

Leveraging Social Capital Credits for Sustainable Construction: From Mumbai to Kumasi

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This paper proposes a system of Social Capital Credits (SoCaps) that can act a new ‘currency’ to help harness and trade the social capital of communities towards better housing and infrastructure, and towards more equitable cities. Just as carbon credits encourage and reward environmental responsibility using market mechanisms, SoCaps proposed here would encourage and reward social responsibility using market mechanisms. SoCaps also share certain characteristic of the micro credit movement that leverages social capital to provide small loans with social collateral. While these loans are usually given to Individuals, SoCaps would be generated and owned by communities, thus strengthening them in turn. Steps needed in implementing SoCaps have been described, followed by a discussion of how these might work in the large informal community of Dharavi, Mumbai. A beta-test of the SoCap system currently being prepared for launch in the Bantama area of Kumasi, Ghana has also been discussed.

1 Why Social Capital Credits

Sustainable construction in this essay has been inferred to mean construction that is sustainable not just in the ecological sense, but also in the social and economic sense.

Since 1970s there has been evidence that the solution to the problems of inadequate housing and infrastructure in developing country cities lays not in government funding or philanthropic largesse, but in organized self-help and in making affordable housing bankable. Turner and Fichter documented these concepts in their book *Freedom to Build: Dweller Control of the Housing Process*¹. Meanwhile, the number of people without adequate housing has grown to over a billion today, and may double by 2030 according to UN Habitat estimates.² The reason for this failure is perhaps a missing link between the market economy and organized self-help strategies. Social Capital Credits (SoCaps) described in this essay, propose this link, and a possibility that every one’s Right to the City^{3,4}, and the right to live a reasonably safe and healthy life can be realized in the foreseeable future. Social Capital Credits (SoCaps), can act a new ‘currency’ to help harness and trade the social capital of communities^{5,6} towards better housing and infrastructure, and towards more equitable cities. Just as carbon credits encourage and reward environmental responsibility using market mechanisms, SoCaps proposed here would encourage and reward social responsibility using market mechanisms. SoCaps also share certain characteristic of the micro credit movement that leverages social capital to provide small loans against social collateral. While these loans are usually given to Individuals, SoCaps would be generated and owned by communities, thus strengthening them in turn.

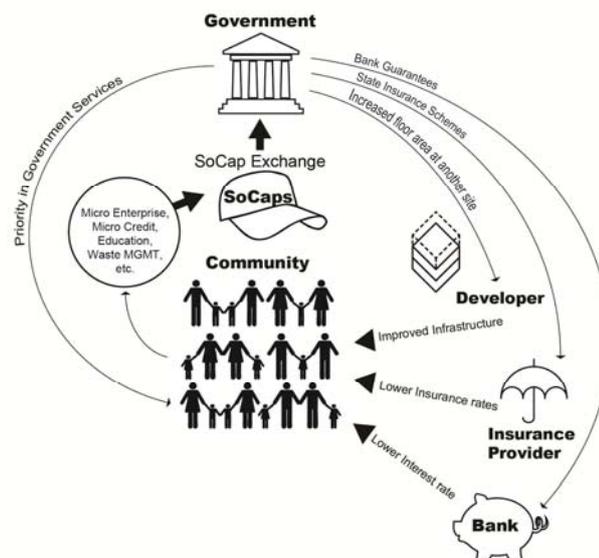


Figure 1: SoCaps can help leverage the social capital of communities in the market economy

2 Why SoCaps?

The true wealth of cities cannot be measured in monetary terms alone, and development efforts that ignore the social wealth of communities are counterproductive. Conceptualizing and measuring urban development focusing just on short-term profits for the real estate industry or other vested interests diminishes and eventually destroys the social capital of cities. Once this wealth is destroyed, functions such as cultural and ecological stewardship, social accountability, community building, care of the aged, protecting the public realm of cities, and other functions that communities do efficiently and naturally then fall to the government. While successful and wealthy governments might be able to perform these functions at great costs, cash-strapped and poorly run governments simply cannot perform these, resulting in breakdown of the social compact, law and order, rise of social inequity and the possible radicalization of youth on both side of the opportunity divide.

