Building Materials Facility and Community Training Center in Jinja, Uganda

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Introduction

Between August 22 and 25, 2015, Jan Bredenoord and Paul van Lindert, partners in the Studio for International Development and the Housing Research Group (Utrecht/Amsterdam, The Netherlands), visited the city of Jinja in Uganda in order to gain insight into the community building and house construction activities organized by the National Slum Dwellers Federation of Uganda (NSDFU) and ACTogether, an NGO working for and with the urban poor in Uganda. Both organizations jointly facilitate local initiatives to improve the daily living conditions of the poor in Jinja, in particular through the establishment of community savings groups. These community driven initiatives now also include a new and innovative project: the establishment of a community center in Walukuba East Settlement, that aims to accommodate a variety of activities for the low-income groups living in informal neighborhoods of Jinja, such as the provision of a space where local slum dweller federation members can meet; teaching and training of people who seek to improve their skills for self-help house construction; vocational training for income generating activities. Various trainings and workshops are also given to federation members who come from outside the city of Jinja. For the accommodation of such participants, guest rooms are now being built on the two upper floors of the community center. Knowledge sharing is also done between NSDFU and various sister federations from other countries, which are members of the international network of Slum/Shack Dwellers International (SDI).

A particular interesting and pioneering component of the community center is the development of a facility for the production of building materials. This facility produces sustainable building materials with which homes can be built or improved by means of the principle of self-help incremental housing (new housing or home renovations). The facility sells the building materials directly to the residents, who may also obtain technical assistance for a proper and professional use of the materials in self-help construction. The project provides specialized training in construction skills to aspirant construction workers and self-building residents. Students of local technical schools can also do internships in this project and thus acquire practical skills. The municipality of Jinja supports the project initiative strongly, among other things by offering available land for the community center. In the long term, the center, which is almost ready (August 2015), can be used for community development and as training center. A hostel facility is included.

In principle, this multipurpose community center may also be considered as a promising pilot project in support of local communities and residents who wish to incrementally build and improve their dwellings, upgrade basic services and start small-scale economic activities in order to improve their livelihoods. Scaling up and replicating this model to other cities and regions in Uganda should be considered, because it offers good possibilities to address sustainability targets concerning community building, the combat against poverty and the use of sustainable building materials. The aim of this report, therefore, is to present the example of the Jinja community center and its multiple functions, as a potential means to further support the self-reliance of the residents of informal neighborhoods, while securing both social and technical sustainability.
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The structure of this report is as follows. After a short introduction to the city of Jinja, the focus will be on two of the major stakeholders with respect to community-driven development. Then the valuable achievements of the community center are highlighted, including the aspects of affordability and sustainability of the building materials it produces. This report concludes with some recommendations for further development of the center.

The city of Jinja

Jinja is a major industrial city and commercial center in Uganda and is situated at 87 km east of the capital Kampala. The city has more than 90,000 residents and is located on the shores of Lake Victoria, where the White Nile begins. Jinja is connected to the Kenyan capital city of Nairobi and its main port Mombasa both by railway and by road. The main economic activities in Jinja comprise of commercial activities in the Central Business District (CBD), markets, supermarkets, wholesale and retail shops, commercial institutions, industries, service shops, workshops, garages, etc. Commerce is the dominant component of the economy followed by the service sector, manufacturing, construction industries and then agriculture. Most of Jinja’s manufacturing companies are related to agriculture and thus connected to the rural economy of the city’s hinterland. A large sugar factory – Kakira Sugar Works – is exemplary for this important economic rural-urban connection in Jinja.

The informal sector in Jinja constitutes a big proportion of ‘employed’ persons in Jinja Municipality. The informal sector consists of small entrepreneurs and self-employed people with flexible non-permanent employment. A large number are not registered with any authority. Some are highly skilled, such as radio repairers and tailors, but others are engaged in activities that require no particular skills. The lack of opportunities for formal sector employment and the decline in minimum wage has led to the growth of informal sector survival strategies and coping mechanisms, which remain unmeasured, unregulated and unaccounted for in formal statistics, including the growth of subsistence agricultural production within and on the periphery of Jinja’s borders.¹

