generated by means of solar panels, windmills, or waterwheels. Waste management and recycling practices ensure the most effective use and reuse of basic materials and products. The project eventually seeks to achieve a highest possible degree of self-reliance through self-empowerment.

INITIATORS: *Martin Grunder, Surendra Kotecha, Corinne Kuenzli, Dieter Laepple, Franz Oswald, René Schaetti, Peter Schenker*



2 ADDIS-PREFAB

Sarah Graham and Marc Angéil

In order to alleviate the current housing shortage in Addis Ababa, approximately 50,000 new living units per year need to be built within the next decade. The Addis-Prefab project offers a concept for community-based development using a prefabricated housing system that can be integrated within existing settlements, avoiding eviction of the local population or relocation of entire neighborhoods into other urban areas. The proposal is conceived as a further measure in a series of programs conducted by the Addis Ababa City Government, the Environmental Development Office, and the Housing Development Project Office. The prefabricated units are to be constructed locally, building on current vocational training programs that encourage the formation of new businesses and micro-enterprises in the construction industry.

As existing structures within the slums are primarily single-storied, the project aims at a vertical densification of the urban fabric. Central to the concept is the provision of a basic structural matrix, including necessary sanitary equipment and partial enclosures, allowing users to continue construction and insert additional building components according to their needs—a do-it-yourself approach promoting identification and ownership.



3 UNITED_BOTTLE

Dirk Hebel and Jörg Stollmann with Tobias Klausner

United_Bottle proposes a new form of plastic bottle, designed to function as instant building material—operating with minimum means at the small scale, towards maximum impact at the large scale. The project's working hypothesis is that architectural work must go beyond the design of so-called final products and consider their life cycle processes. Learning from indigenous recycling practices in Addis Ababa, involving reprocessing whatever is at hand, the proposal investigates the potential use of PET and PP bottles as construction material for temporary and permanent structures in developing countries. Potential intersections of local material loops and global distribution circuits are explored through the secondary use of a product. Taking the increasing scarcity of resources into account, the proposition argues for the creation of surplus value through the introduction of additional recycling circuits.

Likewise, the water bottles can be deployed in crisis situations. Relief organizations and NGOs face two major challenges during a state of emergency: the distribution of potable water and the construction of emergency shelters. The project proposes to short-circuit cycles of mass-produced goods with those of crisis management to reduce both cargo weight and cost.

3

