



IMPROVING LIVES IN SUB-SAHARAN CITIES

A Laboratory in Global Urban Development

Millennium Cities Initiative
EARTH INSTITUTE | COLUMBIA UNIVERSITY





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Improving Lives in Sub-Saharan Cities: *A Laboratory in Global Urban Development*

COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK
Millennium Cities Initiative, The Earth Institute

EDITORS

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And finally, MCI would like to dedicate this volume to the approximately eight million people of the Millennium Cities, who have welcomed us with open hearts. As you are reminded here of many of our sincere efforts in your communities over many years, we hope you find that MCI has made a contribution in setting your beautiful, resourceful cities firmly on the path to sustainable development.



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¹MCI was founded by Earth Institute Director Jeffrey D. Sachs, together with then-MCI Co-Directors Susan M. Blaustein and Karl P. Sauvant. Dr. Guido Schmidt-Traub, then Policy Advisor and Associate Director of the United Nations Millennium Project, now Executive Director of the UN Sustainable Development Solutions Network, supported and assisted in the creation of the Initiative.

²Developed by the United Nations in 1990 and embraced in 2005 by the member states, the MDGs consist of eight quantifiable Goals, each comprised of multiple targets, all aimed at eradicating extreme poverty worldwide. Specifically, the MDGs include: 1) Eradicating Extreme Hunger and Poverty; 2) Achieving Universal Primary Education; 3) Promoting Gender Equality and the Empowerment of Women; 4) Reducing Child Mortality; 5) Improving Maternal Health; 6) Combating HIV/AIDS, TB and Malaria; 7) Ensuring Environmental Sustainability; and 8) Forging Global Partnerships for Development. While there has been tremendous progress worldwide in nearly all of these areas, increasingly severe environmental stressors, unchecked population growth and the failure of the international community to meet its commitments to support the poorest countries in this monumental effort have conspired to keep well over a billion people trapped in extreme poverty. The subsequent set of measurable targets, the Sustainable Development Goals, have been designed to pick up where the MDGs have left off, relying even more heavily on MDG 8's call for "global partnerships for development" as the world forum in which practical solutions for addressing poverty and its myriad devastating consequences can be devised, tested and scaled by some of the world's finest minds, hopefully leading to truly transformational and lasting change.

³The Millennium Villages Project (MVP), a pilot comprising nearly a half-million smallholder farmers across the sub-Saharan region designed to help these communities attain the MDGs by dramatically increasing agricultural production, maternal and child health, physical infrastructure and educational and income-generating opportunities through a series of targeted, low-cost interventions and global linkages aimed at the poorest of the poor, is now in its 10th and final year, its final report appearing in July 2016.

⁴In some cases, in the form of a fully integrated, MDG-based City Development Strategy.

⁵(See page 3). United Nations Human Settlements Programme [UN-HABITAT]. (2008). *State of the World's Cities 2008/2009: Harmonious Cities*. London: Earthscan. Retrieved from http://www.unhabitat.org/jo/en/inp/Upload/105056_Cover%20page.pdf.

The Millennium Cities Initiative

A HOLISTIC APPROACH TO ALLEVIATING POVERTY

INTRODUCTION

Dr. Susan M. Blaustein, *MCI Director*

The Millennium Cities Initiative (MCI) was established in 2006 as a project of The Earth Institute, Columbia University,¹ to assist selected sub-Saharan municipalities in their efforts to achieve the Millennium Development Goals (MDGs).² Across the region deemed the furthest off-track from MDG attainment, MCI has worked largely in secondary cities near to the sites of our sister integrated rural development initiative, the Millennium Villages Project.³ MCI has strived to strengthen both backward and forward linkages – back to community-based village life and to fresh agricultural production, forward to advanced health care, secondary schools, universities, agro-production and to domestic, regional and international markets – and to set these largely provincial capitals on a course toward the kind of healthful, sustainable urban development that will enable residents to enjoy fulfilling lives near to their families and their homes. Our objective has been to help prepare the participating “Millennium Cities” not simply to meet the MDG targets – although this in itself can prove daunting in some settings – but to develop integrated, MDG-based development strategies that, when implemented, have the potential to be truly transformational, to the point where whole communities can escape from extreme urban poverty and its crippling effects.