Jinja’s land- and housing market is characterized by numerous constraints that impede low-income groups to access decent housing. This situation is aggravated as a consequence of increasing numbers of households that migrate from rural areas to the city. Thus, many have occupied land on the city’s periphery and developed informal settlements without having tenure security. The main fear of many of these residents is the threat of eviction. Pending such unsecure tenure conditions, most people are not likely to invest money and labour in incremental self-help dwelling improvement. Yet, as was shown in a recent case study, ‘many show willingness to save even small amounts through burgeoning savings groups’ (KRIHS 2014: 59). That ‘Jinja Case Study’ was conducted in tandem with the main activity of a World Bank project in cooperation with Studio for International Development and the Korea Research Institute for Human settlements (KRIHS), under guidance of a World Bank Team (2014-2015). It resulted in a toolkit titled ‘Supporting Neighborhood and Housing Development – A Guide for Practitioners working with Communities’. ‘Jinja’ was one of the two chosen pilot cities to analyze the housing conditions of the poor population and to provide

¹ Information available at: http://jmc.go.ug
practical policy recommendations on incremental housing. In Jinja, the focus was on two selected informal settlements: Babu Village and Masese1 (Figure 1). See also the Korea Research Institute for Human Settlements (2014), that presented research on self-help incremental housing in The Philippines (Malabon City) and Uganda (Jinja).

A major challenge identified in both settlements are the complicated land tenure arrangements, ranging from leasehold in Babu Village and customary land tenure in Masese 1 being the predominant tenure forms, respectively.

For Babu Village, acquiring long-term lease from the Jinja Municipal Council is recommended, as well as in-situ upgrading of basic infrastructure. For Masese1, the recommendation is to validate customary land ownership, after which land readjustment can be planned. Land pooling will allow the local government to re-block the land and provide infrastructure, but that will affect the residents in various ways, including the demolition of their homes. Therefore, another main recommendation resulting from the Jinja study is to establish a community center that tentatively is termed a ‘Self-Reliance Center (SRC)’. The aim of such center is to serve as a locus for nurturing self-reliant communities able to support incremental housing at town level. This center would fulfill the multiple roles of functioning as: (1) temporary shelter for those who are affected by site development; (2) a building skills center; and most importantly as (3) a community empowerment center. For the operation of the SRC, community members from informal settlements need to actively participate in the programs and mobilize their collective labor toward such efforts as producing brick or cement, participating in construction or improvement, and nursing and teaching children.

It might well be possible for the community center now being completed in Walukuba East Settlement to perform a key role in developing a full-fledged SRC for Jinja.
Main partners to support Jinja’s poor

National Slum Dwellers Federation of Uganda (NSDFU)

The Federation is a network of community savings groups that practice daily savings, while using their collective strength to improve the lives of urbanites who reside in six of Uganda’s growing municipalities - Kampala, Jinja, Mbale, Mbarara, Kabale and Arua. Their slogan, Okwegatta Gemany! means Our Savings, Our Strength. They hold that their savings groups not only generate unity, but also financial capacity, effective organization and collective efficacy. The Federation was established in 2002 in Uganda and is associated with the Slum Dwellers International (SDI), that originates from India. The activities realized in the city of Jinja are manifold, such as ‘Painting Jinja Bright’ and the construction of a series of toilet buildings for the provision of public facilities near market places and communities. In other cities small scale solar energy is being promoted.

The Federation NSDFU assists the low-income households with a series of issues:

1. **Savings and Credit.** Encouraging and supporting urban poor communities to get organized around Savings and Loans schemes. Members can save for building a house, securing tenure, implementing a development project in order to improve their living environment, or for their own individual purposes. The loan proposal, sanctioning and daily savings collections are the community savings groups’ entire responsibility.

2. **Housing Construction and Modelling.** Helping slum dwellers design housing and infrastructural facilities in ways that best respond to their needs and financial capacities. House model exhibitions are large, open-air events attended by housing professionals and members from the government.

3. **Enumerations and Profiling.** With knowledge and information concerning their settlement and living environment, the slum dwellers develop a strong tool for negotiation with the local authorities. The methods used to gather information on slums are based on active slum dweller community participation.

4. **Exchanges.** The most important vehicle for community learning is through the direct exchange of information, experience and skills between the urban poor communities themselves.

5. **Health and Hygiene.** Seeking to promote healthy living by forming health and hygiene committees in slum settlements.

6. **Negotiations and Security of Tenure.** Working to facilitate and support grassroots-led advocacy efforts aimed at building a strong, self-reliant community capable of negotiating effectively at all levels of government.

