Christian Werthmann

Learning from Canaan, Haiti's Third Largest City (?) Born in the Aftermath of a Catastrophe

On January 12, 2010, a 7.0 earthquake hit Haiti. The consequences were dramatic. More than 300,000 people perished, over 300,000 were injured, and 1,3 million people were rendered homeless. The magnitude of human loss was especially huge in Port-au-Prince, as the epicenter of the quake lay close to the densely populated capital with its over 2 million residents. Most building stock did not have the proper reinforcements to withstand a major quake. Shortly after the catastrophe, the focus of most aid organizations on the planet was on Haiti. Large funds were promised by the international community (a term that was coined to describe all foreign actors, whether in the form of governments, agencies, or NGOs) to realize the Haitian government's Action Plan for National Recovery and Development. Later, it became known as "Building Back Better" – a popular term at the time that had already been used for similar reconstruction efforts after the Indian Ocean tsunami in 2004. As part of this 'international community,' I was able to witness differing approaches to reconstruction in an academic capacity. In the following, I would like to outline a few general observations regarding the creation of new housing in the aftermath of a catastrophe in a country with limited capacities. Particularly the case of Canaan, the largest informal post-earthquake settlement in Haiti, gives valuable information.

1 Housing in Haiti after the Earthquake

In 2011, one year after the earthquake, Port-au-Prince was still in dire circumstances. There were over 300,000 homes in ruins. More than half a million residents lived in tent camps and in temporary shelters, i.e. flimsy structures made from wood and tarp. Lots of debris remained in the city, blocked roads further slowed down reconstruction efforts. Despite a multi-billion pledge of the international community, no sizable housing projects were underway or completed. The sudden foreign money influx, however, had negative consequences also. Haitian sovereignty to decide how and where they wanted to reconstruct was

curtailed by an imbalance in decision making power. For example, the aid budgets of international organizations and governments in 2010 were four times higher than the total internal revenue of the Haitian government (UN 2011: 4). International donors set accountability demands for their pledges which were hard to meet in the difficult post-disaster situation. In the end, only 1% of all aid distributed in 2010 went to the Haitian government and practically nothing to Haitian NGO's (UN 2011: 14). This lopsided allocation and the consecutive loss of Haitian sovereignty over the reconstruction process have been well documented by the UN (cf. Paul Farmer's 2011 report as Deputy Special Envoy for Haiti) and reached a wide audience through Raoul Peck's revealing documentary *Assistance Mortelle* (2012).

In summary, the year after the catastrophe in Haiti was characterized by a capital that was still in ruins; there was a tremendous pressure to rebuild and a disproportionally large executive power of outside organizations, who held the power over the majority of reconstruction funding. In 2011, despite hundred thousands of people living in tents, no substantial housing project had been established yet. There were various obstacles that prevented the formal construction of new housing. Land ownership was contested, and the identification of land that could carry new housing entailed a long and complicated process. If a piece of land was finally identified formally, it was sometimes deemed unsuitable for housing because of natural risks. For example, the first officially inaugurated housing project in Zoranje was situated in a floodplain (Werthmann/Thompson/Weissman 2012). Another strategical problem was that the need of housing was equated with building *new* housing, while the complicated task of reconstructing existing informal neighborhoods (which constitute the majority of Port-au-Prince) received very little attention. Only in 2011, urgently needed neighborhood rehabilitation began in earnest. The 16/6 project, for instance, was launched to relocate internally displaced citizens from six camps into 16 rehabilitated neighborhoods (Haiti Libre 2015).

In this context, it is important to remember that the formal sector had not been able to produce *any* new housing in and around Port-au-Prince one year after the earthquake. At the same time, the informal sector started to build a new city. 15km north of Port-au-Prince, a settlement was initiated that would eventually become what some say is the third largest city in Haiti. Known today as "Canaan," the settlement consists of several substantial neighborhoods: Village Moderne, Jérusalem, Mosaïque, the camps Corail Sector III and IV, Onaville, and Canaan itself. Population estimates differ greatly and range between 50,000 to 200,000 residents; no reliable census has been conducted, which makes precise city ranking impossible (Fig. 1 and 2).

Fig. 1. Canaan in March 2011, one year after the earthquake (© Christian Werthmann).