Studies by scholars such as Knack and Keefer⁶ conclude that civic cooperation and social equity boost economic growth. In his book *The Fortune at the Bottom of the Pyramid*, C. K. Prahalad makes an economic case for including all segments of society into the free market.⁷ Robert Putnam in his book *Bowling Alone: The Collapse and Revival of American Community*⁸ posits that governments are more successful in places rich in social capital. Disconnects along economic and social fault lines in cities today are depleting that social capital and have the potential to undermine economic growth, human security, and peace. While the concept of social capital has been discussed since L.J. Hanifan first used the term in 1916, SoCaps could be a possible way to put it to practical use in the market economy. SoCaps would promote community-led neighbourhood improvements and empower people to partner with the government in building and improving their own housing, neighbourhoods and cities in transformative ways. This can also make rich as well as poor people active participants in the urban development process. The process of accruing and trading SoCaps can also result in the development of local leadership and capacity building, which can be an asset to any government in partnering with communities to implement government programs. This has been discussed in some detail in the case of Dharavi later in this document.

Micro-housing for a billion people in desperate need of housing in the developing world is a huge business opportunity. Bringing its value-engineering acumen from Nano cars to low-income housing, Tata Housing is beta testing its US\$750 Flatpack house in India. However, most affordable housing entrepreneurs in India, and countries, as well as public organizations such as SEHAB (Sao Paulo Municipal Housing Secretariat), have trouble attracting market investments. SoCaps could possibly change that. Developers could improve housing and infrastructure in underserved communities, and trade SoCaps thus earned for additional FAR (floor area ratio) or incentives at another site in the city they wish to develop, just as is done in the case of Transfer of Development Rights mechanisms in use today in many cities around the world.

SoCaps can also help in empowerment of women by rewarding the work they do for their communities, which carries no direct monetary reward and is therefore not given due acknowledgement by their families of communities. Women and girls in poor families in developing countries are usually discouraged from participating in community meetings and projects that can benefit them, as it takes time away from their household or other chores. SoCaps could be the alternative currency they bring to the family and the community, which can later be traded for better infrastructure and economic betterment for all. When a mother gets her child vaccinated and sends her daughter to school, it benefits the family, the neighbourhood and the city. At present, the city and the neighbourhood have no way to acknowledge the mother's contribution towards making it a better place. SoCaps can enable this to happen. When families along a street cooperate to keep their street clean and safe, and beautify it by growing flowers and trees, there could be a way to reward them with tools for further development. When a neighbourhood nurtures its public spaces and ensures that they are accessible to all, the city benefits and can reward this effort. SoCaps may also be viewed as a sort of barter, or sweat equity that the rich and poor can contribute to the city, and be acknowledged for.

3 How would SoCaps work?

The paragraphs below discuss a three steps methodology of quantifying, trading and leveraging the social capital of neighbourhoods by using principals of the market economy:

1. Setting up of a SoCap Exchange (SoCapEX)
2. Accruing SoCaps
3. Trading SoCaps for a better life

These steps are described below, followed by a discussion of how these might work in the large informal community of Dharavi, Mumbai. A beta-test of the SoCap system currently being prepared for launch in the Bantama area of Kumasi, Ghana has been described after that.

3.1 Setting up of a SoCap Exchange (SoCapEX)

While SoCaps would leverage social capital of communities just as microcredit organizations do, they will need a more formal trading platform, because actors from outside the community would also be involved. It is proposed that city governments set up trading platforms (SoCapEX) that would work along the lines of the Carbon Trade Exchanges. Local exchanges can also be set up for smaller municipalities or large neighbourhoods above a certain size in terms of populations, and be in turn linked to the larger SoCapEX.⁹

The fully developed SoCapEX is envisioned as a transparent regulatory authority with strong grassroots understanding and connections. It will be an accounting, validating, trading and settlement platform, and a marketplace for executing SoCap trades among neighbourhood groups and the local government and with service providers such as private developers, insurance companies, banks and others. The SoCapEX Board should include government officials, community leaders, business representatives, academics and NGOs, who will be collectively responsible for the development and oversight of SoCapEX. SoCapEX would need to establish administrative procedures and publish them in easily accessible documents online and offline, so that communities and service providers, including real estate developers, know clearly what is expected of them and what they can expect in turn. These documents should be in written as well as audio-visual formats, so that communities with different languages or with low literacy levels can also access them effectively.

