

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/340550249>

Design To Fit – An integrated planning approach for more mixity in urban mass housing

Conference Paper · June 2015

CITATIONS

0

READS

136

1 author:



Nicole Baron

Bauhaus-Universität Weimar

8 PUBLICATIONS 27 CITATIONS

SEE PROFILE

Some of the authors of this publication are also working on these related projects:



Natural urban resilience - Understanding general urban resilience through Addis Ababa's natural city [View project](#)



IN3 - Integrated Infrastructure [View project](#)

DESIGN TO FIT
AN INTEGRATED PLANNING APPROACH FOR MORE MIXITY
IN URBAN MASS HOUSING

by
Nicole Baron

Department of Architecture and Urbanism
Bauhaus-Universität Weimar

Weimar, Germany

June 2015

ABSTRACT

Ethiopia is one of the fastest urbanizing countries in the world with a government urgently struggling to find coping strategies for a rapidly growing urban population. Eighty percent of Ethiopia's capital, Addis Ababa, is by convention considered "slum" with problems of overcrowding, bad sanitation, and dilapidated housing. Concurrently, Addis Ababa offers a unique insight into an indigenous urban tissue which was not shaped by colonization and modernist city models but by its own history and culture. In order to address the housing question, the Ethiopian government set up a mass housing program aiming to replace all informal housing but leaving the urban poor behind.

Drawing upon literatures from Ethiopia and the world as well as from several disciplines, this paper reflects the ten-year running Ethiopian mass housing program against the background of the Addis Ababa's housing crisis. The author argues that the indigenous urban tissue of Addis Ababa is key to developing future housing schemes that are not only relevant but also resilient.

The paper closes with a short description of how a design approach might look like that promotes Addis Ababa's indigenous urban tissue and therefore its urban resilience.

Introduction

The emerging cities of the Global South are faced with two great challenges: On the one hand, there are climate change and peak-oil. Both are contributing to a growing pressure to build up resilient cities which are able to withstand, adapt to, and influence gradual societal changes as well as natural hazards. At the same time, the cities of the Global South are struggling with rapid population growth and dilapidated housing stocks. So the goal must be to approach the question of shelter while developing strategies to absorb the effects of global processes.

As this paper shows in its first part, Addis Ababa, the capital of Ethiopia, is no exception: As more and more (extremely poor) people are moving into the city from rural areas, the national government is faced with the question of how to deal with a city growing without economic growth. The Ethiopian government addresses the housing question by running a mass housing program¹ that is arguably successful in producing jobs and shelter. But literary research shows that such positive outputs cannot conceal the fact that the produced condominium units are too expensive for the majority of Addis Ababa's inhabitants (Lika Megento 2013, Shibru 2012, UN-HABITAT 2011). Furthermore, this paper shows that these condominium New Towns are threatening Addis Ababa's existing diverse urban fabric, the so-called *Mixity*² (Baumeister and Knebel 2009) in pursuit of cost-effectiveness. Based on resilience theory, the author shows that this in turn has a negative impact on the urban resilience of Addis Ababa. Consequently, this makes the need for alternative (*pro-Mixity*) planning approaches in the Ethiopian mass housing apparent.

In the second part of this paper, a suggestion is made as to how such an alternative planning approach might look like. The suggested approach, called "Design to Fit", is developed from the theoretical reflections of part one with a focus on how housing designs can lead to *Mixity* and therefore urban resilience. Lastly, challenges and research questions on the road to resilient mass housing in Ethiopia are identified.

¹ *Integrated Housing Development Program* – IHDP – running since 2004. In its initial stage, between 2004 and 2006, it was called *Addis Ababa Grand Housing Program*.

² "Mixity" is a term commonly used in Addis Ababa to describe the functional, typological, and social mix of the city's urban network. In this paper, the local term "Mixity" is preferably used to the internationally common term "mixed use". "Mixity", though, needs yet to be defined scientifically better to decide whether it is exactly the same as "mixed use" or not.

Part One: Background

Urban Ethiopia and the housing program

Ethiopia is currently under great pressure. Climate Change and peak-oil are just around the corner while the country is undergoing accelerated urbanization like many other developing countries. This leads to pressing new questions regarding the way, in which planners and policy makers approach the continuing growth of Ethiopia's capital and major urban center: Addis Ababa.