2 The Rise of Canaan

The unofficial settlement was initiated through an official act. In 2010, 6,000 displaced residents needed to be relocated from a camp in Port-au-Prince that was threatened by flooding and mudslides (International Organization for Migration [IOM] 2013). Residents were resettled in the area that is known today as Canaan, at the foot of the Chaîne des Matheux mountain range in a camp named Corail-Cesselesse. With the erection of the official camp, the Haitian government announced a public expropriation of 50 square kilometers in the area. This expropriation initiated an informal urbanization wave that has been referred to as the "biggest land grab of Latin America." (Valencia 2013) Many families and residents living in harsh conditions in the capital perceived the expropriation as an opportunity to build a better future and moved out to Canaan. They decided to rather live in the punitive conditions of this dusty hillscape far away from basic services, water, and electricity, without many transportation options and little access to economic opportunity, than to further endure the hardships of the camps in Port-au-Prince. First, the settlers began with the construction of simple dwellings made from wood and tarp. More and more people began to loosely occupy a vast area of roughly 30 square kilome-

Fig. 2. Canaan in March 2011, one year after the earthquake (© Christian Werthmann).

ters. From the beginning, Canaan attracted not only displaced residents from Port-au-Prince but also young rural migrants who wanted to escape the grinding poverty of the countryside. After a while, informal real estate speculation commenced as people saw Canaan as a potential business opportunity. Practices like informal land speculation and trading but also extortion and gang activity have been reported (Haiti Grassroots Watch [HGW] 2013b). Further, an informal construction industry had taken form. In neighborhoods like Onaville, concrete foundations of spacious houses with brick walls and small modest dwellings stand side by side. Thousands of people put their hope, their work, and their money into the 'promised land' of Canaan. There are no exact figures assessing how much private funds have been invested into informal land transactions, construction material, and labor, but casual estimates have ranged from 10 to 90 million USD (Hannemann/Stephenson 2013). Although conditions are far from ideal, Canaan is still growing (as of 2016).

The emergence of Canaan and its various neighborhoods has not been without resistance. Initially, the Haitian government was very much opposed to another unregulated development for good reasons. Informal occupation of land resulting in *bidonvilles* has been the de facto urbanization mode of large parts of Port-au-Prince and the country in general; an estimated 86% of the

population live in slum-like conditions as defined by UN-Habitat (UN-Habitat 2001), lacking at least one of five conditions deemed acceptable for adequate housing (access to safe water, basic sanitation, durable housing, land tenure and acceptable household density). The reasons for the existence of such substandard living quarters are manifold. Among other factors, fragmentary governance history and complex land ownership modalities have resulted in a lack of affordable housing options, which partially forced low-income but also middle-income citizens into informality (Leslie 2011). Urbanization as a result of informal activities is therefore omnipresent in Port-au-Prince, including all its inherent deficits regarding basic infrastructure, sanitation, or transportation. The earthquake tremendously exacerbated the demand for appropriate housing by making 1,3 million people homeless overnight. The initial vision of "Building Back Better" backed by large international donors promised a different future, where housing was planned; Canaan therefore presented an undesired phenomenon. Given the history of unregulated growth in Haiti, it is no surprise that it was hard for the Haitian government to acknowledge the existence and potential legality of Canaan.

Resistance was also fueled by the fact that the land which now constitutes Canaan was originally designated for a different use. It was slated to become a business park. Before the earthquake, 10 square kilometers had been dedicated for an Integrated Economical Zone projected by a Haitian group of business owners called NABATEC S.A. (International Finance Corporation 2011). Having lost the land, these owners were now seeking compensation from the government (HGW 2013b).

In addition to these legal squabbles, claims that the site of the official camp Corail-Cesselesse was in fact unsuitable for housing fueled the debate. Because Corail-Cesselesse sits in a flood risk area, housing projects, so the argument, should never have been realized there (HGW 2013a). Later this claim could be substantiated by flood risk modeling of students from the Technical University of Munich (Hannemann/Werthmann/Hauck 2014; Heimhuber/Hannemann/Rieger 2015).

Given the government's conviction that there should have been no informal settlement in the first place and that further settlement should be discouraged, major aid organizations initially stayed away from Canaan. Ironically, some residents claimed that the later absence had positive side effects, since some aid organizations seemed to create unrest by distributing free handouts in the nearby Camp Corail (HGW 2013b). Only a handful of small organizations tried to help Haitians in their settlement efforts; most were left to their own devices.

With time, the settlement consolidated further, and it became apparent that Canaan's residents were here to stay. Looking at the sheer number of resi-

Fig. 3. Larger house constructions signal informal real estate speculations by more affluent citizens of Port-au-Prince (2013) (© Johann-Christian Hannemann).

dents and the acute lack of alternative housing options, the impossibility and futility of relocation became evident. In 2013, the government (and the international community) changed course and started to plan for improving the area. In 2015, the United States Agency for International Development (USAID) and the American Red Cross (ARC) issued a call for proposals for a 14 Million USD project entitled *Canaan Upgrading and Community Development* (CUCD), a project designed in close collaboration with the Government of Haiti's Unité de Construction de Logements et de Bâtiments Publics (UCLBP). The program seeks to "expand livelihoods opportunities, improve living conditions, and become a safer, more integrated community." (ARC 2016) One focus lies on social engagement and the preparation for future disasters. Given the size of the settlement, the public infrastructure, and the restructuring that is needed to support Canaan and all its neighborhoods in a sustainable way, the potential impact of the *Canaan Upgrading and Community Development* project can be but limited and needs to be understood as a hopeful first step (Ward 2015; (Fig. 3, 4, and 5).