It is proposed that a SoCapEX Registry be set up where community groups can register before they can start collecting SoCaps. The process of registration should be free and include only filling up of simple forms to establish the measurable improvements for which the community is planning to earn SoCaps, and to insure that these improvements make a measurable positive difference in city. The baseline for the existing conditions in the community related to that goal will also need to be established. The process of collecting and redeeming SoCaps should be a community celebration, rather than a bureaucratic nightmare. Much of this process can be designed so that it can be accomplished online. Information about the location of the community, and as much as is known about the demographic mix, health, education and other indicators can be exchanged between the authorities and the community at this point, but the lack of this information should not delay the process of registering for SoCaps. It would be as useful for the community to have government statistics about themselves, as it would be for the government to have any statistics that the community has gathered about themselves in self-surveys. It has been proven by Society for the Promotion of Area Resource Centers (SPARC) in Mumbai and other NGOs that information collected by communities themselves is more reliable than that collected by surveys conducted by outsiders, and that the process of collecting such information is in itself a capacity building and empowerment process for the communities. While a person being interviewed for survey by an outsider may give answers that s/he believes the interviewer wants to hear, answers given to fellow community members conducting the survey tend to be more accurate. The SoCap registry can thus, over time, become a valuable database and a resource for the government and communities of development indicators of neighbourhoods.

3.2 Accruing SoCaps

Communities could accrue SoCaps for their accomplishments, such as micro-enterprises that help the local and city economy; waste management enterprises that keep the city clean and sustainable, planting and caring for trees and amenities on the street and in public spaces; help in restoring the flood plain and waterways in their neighbourhoods; percentage of children vaccinated; percentage of girls in schools and colleges, etc. While one cannot quantify the impact of lack of toilets on human dignity, or the lack of a safe place to sleep on the physical and mental development of a child, indicators of community's strength can be measured. Some of these actions, such as sending children to school, may only be allowed in neighbourhoods where majority of people are below the poverty line and not already doing so. Neighbourhoods where majorities of people are above the poverty line may earn SoCaps for environmental remediation, running training centers for skill enhancement, schools, and health clinics that are accessible to everyone, or other actions that benefit the entire city. A neighbourhood may also take up larger city projects such as cleaning up the part of the beach front and enhancing public spaces that are truly open to public. While people may be already paying taxes- SoCaps will encourage people to give of themselves to their city. Instead of asking what their city can do for them, people may come up with creative ways in which they can help their city.

Local leaders and NGOs could act as sponsors to help communities develop and submit SoCaps to the SoCapEX for ratification and future trades. Community leaders or NGOs could also become aggregators for SoCaps, enrolling community groups into blocks of SoCap earners. Social and religious institutions such as schools, churches, temples, mosques and social clubs could help organize and help people to earn SoCaps. Existing groups such as micro-credit groups of women are natural candidates for becoming SoCap Groups. Kitty parties are a ubiquitous form of social pastime for women in Mumbai, mostly from middle and high-income families. Similar groups exist in other countries also. SoCaps could encourage such groups to take on meaningful projects for their city. While communities currently have little reason and no framework for prioritizing joint activities, the SoCap system can help them recognize the social strengths they already possess and to focus jointly on the important and shared challenges that face them. It will also assure

communities that the government values them as contributing members of society and wants to help them towards a better future.

The difficulty of measuring the value for social endeavours and improvements should not be underestimated, and a provision for periodic reviews of what can and cannot accrue SoCaps should be considered. However, as community improvements often occur over years or decades, an element of certainty and continuity in earning SoCaps is necessary in order to motivate change. The value of SoCaps must be proportional but should be high enough to motivate genuine and sustainable improvements in a neighbourhood and the city. Large goals may be broken up into smaller achievable steps and corresponding awards made possible. Successful communities could also earn SoCaps by mentoring and helping other communities and by acting as consultants to the government.