For orientation, Addis Ababa's urban profile offers the following hard facts: Due to rural-urban migration and natural population growth, the capital's urban growth rate is projected to be between five and six percent (Cheremet 2013, Alemayehu 2008) which puts Addis Ababa's population roughly at five million inhabitants³ in 2015. This development, in addition with an insufficient supply of adequate housing creates a glaring housing shortage. In 2006, it was projected that at least 400.000 units were lacking (Kelemework) – an amount which will not have decreased considering the city's growth rate. Between 60 and 80% of urban residents are estimated to live in informal settlements, where over-crowding, poor sanitation, and unemployment are omnipresent (UNICEF and World Health Organization 2012, The World Bank 2010, Alemayehu 2008). One third of the urban population in Ethiopia lives below the poverty line (Schmidt and Kedir 2009).

This situation puts the Ethiopian government under pressure to counteract the housing crisis, the Ethiopian government is making great efforts, the most prominent of which is the *Integrated Housing Development Program* (IHDP). Between 2004 and 2011 alone, the IHDP has produced over 171,000 condominiums, mostly in Addis Ababa. Within the Integrated IHDP, construction methods and floor plans are highly standardized to reduce cost, increase construction speed, and improve quality. The entire construction system is cement-based with a column-beam load bearing structure and a hollow block wall infill. Building typologies are reduced to more or less linear blocks with exterior staircases and arcade access on the upper floors. Each condominium block consists of four apartment typologies from studio to three-bedroom unit. Ten percent of all blocks also contain commercial units on ground floor level (UN-HABITAT 2011).

While the construction of such a large number of homes by the Government is a success in itself, it has been failing to fundamentally tackle the housing issues of the urban poor: Even though

³ In 2007 the Ethiopian Central Statistical Agency (CSA) published the most recent official population data for Addis Ababa of roughly 2.7 million inhabitants. This projects to roughly five million in 2015 at an annual growth rate of 5%.

condominiums are built in a way to be of lower cost⁴ and financing schemes are aiming at low-income buyers, post occupancy research done by UN-HABITAT has shown that the program is mainly reaching middle-income families (2011). The reasons behind this are diverse, but it seems that most of the time, low-income residents cannot afford to pay the relatively high down-payment⁵. In result, low-income residents are displaced to other neighborhoods with the effect that their business ties are disrupted, their informal networks of survival are broken, and traffic increases through commuting (H. A. Gebre 2014, Doumbia 2013, Y. Gebre 2008). It is important to note that the marginalization of people and therefore social segregation is one of the main „root causes of disaster vulnerability“ (Wisner 2001, 251). Urban sociology studies have shown that mixed income neighborhoods have lower levels of delinquency and crime. Furthermore, higher-income residents provide the community with positive social norms and with access to opportunity-rich employment and education networks (Turner, Popkin, and Rawlings 2009, 14). These lessons learnt from the IHDP need to be considered when talking about for future housing schemes in Ethiopia.

While the limitation of the IHDP to cement-based materials and construction methods is widely criticized (Centre for Affordable Housing Finance in Africa 2014, Hebel 2010, Kelemework 2006), this paper focuses on the social segregation as well as the architectural and urban monotony created by the housing scheme as a substantial indicator for a lack of urban resilience. One cannot but notice the IHDP's relentless belief in creating cost-effectiveness through over-efficiency: Instead of creating diversity, building typologies are repeated endlessly. Materials, construction details, and common spaces are designed without creating redundancies. As building typologies are repeated, the diversity of uses decreases to housing and formal business. Informal business is discouraged although over 60 % of the population of Addis Ababa relies on it (The World Bank 2010). Furthermore, condominium floor plans are too large, rooms are mono-functional, and incremental growth is not possible.

Cherenet (2013) believes that this relentless pursuit of efficiency is rooted in a modernist image of urban life transported through architectural education. He observes that architectural education in Ethiopia is still “heavily influenced by European modernism, involving the simplification of otherwise complex realities... Even after modernism was declared dead, architectural education and practice in Ethiopia carried on with this legacy, in contradiction to local culture” (147-48).