Fig. 4. The neighborhood Onaville in 2013. Housing construction is now more durable. The residents have started to plant gardens. In the background, erosion and landslides are visible in the mountain range (© Mariana Aramayo Donoso).

3 A New Mode of Engagement

Questions of how Canaan will develop in the future are paramount (see also the report of our research group: Hannemann/Werthmann/Hauck 2014). Yet a few important lessons can be drawn from Canaan's genesis with regard to post-earthquake reconstruction and in the context of housing for low-income citizens in general:

Land is key.

Understand housing as a process.

Support people and not products.

After a major catastrophe with so many citizens living in camps, there was obviously great pressure on the state, the private sector, and the international community to provide housing. However, Canaan has proven that the key issue is not the provision of finished housing but the provision of land for people to build housing. Once the land was released along the Chaîne des Matheux mountain range, the individual desire of rebuilding one's own life was able to manifest itself there a thousandfold. This urge was so strong, that people were will-

Fig. 5. Canaan with its various neighborhoods continues to grow with new construction in less desirable places like steep slopes (2013). (© Johann-Christian Hannemann).

ing to take their belongings and move far away from the city onto a dry patch of land without infrastructure. In this sense, Canaan is a true *Arrival City* (Saunders 2010) that is built on hope and the wish to progress. Therefore, Canaan should not be denigrated as a "slum," but as a huge construction site of a city in progress. Society should not block but rather use this energy to support the residents in their individual quest to move ahead. In order to better understand the development process of Canaan and find ways to assist the settlement, a small group of students of the Technical University of Munich have been engaged in the area since 2012. The interdisciplinary composed group called *Urban Strategies for Onaville*[1] focuses on the participative development of landscape and urban areas in Onaville (a sub-neighborhood of Canaan consisting roughly of 11,000 inhabitants). The engagement mode is simple, low-budget, and works on a grass-roots level. Individual TU master students of landscape architecture, urbanism, environmental engineering, and environmental resource management work on- and off-site as part of their final thesis in collaboration with TECHO-Haiti. TECHO-Haiti is a Chilean non-governmental youth organization which

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[1]   Initially formed under my guidance and now led by Prof. Regine Keller and Johann-Christian Hannemann, the group members represent various disciplines such as landscape architecture, urbanism, environmental engineering, water resources engineering, river basin management, ecological sanitation and silviculture.

has had a permanent presence in Onaville and engages Haitian volunteers since the inception of the settlement. In a community center, challenges on the ground are discussed with residents in so-called work-tables (creole *tab travay*). Much research has been dedicated for the identification of and adaptation to environmental risk, foremost flooding and erosion; two serious issues that initially were not fully apparent to citizens who were new to the Onaville site. Students have produced contextual knowledge through modern technologies such as GIS analysis, digital flood and urban scenario modeling; such knowledge subsequently informs the work-tables and is discussed with the residents. For example, residents have been made aware of flooding risk in their area. Besides rising awareness and knowledge in the community, concrete actions were identified that could be executed with small budgets by the residents themselves. For example in 2013, residents have started to implement simple but highly symbolic activities, such as mounting street signs and names.

Besides jointly developing knowledge in the community, the group *Urban Strategies for Onaville* made this contextual knowledge available to Haitian planning authorities such as the Comité Interministériel d'Aménagement du Territoire (CIAT) and the Unité de Construction de Logements et de Bâtiments Publics (UCLBP) and to current site actors of the international community such as UN-Habitat, USAID, and the ARC.

Throughout this bottom-up work, the group found that one of the most important challenges was to engage in effective and sensible communication with residents. As the goal was to create knowledge and potential approaches in concert with the residents in the work-table setting, students developed a mode of simple hand sketching in order to communicate e.g. environmental principles of water systems or their computer-generated flood hazard modeling.[2] Over the course of time, these sketches led to the development of small manuals on specific topics, which the participants could keep after the workshop was over. For example in 2014, these manuals were distributed in form of fliers to over 200 households so as to make residents aware that they are living in flood risk zones. While the universal language of drawing by hand is a proven example of a communication approach that transcends language and cultural boundaries, there seems to be ample room for further innovation (Fig. 6 and 7).[3]

[2] Sketching also helped to communicate research findings and potential risks with illiterate residents.