Community designed and led procedures to measure if a SoCap project has legitimately led to the measurable improvements will be important and will need to be developed and managed in a transparent manner in partnership with the SoCapEX. This could start with clear and measurable goals set jointly at the time of registration. At that time, a digital and/or hardcopy worksheet could be created from pre-developed templates to track progress. The completed worksheet, along with the community's self-evaluation, should form a significant part of the entire process, since this in itself is expected to contribute to community's skill and civic pride. SoCapEX will then only need to review the worksheets with the community to jointly decide if the improvements that were proposed at the time of registration have indeed taken place. The power of the Internet and ubiquitous mobile phones could be harnessed to make the recording of SoCaps on the worksheet and the transactions with SoCapEX easily accessible to people. Examples of this could include a text message to the SoCap community manager each time a child has received vaccination, a meeting of the self-help group of women held, or skills training for young entrepreneurs completed.

The decision of what constitutes a community will need to be based upon local conditions. It may also be possible or necessary in some circumstances that SoCaps for certain actions are awarded to families, a group of families, and a neighbourhood. The size and limits of the group or a neighbourhood can be decided at the time of registering a goal in the SoCap Registry. The number should be such that it is likely to trigger an internal system of incentives, self-monitoring, and pride of achievement within the communities.

3.3 Trading SoCaps for a Better Life

Once the communities have collected the requisite number of SoCaps, they could trade them via SoCapEX for things that they cannot do by themselves without outside assistance, such as priority in getting municipal sanitation and water supply, improved streets, street lighting, Internet services, and environmental remediation. Certain SoCap awards may only be allowed for below poverty line (BPL) neighbourhoods, such as lower rates for health insurance, lower interest loans or higher rates on savings from commercial banks, and skill-building scholarships for local youth.

Real estate developers could be incentivized to improve housing and infrastructure in informal neighbourhoods, or to build the public amenities needed, and trade SoCaps thus earned for additional FSA (floor space index, also called FAR or floor area ratio) or incentives at another site nearby or within the same city, under the "Transfer of Development Rights" mechanism. Neighbourhoods could also be paired with other sites, so improvements there can occur in tandem with market-driven real estate projects in the city.

4 How might SoCaps work in Dharavi, Mumbai?

The enormous real estate pressures on Dharavi spring from its advantageous location in Mumbai. Situated outside the city through most of its long history, it now finds itself at the heart of city, easily accessible by railway lines and highways. Low-income rental housing was built in this formerly remote location by the government around the fishing village of Koliwada which dates back nearly 400 years, and pre-dates Mumbai. Informal settlements have sprung up around and in between the government rental housing and Koliwada over time, and now the whole area gets erroneously called "the largest slums in Asia".



Figure 2: Location of Dharavi is marked on an aerial photomontage of Mumbai, showing its central location.

SoCaps spring from the social capital of communities, and Dharavi has a wealth of that. It is an agglomeration of nearly 90 distinct communities, each made up of migrants who originally came from a specific part of India. Friends and family members have since been joining them. Residents who have been in Dharavi for some time have established small and growing businesses, cultural traditions, and their own social and religious institutions. They have developed a way to life in which people help each other to compensate for the severe lack of infrastructure and civic services in Dharavi. All too often we hear about what is wrong with slums, but rarely of what is right with them -- and there is a lot that is right with Dharavi. In his book *Shadow Cities*, Robert Neuwirth concludes that when people move to cities they make more money, find better health care and education, and have fewer children, thereby contributing to the resolution of the persistent development challenges of our time¹⁰. This is certainly true of Dharavi. With a population of about 500,000, Dharavi contributes nearly a billion US\$ to the economy of Mumbai per year. Various services, recycling businesses and just-in-time small-scale production units in Dharavi are critical to the formal as well as informal businesses all over Mumbai. Dharavi also offers to new migrants a foothold and a springboard in the city, to begin climbing the economic ladder towards achieving middle-income lifestyle, however steep and slow it may be. What better alternative can Mumbai provide for the new migrants? This is yet another factor that makes Dharavi a great asset to Mumbai.