⁴ Condominiums are built at thirty percent lower construction cost than privately built formal housing in Addis Ababa (UN-HABITAT 2011). At present, construction cost is estimated to be 175 USD/m² (Haile 2014).

⁵ In the UN-HABITAT condominium housing report (2011, 33), the following case study is described: In Lideta, an inner city district of Addis Ababa, 40 % of the original inhabitants of a re-developed neighborhood, could not afford the 20% down payment to buy a condominium on site or elsewhere in Addis Ababa.

These observations suggest that the Ethiopian government's good intentions to solve the housing crisis with the Integrated Housing Development Program are creating new problems stemming from social segregation and the monotony of urban spaces, functions, and building typologies. This, in turn, leads to condominium New Towns⁶, which are less socio-economically resilient than the traditional neighborhoods of Addis Ababa and their *Mixity*. The following two sections will highlight what urban resilience is as well as establish the causal link between Addis Ababa's indigenous urban tissue and urban resilience.

Urban Resilience

In order to fight the housing crisis, the Ethiopian government is building dozens of new condominium neighborhoods in Addis Ababa. As described in the former section, these so-called low-cost housing units are still too expensive for low-income residents and addition to costing issues, the IHDP'S architectural and typological monotony reduces Addis Ababa's urban resilience. But what is urban resilience and why should Addis Ababa care?

Resilience is a concept first defined in the field of psychology in the 1970's and is understood as the ability of an individual to cope with stress. In urban studies, this concept was adapted in the last ten years with the term *Urban Resilience* and it is becoming increasingly popular seemingly superseding *Sustainability* as the main design goal. There are two main interpretive approaches to resilience in urban studies: engineering and socio-ecological resilience. Engineering resilience "has to do with the rate of return of a system to some equilibrium state after a small disturbance" (Holling and Walker 2003, 1). It is usually applied in the context of natural hazard mitigation planning. Since this interpretation over-simplifies the complex socio-economic relations within and between urban systems⁷ and assumes that "bouncing back" to the (unstable) pre-disturbance state is desirable, it is dismissed for the purpose of this paper. Instead, the author will focus on the socio-ecological interpretation of the term. Socio-ecological resilience is "a system's ability to adapt to and influence changes, including disturbances and stresses, as they occur, while maintaining its basic functions" (Newman, Beatley, and Boyer 2009, 6). Because urban resilience incorporates self-organization,

⁶ The term New Town derives from the *New Towns Act*, which was established in Great Britain in 1946 and was intended to relieve congested metropolitan areas by founding satellite towns (Ward 1993). In this paper, the term is re-used for the IHDP's large condominium sites because the IHDP is reverberating the original new town movement's targets of decongestion and even more: the modernistutopia of a better, cleaner, and more organized future.

⁷ An urban system is a network of inter-connected actors. It can have different scales and time horizons. Examples for urban systems are: a compound of five houses, an important shopping boulevard, a Kebele (the smallest administrative entity in the Ethiopian government), a local food market, or the entire City of Addis Ababa.

learning, and adaption it is not considered a state but a process (Christman and Ibert 2012, 263). Brown and Kulig argued that the building of urban resilience essentially depends on human agency: „Individuals and collectives are resilient... insofar as they act to transform their physical and social environments” (1996/97, 30). Therefore, the concept of urban resilience should not be mistaken for the inversion of urban vulnerability towards natural and man made hazards. Instead, it needs to be understood as a theoretical model that recognizes informal change mechanism and structures them in a way that planners can use them in the context of rapidly changing urban systems.

In resilience theory several properties of urban systems have been identified that increase the resilience of an urban system. This paper focuses on two of these properties to illustrate this theoretical model against the background of Addis Ababa and the IHDP: Kegler (2014) established that the DIVERSITY of actors within a system has a direct correlation with the resilience of the overall system. Furthermore, REDUNDANCY rather than endless efficiency is considered to have positive effects on the resilience of a system (Walker and Salt 2006). Two examples will help illustrating the concepts of diversity and redundancy in urban resilience:

- DIVERSITY: A) A remote village in the Ethiopian highlands will be more resilient (i.e. better accessible) if it has not only one road but also a foot path leading down to the valley. B) An urban neighborhood will be more resilient (i.e. economically stable), if it offers a high diversity of building typologies to house different types of businesses.
- REDUNDANCY: A) A remote village in the Ethiopian highlands will be more resilient (i.e. better accessible), if the village has two foot paths leading down to the valley. If one gets blocked, the spare one can still serve the villagers. B) An urban neighborhood will be more resilient (i.e. economically stable), if it offers more than one business performing the same function.