[3] For example into the communication method of "singing": There is apparently a Haitian tradition of the oral transmission of critical knowledge through singing as overheard by a colleague in a community meeting where the text of the songs described how to behave in a hurricane (Ergin 2012).
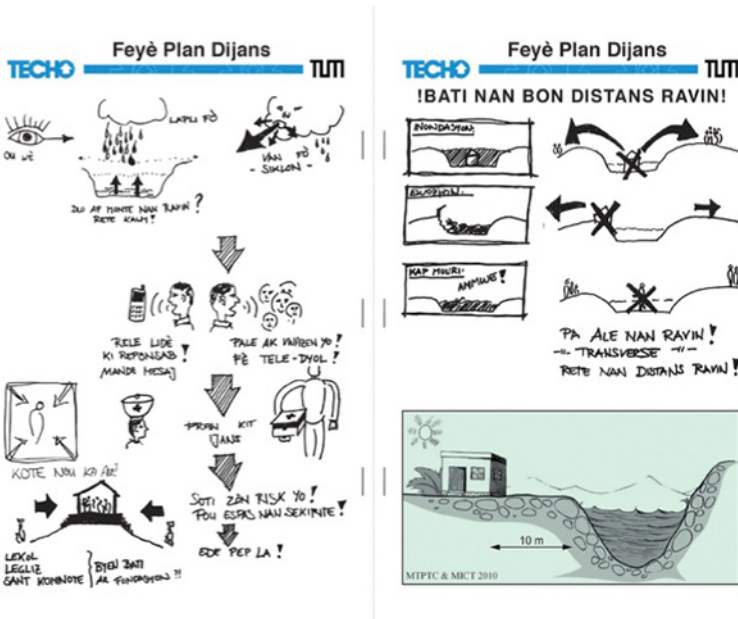
Fig. 6. Section of a community manual for disaster risk management (© Johann-Christian Hannemann).

Fig. 7. Work session situation (© Johann-Christian Hannemann).

4 The Way Forward

The TU Munich group experiences in Canaan raise the wider question whether one could steer the individual forces of spontaneous construction in order to generate self-built cities without the negative side effects of uncontrolled construction.

Indeed, there have been attempts to do so since the 1960s. Planners and governments experimented with approaches that purposefully blended formal and informal construction processes (Werthmann/Bridger 2015: 171–176). In the so-called *Sites and Services* approach (World Bank 1974), land is made available, parcels are laid out, streets are built, and basic infrastructure is provided or built together with future residents. Housing options range from providing an empty parcel for full self-construction to the provision of half houses to fully built-out dwellings (pending on the construction capacities of the individual household). Construction training is offered to build houses properly. Environmentally risky and sensitive areas are avoided, and community formation is initiated through group construction and collaborative planning. Public space is set aside. Housing and urban development is understood as a long-term process and not as a finished product. Future residents are not considered passive recipients of handouts but are seen as the real shapers of their new community supported and guided by expert knowledge. Their capacity to fulfill this role is enhanced by social and financial support.

Although the approach sounded very promising, *Sites and Services* methods of the 1960s unfortunately did not enter mainstream practice. Compared to the instant provision of finished housing, visible success can take decades to manifest itself in these incremental cases. Therefore, an incremental housing approach appears unattractive for politicians (and donors), who would like to be rewarded with instant progress (see the Zoranje housing example in Haiti as a study in case: Werthmann/Thompson/Weissman/Brickman Raredon/Ergin 2012). However, in the face of massive global urbanization, where most governments with exploding urbanization rates cannot afford to provide finished housing for the huge numbers of low-income housing seekers, an incremental housing approach might be the *only* viable alternative compared to informal urbanization. Therefore, the core principles of *Sites and Services* have been revived and further refined by many contemporary planners and designers. In Chile, some of the most recent examples of incremental housing developed by Pritzker price winner Alejandro Aravena and his team can be visited (Elemental 2016). In Egypt and El Salvador, the positive gestation of 30 year old *Sites and Services* projects has been documented by MIT scholar Reinhard Goethert (Werthmann/Bridger 2015: 171–176; SIGUS 2008). Shlomo Angel of New York University has proposed some very simple rules for city expansion through dirt

grids (Angel 2011), and David Gouverneur of Pennsylvania University has put forward a system of robust armatures to plan for "future informal settlements." (Gouverneur 2015: 163–200) Individual approaches differ and, obviously, have to be adapted to the cultural and economic realities of each country and region.

However, it is clear that humankind has to find solutions to direct the massive urbanization wave of the next decades into better channels. The rise of Canaan taught us a very important lesson in this context. It has proven again that a group of individuals can be a formidable force for building a city when they are given land. The main challenge lies in the democratic, collaborative, and fair channelization of these forces, the acceptance of incremental housing processes by politicians and the donor community, the adequate provision with infrastructure and public space, and a fundamental financial and legal reform to enable the provision of affordable land in appropriate locations.

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