So why has there been such a strong effort to bulldoze Dharavi and put up high and middle-income income housing and offices in its place, exemplified by the recently scrapped Dharavi Redevelopment Plan (DRP)? This plan would have squeezed Dharavi's current residents into tall buildings occupying a fraction of the land Dharavi currently has, in a process often viewed by slum dwellers as "warehousing" them. While Dharavi's current high-density low-rise urban fabric is very conducive to enhancing social capital, putting people in poorly designed, cheaply built, and poorly maintained tall buildings would have destroyed that social capital. This has been proven in the mid-rise buildings built under the government's Rajiv Gandhi Slum Redevelopment scheme in Dharavi. The reason that the DRP even came as far as it did before being stopped by residents and pressure from the advisory committee set up by the government is that the calculations for the DRP were made using monetary considerations alone. The enormous social capital of Dharavi was not taken into account in such calculations, nor their capacity to self-develop the land they occupy.

Social capital of the poor is more valuable than the land they are situated on, and could be leveraged by well-functioning communities, such as Dharavi and Annawadi in Mumbai, to purchase tenure of the land that they are located on using SoCaps, thus eliminating the ever-present fear of eviction. The power of providing land tenure to slum-communities is now well understood, based upon the work of Hernando de Soto¹² and others. 60% of Mumbai's population lives in slums that only occupy 6% of Mumbai's land. Since nearly double this land has been "granted" to civic clubs and institutions serving the wealthy Mumbaikars in the last decade, giving tenure to slum dwellers should not be a hard issue if political will can be rallied for it, using SoCaps. Providing land tenure to slum communities is one of the goals of

another laudable scheme called Rajiv Awas Yojana (RAY) in India. This scheme could also benefit greatly by leveraging the social capital of communities through SoCaps. Communities could even be encouraged to form real-estate investment trusts (REIT) to self-develop their land and build additional income-generating properties and micro rental housing- with or without RAY. Such income could then be used to further enhance the physical and social infrastructure for communities. Micro-investments in infrastructure by a large number of people in the REIT can be an alternative to the limited resources of the government. Once people in Dharavi get legal tenure and critical infrastructure and services, they have the capacity to quickly make their neighbourhood into a middle class neighbourhood within a decade or so. This may mean that Dharavi will gentrify and local people will eventually be displaced. However, this will be done on their terms and their place, and not mandated by the bulldozer-based schemes such as the DRP mentioned above.

With a population of nearly half a million, Dharavi could perhaps form its own SoCapEX-D. Neighbourhoods in Dharavi could register there to start gathering SoCaps. These could be collected for keeping the streets clean, for sending girls to school, for getting children vaccinated, for forming women's saving clubs or micro credit groups, for starting and running small scale businesses that benefit Dharavi and the city, for recycling Mumbai's waste, a low carbon footprint, for remediating the Mithi River and preserving the riverbank for ecological benefit to the whole city, and for maintaining the Cricket Ground as a public space open to all. The communities can then trade these SoCaps for priority in getting infrastructure and services that have been deliberately denied to Dharavi, such as paved roads, dependable power, clean water and sanitation. Neighbourhoods in Dharavi can negotiate for lower interest rates in getting bank loans; negotiate for lower health insurance, and other social services. The entire city of Mumbai can benefit greatly from acknowledging and supporting the social capital of Dharavi, and its entrepreneurial and resilient people. Just as has been the case in Japan, informal settlements develop into great neighbourhoods if provided with these services.

Developers who were planning to implement the Dharavi Redevelopment Plan can perhaps be redirected to help install state of the art infrastructure in Dharavi, and earning SoCaps that they can trade in for incentives in developing the land parcels at the Eastern Waterfront or elsewhere in Mumbai. Specific infrastructure and improvement projects in Dharavi can be linked to another site, so that the improvements in Dharavi have to be completed before a higher floor space index (FSI) or other incentives are given to developers. Much of the public infrastructure in New York has been built by providing such incentives to developers. The comfortable plazas, street trees, waterfront parks, and public art that make New York special were achieved that way. There is no reason that the Transfer of Development Rights (TDR) cannot be successfully used to maintain and enhance the social capital of places like Dharavi, while making Mumbai a more equitable city. Mumbai needs to turn back from allowing gated communities for the rich, in unsustainable suburbs or high-rise inner city locations, to nurturing its own pedestrian friendly and cosmopolitan traditions that allowed people from diverse ethnicities and income groups to live together in a symbiotic way in recent history, compared to other more segregated cities in India and the developing world.