This holistic approach is predicated on the observation that the Millennium Development Goals are inextricably intertwined, whereby failure in one domain – inadequate access to safe water or sanitation, for example – can trigger catastrophic failures in others – for instance, in child health. The converse, of course, is also true, and is far more encouraging: that synergies among accomplishments in distinct areas can serve to jumpstart development, often in momentous if wholly unanticipated ways. Efforts to revitalize the residential and commercial infrastructure as well as the income-generating opportunities in a long-neglected segment of Kumasi, Ghana, for example, undertaken by MCI in concert with the Earth Institute’s Urban Design Lab, have resulted in innovative new plans that were recently embraced by the new local government there as its operating template for integrated urban development.

Through our own closely targeted research, analysis, interventions and capacity-building, MCI has helped enable the Millennium Cities to ascertain how far each still needs to go to achieve the MDGs; the estimated costs of the requisite interventions and upgrades; and their own top MDG-based priorities, as determined by a wide array of City stakeholders. Once these priorities were finalized and formalized,⁴ MCI has advised and assisted municipal governments in attracting sufficient public and private sector investment to realize these priorities, thereby spurring each City’s ongoing efforts to actualize its vision.

This publication is intended as a guide to MCI's work over the last nine years. Although we set out with the relatively straightforward mission of helping specific municipalities galvanize their anti-poverty efforts by aligning them closely with the practical targets that have constituted a step-by-step playbook for attaining the MDGs, MCI naturally began its work *in medias res* – in living, breathing Cities, each with its own cultural, political and socio-economic dynamics, assets and handicaps, and each at its own particular moment in its self-realization, all of which inevitably affected the course and the flow of our work. As readers will find, the following sections – describing MCI's ground-truth-based methodology, our array of valuable research tools and findings, the innovatively tailored interventions that ensued from these findings, our many gleaned lessons learned and best practices and, finally, our suggestions for the way forward – chronicle our plans, our actions and, on occasion, the divergences between these.

By sharing here the specific tools, approaches, programs, partners and findings enlisted in this effort, we hope to inform and equip others committed to global urban development work who might benefit from our experience. Most of all, we hope that the ethos guiding MCI's engagement with each partner City and its residents – first and last, the commitment to listen hard, with flexible toolkits and with boundless humility in the presence of those who know best their City's and its population's most pressing needs and aspirations – can be instructive in suggesting modalities for creating those bonds of mutual trust and respect that we at MCI have found to be central to enabling truly sustainable urban development to take root.

This holistic approach is predicated on the observation that the Millennium Development Goals are inextricably intertwined, whereby failure in one domain can trigger catastrophic failures in others.

TO HELP THE MILLENNIUM CITIES ALLEVIATE SEVERE POVERTY AND IMPROVE THE QUALITY OF LIFE FOR RESIDENTS, MCI EMPLOYED A HOLISTIC APPROACH ACROSS VARIOUS SECTORS:



EDUCATION

GENDER

HEALTH

URBAN ECOSYSTEMS

PRIVATE SECTOR DEVELOPMENT



BACKDROP: The Promise & Perils of City Life in the 21st Century

At some point during MCI's third year, in 2008, our planet passed a critical threshold, with more than half its inhabitants by then living in cities.⁵ Relentless migration from the countryside – toward opportunity, and away from hardship, joblessness, famine and environmental challenges both seasonal and induced by climate change – has ramped up the pressure on urban settlements to unprecedented levels, with regard both to the physical infrastructure and the availability and quality of public goods and services. Particularly in the sub-Saharan region, where civil infrastructure beyond the ports, roads, mines and plantations developed under colonialism did not penetrate very far into the interior, access to public education, health care, clean water, reliable sanitation and viable roads, transport and jobs is by no means assured, placing urban populations at high risk not only of disease, but also of being ill-prepared for an unforgiving, underinvested employment market. The voices of ordinary people have not been widely heard or heeded in this environment, given the relatively recent arrival of an increasingly large segment of the population, the comparative lack of urban experience or expertise of this formally rural constituency and the concomitant lack of experience on the part of local officials in soliciting and responding to the stated needs of those they serve.