Returning to Addis Ababa's condominium New Towns which are highly efficient and homogenous in typology, function, material, and people. Now, that the concept of urban resilience and two of its major contributors (redundancy and diversity) are understood, it can be reasoned they are not as resilient as they should be. But why should Addis Ababa care? Resilience is not a self-purpose but it is a model that explains why some places are more capable of surviving than others. It is an indicator for how strongly a community will react not only to extreme events such as draughts, floods, or infestations but also gradual changes such as (de)industrialization, urbanization, or demographic changes. Developing countries are disproportionally higher at risk from disasters than developed countries (De Girolamo und McFarlane 1996). Corresponding to this uneven distribution

of vulnerability, Ethiopia needs to adapt its urban strategies to its own context rather than copying from Western models. Urban resilience does offer strategies on how to become more capable of surviving while adapting to the local context. It also offers great potential in terms of poverty reduction when considering the element of diversity versus segregation. Accordingly, Addis Ababa should acknowledge the chances that lie in resilience thinking. This leaves the question of what kind of urban system will promote urban resilience. The answer to this question lies in Addis Ababa's indigenous urban tissue.

Addis Ababa's Indigenous Urban Tissue

The urban tissue of Addis Ababa, a phenomenon that has been coined *Mixity* by locals, follows a unique code, which was not formed by colonization. Instead, it is rooted in the social structure of the royal court during the founding period of the city in the late 1880's. Baumeister and Knebel (2009, 59) point out that Addis Ababa's traditional urban system is "a non-hierarchical, non-segregated, non-functionalist city that can grow endlessly without changing its appropriateness to cater to the majority of its inhabitants - the urban poor".

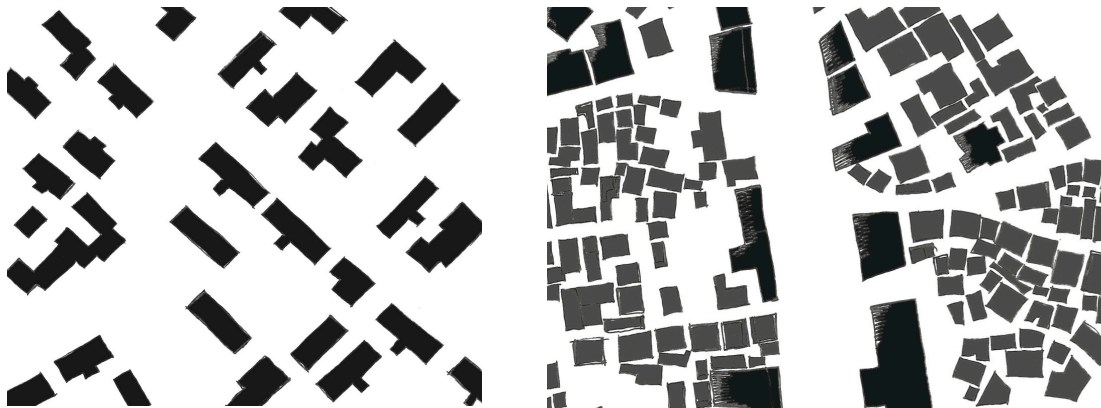


Fig.1. Left: condominium housing in Addis Ababa. Right: indigenous urban tissue in Addis Ababa. Source: Sketch adapted from map by Google Maps.

Large, representative buildings frame main roads (Baumeister and Knebel coined the term *street-liners* (ibid)). Within the irregular grid of main roads and their *street-liners*, a dense network small-scale buildings expands (*in-fills* (ibid)). Rich and poor families live next to each other. The

functions⁸ within the city are well mixed: working and living takes place in the same neighborhood or house. Transport is not a pressing issue for most residents. Also, security is not as large an issue as in other African cities, where the urban layout was defined by ideals of decentralization, segregation, and functional division.