Figure 3: The Friday roadside mosque in Dharavi is an example of the community's self-organization capacity.



Figure 4: The Fish Market in Koliwada is entirely run by local women

The alternative to informal settlements like Dharavi being allowed to self-develop has been played out in many countries around the world, so the results are clear for everyone to learn from. From Beijing to Istanbul to New York, bulldozers have destroyed well-functioning poor communities rich in social capital, and dispersed them farther out from the city centre. Such urban renewal, even when called by its newer names, deprives poor people of their livelihood that is often dependent upon the proximity to the city, and robs them of the social capital that allowed them to survive the harsh conditions in neighbourhoods under-served by urban infrastructure. Local governments often characterize target neighbourhoods as slums so that they can justify handing them over to developers to reap profits by redeveloping them into high-income housing or shopping malls, and theoretically but not usually in practice, to increase the city's tax base¹¹. Such expedient urban redevelopment makes cities increasingly more segregated between the rich and poor. Successful cities derive their dynamism from mixed-income and mixed-use developments. Well-functioning cities also ensure that higher density developments are located only on public transport routes, and that each new development contributes to the public realm in by creating quality public spaces and pedestrian friendly roads accessible to all, not just to people within gated communities.

SoCaps can also help in implementation of well-intentioned government programs such as the Jawaharlal Nehru National Urban Renewal Mission in March 2011 (JNNURM) program in India. According to the Comptroller and Auditor General's (CAG) report entitled Performance Audit of JNNURM, only 22 of the 1,517 housing projects approved under the scheme were completed by the due date.¹² Diversion of funds and inappropriate allocation of benefits are among the several problems in the top-down delivery mechanisms of well-funded schemes such as this one. This and other programs in India can be far more successful if communities are directly harnessed as partners in implementing them. Communities in informal settlements that were expected to benefit from these schemes could have been made custodians of the specific projects under this scheme. Local governments could empower communities with technical and management support and let them lead development work, with all progress and accounting put online for access by all stakeholders. Local people could monitor the progress of projects and organize local labour to help as needed. Local materials, local builders, and building methods could enhance job-creation and herald systemic change. Communities that succeed in getting the schemes implemented in an effective way could earn SoCaps that can be used to 'earn' children's playgrounds or other community facilities. If the JNNURM scheme had been implemented using SoCaps, it would have also triggered other benefits, not just in urban development, but also in environment, health, and economic sectors. Collective action is an indicator of social capital, which in turn spurs the generation of further social capital. Unlike other forms of capital, and in contrast to the idea of '*homo economicus*', SoCaps will belong to the community, thus strengthening it.

The potential role SoCaps can play in protecting and remediating the environment also deserves particular note. The power of communities becoming stewards of a section of a beach front, bird habitats, mangroves, or a river bank can help heal the fast deteriorating ecology of Mumbai, and indeed elsewhere too. SoCaps can also be linked to historic preservation of buildings and historic neighbourhoods. As one example, the wonderful and relatively well preserved historic neighbourhood of Khotachiwadi in Mumbai, which is currently experiencing intense real estate pressures and could be lost within a decade, could be saved by using SoCaps. Residents could earn SoCaps for preserving the neighbourhood, and the developers could earn SoCaps for helping restore and re-purpose some of the old homes that are deteriorating. In turn the developers could receive incentives or higher FSA in another location that can be linked to Khotachiwadi.

5 SoCap Beta-test in Kumasi, Ghana

The SoCap concept is currently being prepared for beta testing at Bantama Sub-Metro, located close to the city centre of Kumasi, the second largest city in Ghana. Bantama Road is a bustling shopping and entertainment area. One of the largest markets in Western Africa was also located at the Racecourse near Bantama Road, but has recently been evacuated to make room for a gated community of luxury villas. Markets in Ghana are largely run by women, and this market was no exception. Market women have since moved on to a new alternative locations provided by the government. In cases where the alternative locations were not good for business or too far, these market women have occupied sidewalks and setbacks of busy roads. While the older women manage the retail operations, younger women from the countryside, called Kayoyo, are hired by them and the customers to carry and transport heavy loads on their heads.