This last point is not simply a function of a seeming lack of accountability to urban residents (poor ones, in particular) on the part of local officials, a complaint echoed worldwide; it also attests to governmental structures wherein a) local officials may be appointed, in which case, their accountability is to their superiors, either at the regional level or in the national capital, whose priorities may not be tuned to the needs of this regional capital; b) local officials may be very responsive to local calls for action, but the actual budgeting takes place far away in the national capital, where funding requests and allocations are evaluated and ultimately determined according to formulas and countless competing rural, municipal, regional and national-level priorities; c) the appeals of national government to development partners and potential investors may

go unheeded for any number of reasons, including the numerous competing priorities of bi- and multilateral agencies and the widespread belt-tightening and risk-aversion on the parts of the public and private sectors alike in the traditional donor nations in the wake of the global recession; or d) some combination of the above, which may in fact summarize best the process whereby urban dwellers' needs go unmet, budget cycle after budget cycle, leaving residents to endure debilitating privations not conducive either to local economic development or to their fulfilling their individual dreams.



Many of the Millennium Cities, as depicted here in Accra, Ghana, suffer from overcrowding, driving residents into informal settlements with inadequate housing.

Most urban revitalization efforts have addressed these challenges by adopting a single-sector approach, in the belief that effecting change in the chosen sector will unlock this seemingly intractable situation to the point where other efforts can come in and really take hold. Many fine non-governmental organizations (NGOs) focus, for instance, on one sector – whether this be health, water, education, gender, housing, youth, or microfinance and livelihood – with strong results in their respective domains.

Larger urban initiatives, such as UN-HABITAT and Cities Alliance, with their broader focus, respectively, on slum-upgrading and the consensual formulation of a national urban policy, or certain departments of the World Bank, one of few development partners with the means to transform a city's water and solid waste disposal or mass transport system, can have a wide, powerful impact simply by completing their intended programs, which address concerns so central to many urban residents' lives. These more expansive multilateral initiatives, though, can take years to bring to fruition, regularly encounter setbacks and cost overruns and sometimes end without being fully realized, leaving residents with the inconveniences of living for long periods in something akin to a construction site, their hopes often frayed.

Even when these ambitious projects are completed, momentous as the transformational potential can be, the spillover effect is limited: better sanitation or water quality may significantly improve a child's health and therefore her school attendance, but neither in itself will improve the quality of instruction, student-teacher ratio or access to the textbooks, computers, Internet and science labs that would also go a long way toward reducing the gaps still blocking the attainment of the MDG targets in education, to take one example.⁶

As a small think tank at a great research university, MCI would in no way claim to have a broader reach than a large NGO or development agency. But this multi-sectoral, MDG-based approach, we believe, if fully realized, can help these and other cities get closer to attaining all of the Goals. First, it would help by assessing exactly what remains to be accomplished and how much those steps will cost; then, with a full appreciation of the potential synergies among

slated interventions and with widespread stakeholder support, for each municipality to map out a targeted, integrated strategy, complete with budget and timeline, for getting there; and finally, for the City's leadership to secure the means for implementing the agreed strategy, in a timely fashion, with tangible deliverables en route. The following section describes this process, as developed and attempted by MCI.

Children in one of Accra's underserved neighborhoods, where MCI collaborated with partners to propose solutions to address the City's urban planning and design challenges and bring opportunities to all.



MCI's multi-sectoral, MDG-based approach, if fully realized, can help these and other cities get closer to attaining all of the Goals.

⁶This observation is not in any way to detract from the immense and nearly unique value of the efforts of the UN agencies, World Bank or of any other development bank or agency, merely to state the obvious: that fixing cities is a huge task, and that any urban development initiative, no matter its scope or ambition, is necessarily partial.



STRATEGY & METHODOLOGY

I. SITE SELECTION

As with any development project, the first key determinant for MCI has been site selection and, with that, the sense that we have reliable partners who agree fully with the scope of an intervention, a plan of action and a specific program, all subject to change as the identified needs in each setting and our own research findings may indicate.

MCI's locations were largely predetermined by the site selection for the Millennium Villages Project,⁷ which sought to cover every agro-ecological zone, or farming system, across sub-Saharan Africa. Our counterpart urban undertaking established itself both to fortify the nearby cities and their links back to the countryside, by facilitating farm-to-market harvesting, sourcing, transport and



The Millennium Cities Initiative worked in 11 regional and national capitals across sub-Saharan Africa.

agro-processing, and, in the reverse sense, to reinforce such forward linkages as a failsafe continuum of care, improved access to post-primary education and proximity to seaports, airports, national capitals and global markets. This urban enterprise has included as Millennium Cities the following heterogeneous array in the course of its nine years: in West Africa, Kumasi and Accra, Ghana; Bamako and Segou, Mali;⁸ Kaduna and Akure, Nigeria;⁹ and Louga, Senegal; and in East and Southern Africa, Mekelle, Ethiopia;¹⁰ Kisumu, Kenya; Blantyre, Malawi; and Tabora, Tanzania.¹¹

Each of these Cities presents its own set of challenges, compelling MCI to develop a template for engagement flexible enough to be applied effectively both in such small market towns as Louga and in the international business destination Accra.¹²

MCI's locations were largely predetermined by the site selection for the Millennium Villages Project, which sought to cover every agro-ecological zone, or farming system, across sub-Saharan Africa.