This paper, by all means, does not intent to romanticize the realities of life in the informal neighborhoods of Addis Ababa (overcrowding, dilapidated houses, bad sanitation, unemployment). But it acknowledges the fact that Addis Ababa's *Mixity* does follow systematic rules which could produce a role model for rapidly growing urban systems. It offers the chance to turn informal processes into a strategy for modernizing dilapidated neighborhoods and expanding cities all over Africa without depriving the poor, destroying architectural heritage, causing endless commutes, and increasing crime rates. Accordingly, the author argues that a strategic application of *Mixity* in urban development would increase Addis Ababa's urban resilience.

Part Two: An Alternative Planning Approach

After establishing the importance of urban resilience and the potential of Addis Ababa's *Mixity*, the following chapter will look at what a planning process might look like that promotes *Mixity* and urban resilience.

First of all, this planning process should incorporate the elements and qualities of *Mixity* which have been identified by Baumeister and Knebel (2009, 59): the principle of *street-liners* and *in-fills*, a mix of social groups, typologies, and functions, the multifunctional use of spaces, and the integration of informal housing and financing (embracing change).

The author believes that a planner can deliberately create *Mixity* by designing and arranging housing units that have been designed with a certain target group in mind. The focus of the suggested planning approach, called "Design to Fit", lies in generating these income-sensitive housing designs. To create income-sensitive designs that are truly appropriate, the "Design to Fit" approach combines cross-disciplinary planning (infrastructure, urban planning, construction, architecture) with the design thinking approach⁹ starting with the budget and needs of the potential user and then looking at design and technology options.

⁸ Urban functions or land use categories: institutional/ public, industrial, commercial, residential, (agricultural).

⁹ Design Thinking is an approach mainly used in product design. It is user and process oriented and includes the following five basic steps according to the Institute of Design at Stanford: Emphasize (Who are the users and what are their

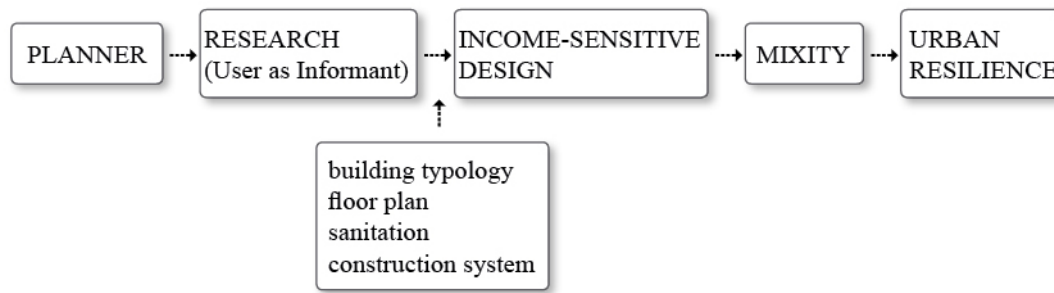


Fig. 2: Diagram showing the principal logic of “Design to Fit”.

The five steps of “Design to Fit”

The suggested planning approach “Design to Fit” which aims at creating *Mixity* and urban resilience in Ethiopian mass housing contains the following five consecutive steps carried out by a team of planners and researchers in collaboration with local stakeholders:

(1) Target group definition: First, target groups are defined. All targeted households are clustered according to their ability to afford a new home and their budgets are worked out.¹⁰ Furthermore, *Mixity* targets (density, social, and functional mix) are selected in close cooperation with the client.

(2) Pool of ideas: This is followed by an assessment of and with the target groups’ living conditions focusing on a collection of ideas, problems, and existing solutions. It is crucial that during this research phase, stakeholders are “treated as informants, not as subjects” (Hamdi 1995, 81). This approach validates not only the process but also helps to collect information that the project team could not obtain otherwise. Concluding this step, problems are prioritized and design objectives for each of the target groups are identified.