7. **Income Generation Activities.** Supporting and encouraging group initiatives aimed at improving community living conditions. Community groups are managing to support and sustain small businesses, such as selling cloths, poultry keeping, goat rearing, bricklaying, mushroom growing, plastic recycling, and candle and soap making.

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2 This information is taken from the website of the National Slum Dwellers Federation of Uganda: www.nsdfu.org
**ACTogether**

ACTogether Uganda is the national support NGO charged with providing technical and financial assistance to the National Slum Dwellers Federation of Uganda (NSDFU). ACTogether, established in 2006, facilitates processes that develop organizational capacity at the local level and promote pro-poor policy and practice in Uganda’s urban development arena. In partnership with organized communities of the urban poor, ACTogether works to increase access to secure tenure, adequate shelter, basic services, information, and many of the other building blocks required for healthy communities. The primary strategy for achieving these aims is to support the development of a strong and active urban poor federation. Support takes the form of resource mobilization, partnership support, technical assistance, capacity-building, leadership and management support, outreach, advocacy, research and documentation. ACTogether's mission is to build the capacity of the communities to initiate sustainable development activities that improve their livelihoods.

**Building Materials Facility and Community Training Center**

This project was launched by the Federation (NSDFU) in 2013 to produce low cost and environmentally friendly building materials such as interlocking stabilized soil bricks, pre-cast slabs, t-beams, ‘laddys’ precast mini slabs and concrete blocks. These materials provide an alternative to burnt bricks (which are more expensive and unsustainable due to the use of wood and consequent deforestation) and other cement-dependent materials.

The increased affordability of building materials is critical to incremental upgrading of informal settlements. ACTogether’s engineer Waiswa Kakaire, explains the savings: “One square meter of regular burnt clay brick costs UGX 35,000 (US$14), but we sell a square meter of compressed-soil bricks costs about UGX 28,000 (US$11). Those savings are significant when you talk about building a whole sanitation unit or house. Then, when you construct a conventional slab you will need about UGX 120,000 per square meter (US$48), but with our pre-cast concrete mini slabs, you can buy a square meter for about UGX 90,000 (US$36) because we use about 1/3 less cement while maintaining the same strength.” The pre-cast slabs are not only less expensive, but provide an attracting option for slum dwellers without tenure security as they can easily be disassembled if they are compelled to move.

The project was launched in 2013 with a capital injection of US$10,000 and the contribution of land for the project by the municipal council. These funds were used to construct a building shed, curing pit, extend water to the site, and purchase 1 interlocking brick making machine and site fencing. In 2014 another US$10,000 was secured from SDI as investment capital. With these funds the project moved to phase two, in which a demonstration house, 2-stance toilet were constructed to demonstrate the potential of the materials being sold and the potential for new technologies to save not only cost (opening up the space for the urban poor to make incremental permanent improvements to their dwellings), but build resilience through the use of local, more environmentally friendly materials.

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3 This information is taken from the website of ACTogether: www.actogetherug.org
Building Materials Facility and Community Training Center in Jinja, Uganda

The center has produced all the materials for construction of the buildings on site and also about 30 orders for sale for houses, toilets, pre-cast walls, and worm-digesters. Some orders were for public toilet projects in slums financed by the Community Upgrading Fund initiative of Government as part of the TSUPU project. (‘Transforming the Settlements of the Urban Poor in Uganda - A Secondary Cities Support Programme’ supported by The World Bank). During the TSUPU project municipal construction engineers recognized the importance of promoting such alternate materials, which was an important milestone for the Federation and the building materials workshop. Plans are underway to expand the market and also target hospitals and other social infrastructures.

The center has generated profits from the sale of materials since it commenced operations in 2014. The profits are used to service the loan and reinvest in materials for the project. It has also been a center for innovation, constantly testing new technologies for sanitation systems and building. Greater resilience in communities of the urban poor will depend upon incremental upgrading of housing and affordable building materials will be critical. The partnership between the local authority and the community is an encouraging sign of the potential for partnerships in resilience-building initiatives and the innovations of the community to meet affordability and livelihood demands can be harnessed to forge part of a larger municipal/city-level resilience strategy.