⁷See Footnote 3.

⁸Bamako and Segou, Mali, participated in the Millennium Cities Initiative from its inception, in January 2006, until Mali was beset, catastrophically, by a military coup in Bamako and a tribal rebellion and Islamic insurgency in the north of the country that shut down all but one MCI initiative: the establishment, in Segou, together with the American non-profit Physicians for Peace, the National Blood-banking Authority of the Mali Ministry of Health, Safe Blood for Africa and other uniquely capable and determined partners, of the nation's first regional blood bank; see page 69 and Footnote 31 for more on this groundbreaking initiative.

⁹MCI began work in Akure in January, 2006, in Kaduna two years later; operations in both venues ceased after the violence in Nigeria's northern and southern regions proved distracting to and inhibiting for both local government and MCI's agenda.

¹⁰Mekelle became a Millennium City in 2008.

¹¹Tabora became a Millennium City in 2011, when its leaders opted to participate in MCI's Regional Partnership to Promote Trade & Investment in sub-Saharan Africa, a three-year project funded by the Government of Finland to strengthen sub-national investment promotion across the region by building capacity, identifying promising sectors as well as specific investment opportunities in the participating Millennium Cities and bringing these to the attention of both domestic, regional and overseas investors. See the Private Sector Development chapter, page 74, for a more detailed description of the project, its methodology, participants and outcomes.

¹²Unlike the other Millennium Cities, which were selected because of their proximity to the Millennium Villages, Accra, Ghana's sprawling, crowded capital, became a Millennium City after the city administration appealed to the Earth Institute in 2009, specifically requesting MCI's partnership in furthering the regional planning and economic development of this vibrant national capital, thereby laying the groundwork for a quite different scope of work. The same approach and similar research tools were used nonetheless, to different, interesting and ultimately, in some ways, more satisfying effect; see the Urban Ecosystems chapter, page 94, and see the associated MCI publications including, "The Accra Millennium City Initiative: Outcomes and Contributions to a Resilience-building Process," all available on the MCI website.

Regardless of the City's scale, its economic drivers or lack thereof, achieving consensus with MCI's hosts and clients concerning the way forward required meaningful consultation as to the breadth of the proposed engagement and the fit between the perceived needs, local expectations and the extent of MCI's own capabilities. Once an understanding could be reached, MCI's main work could begin.



MCI meets with Kisumu's City Council, Town Clerk and City administrators to discuss its partnership with Kisumu.

Because the above-mentioned Cities were generally located far from their countries' readily extractable resources, they rarely held much attraction for Africa's colonial powers,¹³ and most of them remain beneath the screen of international investors to this day, their special assets and attractions largely unknown and unheralded.¹⁴ MCI has attempted to help many of the Millennium Cities identify promising sectors as well as individual opportunities for prospective investment and to bring these to the attention of international investors in a variety of ways.¹⁵ Together with this effort, MCI has assisted numerous Millennium Cities in raising the awareness of international development partners regarding some of the linchpin infrastructure deficits inhibiting private sector development large and small.¹⁶

¹³A notable exception would be Kumasi, Ghana's second largest city, which, despite its landlocked location, as the capital of Ashanti grew to be a renowned trading center for the gold, minerals, teak, fruits, cocoa and slaves.

¹⁴Exceptions include the aforementioned Accra, Ghana's vast and lively capital (see Footnote 12); Blantyre, Malawi's economic capital, and Bamako, the capital of Mali, selected because MCI considered international investment more readily accessible to these two Cities.

¹⁵See the Private Sector Development chapter, page 74, for more detail.

II. LISTENING, PARTNERING, WORKING SIDE BY SIDE

To effect transformational change on the continent with the largest population of slum dwellers, fastest rate of urbanization, most extreme environmental degradation and the accompanying risks to the public health, MCI's impact needed to be sustainable. And to be sustainable, we learned through experience that our mode of operation had to be consensual, with each milestone owned by residents and recognized as worth preserving and building upon.