(3) Solution matrixes: Next, sets of income-sensitive design solutions are developed from the pool of ideas in an iterative process with the target groups. These design solutions are arranged in solution matrixes – one for each of the crucial design factors (building typology, infrastructural

needs?), Define (Create a design objective from empathy work), Ideate (exploring solutions), Prototype (Design of prototypes), and Test (iterative testing of prototypes with the user) (Plattner 2014).

¹⁰ This part of the process will most likely incorporate financial schemes and different ownership models to support low-income households.

provision, construction method, and floor plan). Each of the solution matrixes contains three to five solutions per target group.

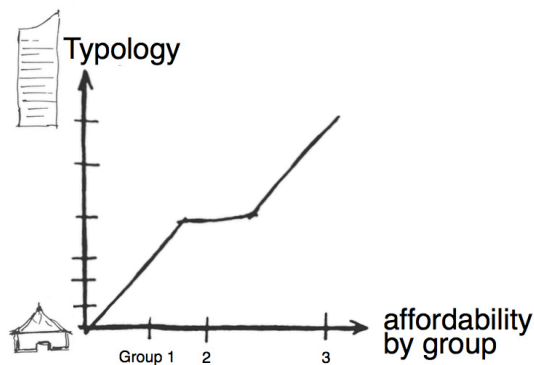


Fig. 3: Example matrix – affordability of different typologies for each of the target groups.

(4) Composing houses: The purpose of these matrixes becomes clear as soon as the planning team starts working with dozens or even hundreds of future residents each of who wants to buy or rent a housing unit that is *designed to fit their needs and their budgets*. The pre-designed solutions will speed up the planning process while empowering the residents.

(5) Urban tissue: Usually, the planning process begins with a top-down, “orderly development of the urban environment, where the proximate goals of the plan are derived from standards that supposedly measure desirable arrangements” (Rotmans, van Asselt, and Vellinga 2000, 267). “Design to Fit” follows a different approach: the project team will not conduct parceling, place houses, or decide on public spaces until most of the housing units are designed – which is at the end of the entire planning process. In order to place the housing units in accordance with most of the residents’ needs, the project team should utilize existing placement solutions. The high-tech version of such a solution would be computational simulation. The low-tech version would be game-like methods such as *Planning for Real* (Gibson 1988) where real cutouts of the houses are moved around on a map during a collective decision process.

During this entire placement process, the principles of *street-liners* and *in-fills*, multi-functionality of spaces, mixing of social groups and functions are followed as good as possible to ensure the creation of *Mixity* and therefore urban resilience.

Conclusion and Recommendations

In view of the growing challenges of building resilient neighborhoods in rapidly growing cities in Ethiopia, there is a great need for theoretical models and practical tools that assist architects and planners in this undertaking. (1) Where previous planning approaches focused on cost-based and top-down planning as well as a modernist city images, new strategies are needed which are market based and bottom-up. (2) In accordance with these planning principles, future housing schemes need to utilize informal urban systems such as *Mixity* to become more relevant in the context of rapidly growing urban centers. (3) It is worth thriving for holistic design approaches that include urban and infrastructural design to promote sustainable use of resources.

This paper highlights several challenges on the road to making Ethiopian housing schemes more resilient. The author argues that one possible solution to making future housing more resilient lies in the indigenous urban tissue of Addis Ababa, called *Mixity*. *Mixity* is Addis Ababa's historically urban system combining *street-liners* and *in-fills* to create social, spatial, and functional mixing. This paper intends to promote *Mixity* and to suggest an alternative to the Ethiopian Integrated Housing Development Program called "Design to Fit".

This paper's main goal though is to foster creative thinking about how the link between urban resilience and *Mixity* can shape strategies to solve the Ethiopian housing question. In conclusion, the value of resilience thinking and *Mixity* for housing schemes lies in the potential to abstract their inspirational message into effective policy that is actually relevant in the context of rapidly growing urban centers in developing countries.

To close this paper, the following questions are raised for future research: How can a trial project be realized that promotes urban resilience through *Mixity*? How can we reach a better understanding on Ethiopian *Mixity* and its processes? Which regulations need to be altered to promote *Mixity* in Ethiopia's cities? How can planners incorporate informality when planning new neighborhoods? How can architects become connectors instead of "creative masterminds"? How can Addis Ababa's building code allow for true low-cost housing¹¹ again? Which ownership or renting models offer an alternatives to current practice which is not pro-poor?