The Community and Training Center (left), and the Stabilized Soil Blocks production plant (right)

Steel windows (left), model houses (middle), and model toilets (right).
Sustainability aspects of Compressed Earth B’ricks

In Uganda, the walls of houses are usually built with fired bricks. This implies that clay is extracted from the soil, and that the bricks are being fired in kilns. Wood is used as fuel; which leads to deforestation and the emission of CO₂ among other things. This is far from sustainable, certainly because this happens on a large scale. Moreover, the process results in unevenly baked bricks and 20 percent waste as the bricks closest to the heat source are over-fired while those farther away are under-fired. Building walls with uneven bricks leads to excessive use of mortar.

An alternative environmentally friendly and cheaper way of building walls is through the use of Compressed earth bricks (CEB) and Interlocking Stabilized Soil Blocks (ISSB), put together from mining locally sand and loam, with thereby mixed a (low) rate of cement. Basically, the work can be done by local people; however, it requires a certain amount of training. The use of these appropriate earth technologies is being promoted in Uganda by UN-Habitat (Perez-Pena and UN-Habitat 2009) and the Jinja project is a good example of local application of these technologies. The Jinja Training and production center is performing well concerning these new technologies. (See ANNEX 1: comparison of traditional fired bricks and ‘modern’ CEB in Jinja). Several toilet buildings were constructed with CEB technology, among others: the Waterborne Toilet (building) for the community in Walubuka West Market, realized with the Jinja Municipal council in conjunction with the Mukamawakisa Saving Group (see Figures below).
Scaling up sustainable housing and home renovations

NSDFU and ACTogether are jointly seeking for funds for a new phase of their project in Jinja, namely the scaling up of the use of sustainable building materials with their Building Materials Facility and Community Training Center. Besides using own Federation funds (Suubi and Loaning⁴) there is an urgent need for funds to be able to serve a large amount of households who need a core house or home renovation. In the current situation, a household must have a property title or deed that must be handed over to the Federation in order to get a small loan, for example for the building of an extra bedroom, an adequate roof or a better kitchen. Besides using their own savings, households could obtain small credit and build quicker with the help of the Building Materials and Training Facility. This means that a Fund for the scaling up of house construction and home renovation is necessary in Jinja. This could be a revolving Fund, as the residents have proved to be able to save money and pay-off their loans.

⁴ Suubi and Loaning As the Ugandan Federation grows in size and confidence, the need for finances to support community group initiatives becomes more eminent. The Federation, SDI, and the Lutheran World Federation worked together to start a Ugandan Urban Poor Fund - called the Suubi Development Initiative. The Fund, which is managed by representatives of the savings groups, was formulated in accordance with the experience of other SDI urban poor funds, but tailored to fit the Ugandan context. Federation members commit a non-refundable amount of money that helps build the fund. When organized member communities contribute to such a fund, it is hoped that they can attract additional funds from outside sources like governments, donors and the private sector. These funds can then be given out as loans to federation members to build houses, start businesses, buy land, and install services.
Recommendations for further development of the facility

- Nurture good relationships with the Jinja Municipal Council and its officers
- Scaling up the facility by reaching as many residents as possible
- Scale-up the production of sustainable building materials by entering the local and regional market for construction and housing concerning sustainable produced building materials (making a business plan for entering the construction market)
- Finding more financial resources to be able to help more households (trying to extend the existing funds available for NSDFU and ACTogether)
- Finding more external funds for the granting of loans (micro-credit) to households willing to build or improve their house in an incremental way
- Trying to establish an external revolving fund for the stimulation of self-help incremental ways of housing and home renovations.

References and websites

- The World Bank: www.worldbank.org
- ACTogether: www.actogetherug.org
- National Slum Dwellers Federation of Uganda: www.nsdfu.org
- Studio for International Development: www.habitat-future.com
ANNEX 1

Traditional: Fired bricks, clay extracting and kilns for firing the bricks (here Kampala, Kamwanyi area).

This traditional brick production system can be found all over Uganda. However, it is not sustainable; clay puts can be found everywhere; clay bricks drying and clay burning in kilns too.

Deforestation and CO2 emissions are the results, and the quality of bricks is sometimes low.

Sustainable Interlocking Stabilized Soil Blocks for masonry (here: Jinja project)

Interlocking Stabilised Soil Blocks are better for the environment, are cheaper and are relatively easy to produce. Quality is high.

This is a practice that has been developed in Uganda for years, but it must be ‘made to scale’.