Figure 5: View of unfinished social housing in Asakore Mampong seen from Sawaba



Figure 6: Most markets in Ghana are run by women with very limited access to urban amenities and services

Millennium Cities Initiatives of the Earth Institute at Columbia University, which is committed to helping selected cities in Africa meet the Millennium Development Goals, has been working in Kumasi to help bridge large gaps that currently exist in provision of minimal healthcare and other services for the market women of Bantama. One important piece of this effort is the plan for Bantama Women's and Girl's Center, for which land has already been provided by the Kumasi Metropolitan Assembly. Local stakeholders in this project include Bantama Sub-Metro Authority, groups of market women's associations and the Kwame Nkrumah University of Science and Technology. The SoCap concept will be beta-tested at the Bantama Center for Women and Girls through its planning, construction and operation stages.

The Bantama Center for Women and Girls is expected to be built in part by providing SoCaps to builders and real estate developers in exchange for giving them additional FAR (floor area ratio, also called FSI or floor space index) in other locations in Kumasi. Local businesses will also be incentivized to provide services and training at the Bantama Center in turn for SoCaps. The goal of this project is not just to build a building and an empowering institution, but also to use the building and the building process as an empowering tool for the market women of Bantama. This includes the use of local, innovative or energy saving materials that women can learn to use and deploy in their own homes; ways to make the building comfortable without expensive air-conditioning; low-tech labour-intensive building methods which women can learn and then use as an income-producing skill later; bio-toilets which women can then build or get built in their own homes and communities; water harvesting devices, and more. SPARC has already deployed such building methodologies in Mumbai with much success. Women who help with planning, construction or operation of the Center can earn SoCaps, which they can later trade for services that the Center will provide, for Talktime on their mobile phones, or vouchers on public buses that the Women's Center will negotiate for them. KNUST has also offered to help negotiate favourable rates from banks and insurance companies for members of the Bantama Women's Center.

Draft SoCap worksheets developed for this project have been included in the appendix of this paper. These have been based upon the Millennium Development Goals to which the Earth Institute is committed.

6 Other SoCap sites in Kumasi

The concept of SoCaps was initially developed by the author¹⁴ for the informal and severely underserved neighbourhoods of Akorem, Adukrom and Sawaba in Kumasi. Columbia University's Urban Design Studio

worked with Millennium Cities Initiative in this neighbourhood in 2012 designing strategies for urban and economic development, provision of critical infrastructure, and environmental remediation. It was proposed that SoCaps in these sites be earned for building toilets; running a waste collection system; caring for portions of the greenbelt; caring for the currently unused railway line; building a micro-sewage system; and for growing trees to stop severe soil erosion.

It was further proposed that with SoCaps accrued, the communities in Akorem, Adukrom and Sawaba could “earn” priority assistance from Kumasi Metropolitan Authority in setting up an agro-processing centre that will provide jobs; local bus routes, a new market and more. SoCap rewards were also proposed for paving streets, something that this community needs. This is a priority need that will help in transportation and will also ensure that the micro-sewage systems planned do not get washed down the slopes by heavy rains.

It has been proposed that transportation and food-processing companies in the private sector may earn SoCaps in Akorem, Adukrom and Sawaba for helping to renovate old industrial buildings on site into a market, and creating a computer networked market information centre in the market. These companies could redeem their SoCaps at the SoCapEX with tax relief, licenses from the government, and for business incentives at another project or site.

Conclusion

In the ways suggested above, the social capital of cities can be leveraged using SoCaps to improve housing, neighbourhoods and cities in a sustainable way. In most cases, such implementation will need to be slow and incremental, which is desirable so that community’s skills development happens in tandem with these improvements. The overarching goal of SoCaps is to empower local communities to participate in an upward development spiral towards a healthier social and economic environment and improved quality of life in their neighbourhood and city. SoCaps underscore the inherent worth of people and human dignity- and can be a tool to address the most important developmental issues of our time. A new urbanism founded on sustainability and equity is critically needed, and SoCaps can help achieve it.

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