¹¹ Under the current law, it is forbidden to use materials such as straw, bamboo, or loam for housing construction in Addis Ababa. Furthermore, kebele house renters are not allowed to change their house which ultimately leads to negligence of the existing building structures.

Annex A - The four crucial design factors

Infrastructure:

Since infrastructural provision is still a crucial issue in Ethiopia, it is necessary to consider the means of waste and water management as well as road, electricity, and telecommunication access. These factors have a strong influence on the cost of the project and the well-being of residents.

Construction method:

Usually, the method of construction determines not only majorly the cost of a project but also influences strongly its adaptability. If local materials are used, the chance of proper maintenance later in the on is increased, local markets are strengthened, and local workers are employed. Planners must therefore always balance the effects of high-tech, super-efficient building technologies versus low-tech, labor-intensive technologies on project cost and local markets.

Building typology:

A building's shape and size is essential to determining the cost of each housing unit. For example: the more complex a building's footprint, the more expensive is that building's resulting surface area. The higher a building, the more expensive are its loadbearing structure and access circulation. But, up to a certain degree the sharing of construction in a multi-family home will make housing units cheaper.

Floor plan:

The goal of an architect should not be to create less bad housing than before but to create essentially good housing: A house should improve its inhabitants' health, provide shelter, and generate income. Layouts should be kept multi-functional and minimal. Oversized units are not affordable for low-income households which leads to subletting (petty exploitation) and over-crowding. Furthermore, homes will have to serve income-generating activities, as many households in Ethiopia (40%) rely on this income source. Floor plans need to support these activities. Meanwhile, outdoor space should not be forgotten: Outdoor space is much cheaper than indoor space and the climate in most places of Ethiopia allows for many daily activities to take place outside.

Annex B - References

Alemayehu, Elias Yitbarek. 2008. *Revisiting 'Slums', Revealing Responses*. Trondheim: Norwegian University of Science and Technology.

Baumeister, Jörg, and Nikolaus Knebel. 2009. The indigenous urban tissue of Addis Ababa: A city model for the future growth of African metropolis. *Construction Ahead*, Sep - Dec 2009: 56-59.

Brown, David D., and Judith C. Kulig 1996/97. The concept of resiliency: Theoretical lessons from community research. *Health and Canadian Society* 4, no 1: 29–50. <http://hdl.handle.net/10133/1275> (accessed November 8, 2014).

Centre for Affordable Housing Finance in Africa. 2014. *2014 Yearbook - Housing Finance in Africa*. Yearbook, Parkview: Centre for Affordable Housing Finance in Africa.

Cherenet, Zegeye. “Project Ethiopia.” In *The School, The Book, The Town: Logbook Ethiopia in a timeline*, edited by Marc Angélil, Cary Siress, and Charlotte Malterre Barthes, 145-49. Berlin: Ruby Press, 2013.

Christmann, Gabriela, and Oliver Ibert. 2012. Vulnerability and resilience in a socio-spatial perspective. *Raumforschung Und Raumordnung* 70, no 4: 259–72. <http://link.springer.com/article/10.1007/s13147-012-0171-1> (accessed October 20, 2014).

De Girolamo, G., and A. McFarlane. “The epidemiology of PTSD: A comprehensive review of the international literature.” In *Ethnocultural aspects of posttraumatic stress disorder: Issues, research, and clinical applications*, edited by M. Friedman, E. Gerrity, and R. Surfield, 33-35. Washington, DC: APA, 1996, cited by Norris, et al. 2008 p.137.

Doumbia, Lamine. 2013. *Addis Abeba, eine echte "Neue Blume"?* Saarbrücken: AV AkademikerVerlag.

Gebre, Habtamu Atlaw. 2014. The impact of urban redevelopment-induced relocation on relocatees' livelihood asset and activity in Addis Ababa: The case of people relocated Arat Kilo area. *Asian Journal of Humanities and Social Studies* 02, no 1: 43-50. [http://www.ajouronline.com/index.php?journal=AJHSS&page=article&op=view&path\[\]=719](http://www.ajouronline.com/index.php?journal=AJHSS&page=article&op=view&path[]=719) (accessed November 1, 2014).

Gebre, Yntiso. 2008. Households, urban development and displacement in Addis Ababa: The impact of resettlement projects on low-income. *Eastern African Social Science Review* 25, no 2, 2008: 53-78. <http://muse.jhu.edu/journals/eas/summary/v024/24.2.yntiso.html> (accessed August 12, 2014).

Gibson, Tony. 1988. *Planning for Real: Users' Guide*. Telford, England: Neighborhood Initiatives Foundation.

Haile, Messele. 2014. Cost efficient construction practice. Presentation at *The International Conference on Affordable Housing in Mekelle*. November 10, 2014.

Hamdi, Nabeel. 1995. *Housing without houses : participation, flexibility, enablement*. London: Intermediate Technology Publications.

Hebel, Dirk. 2010. Appropriateness is a moving target: The re-invention of local construction technologies and materials in Ethiopia. *ATDF Journal* 7, no 1/2: 40-43.

Holling, C. S., and Brian Walker. 2003. *Resilience Defined*. <http://isecoeco.org/pdf/resilience.pdf> (accessed September 12, 2014).

Kegler, Harald. 2014. *Resilienz: Strategien & Perspektiven für eine widerstandsfähige und lernende Stadt*. Basel: Birkhäuser.

Kelemework, Azeb. 2006. *Housing for the Poor in Addis Ababa*. <http://www.lth.se/fileadmin/hdm/alumni/papers/sdd2006/sdd2006-12.pdf> (accessed October 28, 2014).

Lika Megento, Tebarek. 2013. Inner city housing and urban development-induced displacement: Impact on poor female-headed households in Arada sub city of Addis Ababa, Ethiopia. *Journal of Sustainable Development in Africa* 15, no 2: 131–41.

Newman, Peter, Timothy Beatley, and Heather M. Boyer. 2009. *Resilient Cities - Responding to Peak Oil and Climate Change*. Washington D.C.: Island Press.

Norris, Fran H., Susan P. Stevens, Betty Pfefferbaum, Karen F. Wyche, and Rose L. Pfefferbaum. 2008. Community resilience as a metaphor, theory, set of capacities, and strategy for disaster readiness. *American Journal of Community Psychology* 41: 127-150. <http://link.springer.com/article/10.1007%2Fs10464-007-9156-6> (accessed August 15, 2014).

Plattner, Hasso. 2014. *dschool*. <http://dschool.stanford.edu/> (accessed October 15, 2014).

Rotmans, Jan, Marjolein van Asselt, and Pier Vellinga. 2000. An integrated planning tool for sustainable cities. *Environmental Impact Assessment Review* 20: 265–276.

Schmidt, Emily, and Mekamu Kedir. 2009. Urbanization and spatial connectivity in Ethiopia: Urban growth analysis using GIS. *Ethiopia Strategy Support Program 2, Discussion Paper No. ESSP2 003*. Addis Ababa: IFPRI.

Shibru, Teshome. 2012. *Access to Housing - A Case Study in the Inner City of Addis Ababa*. Addis Ababa: Cordaid.

The World Bank. 2010. *Addis Ababa City Public Expenditure Review*. Washington, DC: The World Bank.

Turner, Margery A., Susan J. Popkin, and Lynette Rawlings. 2009. *Public Housing and the Legacy of Segregation*. Washington, DC: Urban Institute Press.

UN-HABITAT. 2011. *Condominium Housing Ethiopia: The Integrated Housing Development Programme*. Nairobi: United Nations Human Settlements Programme.

UNICEF, and World Health Organization. 2012. *Progress on Drinking Water and Sanitation: 2012 Update*. New York: WHO Library Cataloguing-in-Publication Data.

Walker, Brian, and David Salt. 2006. *Resilience Thinking: sustainable ecosystems and people in a changing world*. Washington, DC: Island Press.

Ward, Colin. 1993. *New Town, Home Town - The lessons of experience*. London: Calouste Gulbenkian Foundation.

Wisner, B. 2001. Risk and the neoliberal state: Why post-Mitch lessons didn't reduce El Salvador's earthquake losses. *Disasters* 25: 251–268 cited by Norris, et al. 2008 p.137.