In general, therefore, MCI began its work by seeking out, creating and nurturing partnerships with each City's leadership, agency heads, business leaders and ordinary citizens and by adopting and encouraging a participatory approach in all of our interactions, whether we were conducting our initial fact-finding or more targeted research, facilitating the work of development partners recruited by MCI to assist the Cities, or hosting broad-based stakeholder consultations to consider our research findings and to map out an informed development plan integrating citizens' top priorities.

MCI began by seeking out, creating and nurturing partnerships with each City's leadership, agency heads, business leaders and ordinary citizens and by adopting and encouraging a participatory approach in all our interactions.

¹⁶In some cases where MCI's longstanding efforts to raise the profile of a City's infrastructure needs seemed in vain, other factors triggered the desired change. In Kisumu, after the 2008 American election of President Barack Obama, whose father and grandmother hail from the nearby village of Kogelo, Kisumu's airport was finally upgraded to be able to handle international arrivals and departures, in anticipation of a homecoming by the region's native son, and the road from Kisumu to Kogelo was electrified. The airport internationalization and electrical grid expansion were both upgrades championed by MCI for some time, as a means of facilitating local production and commerce as well as international investment. Currently, a major road cutting through the heart Kisumu under construction by Chinese and Israeli firms, will likely advance China's determined effort to access Kenya's newfound underground water supply. Although the placement of this thoroughfare breaks up the City, potentially isolating even further some of its poorest informal settlements, the new road will certainly bring more commerce and circulation to Kisumu, which will also create some new opportunities for the City's poor.



III. RESEARCH & ANALYSIS

With a foundation of promising working relationships in place, MCI was positioned to conduct a series of studies that would enable City stakeholders to understand more precisely just how far off track their Millennium City was from attaining each of the MDGs.

We started by conducting MDG-based needs assessments – sector-specific instruments developed by United Nations Millennium Project Task Forces for use at the national level, in helping ministries of finance and economic planning determine the actual gaps and costs associated with MDG attainment nationwide.¹⁷ These top-down, supply-side tools, including costing templates capable of estimating those investments deemed indispensable to MDG realization, were applied here for the first time at the municipal level in the areas of education, gender, public health and water/sanitation: all sectors managed to some extent by City government. In our needs assessment reports, MCI adapted the World Bank’s so-called development diamonds to help represent graphically a clear comparison between how far each Millennium City and each host country had come in achieving the respective Goals.¹⁸

We conducted MDG-based needs assessments to help Millennium City administrations and residents determine their Cities’ top priorities.

Recognizing the need also for more bottom-up intelligence, MCI also developed its own comprehensive, MDG-based household survey, which revealed in illuminating detail the precise configuration of what keeps a particular family, street or neighborhood trapped in extreme poverty. In Kisumu, Kenya, for instance, improved

access to fairly priced water, “clean, lit, viable streets” and skilled birth attendants were deemed top priorities by households in the communities surveyed, where the rates of waterborne disease, violence against women and maternal and neonatal mortality remain intractably high.¹⁹



Preschool children in Kisumu’s Nyalenda neighborhood, a focus area in MCI’s household survey.

¹⁷These needs assessment tools, made available by the United Nations in 2005, in association with its 13-volume publication that year of *Investing in Development: A Practical Plan to Achieve the MDGs* (<http://www.unmillenniumproject.org/documents/MainReportComplete-lowres.pdf>), have been administered by the UN Development Programme’s Poverty Group.

¹⁸“Development diamonds” is a term coined by World Bank experts to describe a graphic tool developed to compare a country’s degree of development to the averages for that country’s income group. In this usage, the diamonds focus on four socio-economic indicators – life expectancy at birth, gross primary or secondary enrollment in school, access to safe water and GNP per capita – each represented on a single axis that, portrayed together, comprise a diamond shape. MCI has adapted this concept to represent instead the level of MDG attainment in each of the four sectors in which we carried out MDG-based needs assessments: public health, education, gender and water and sanitation, comparing the municipal to the national levels of MDG attainment in each case. The number of axes in MCI’s sector-specific “development polygons,” in contrast, depend on the number of targets comprising each MDG, as determined by each UN Millennium Project Task Force, indicating progress toward achieving a specific Goal.

¹⁹MCI’s report on the household survey in three Kisumu informal settlements is available at <http://mci.ei.columbia.edu/files/2012/12/Kisumu-HH-Survey-Report-FINAL-Dec.pdf>.

This confluence of shortcomings disproportionately afflicting poor women and children might not reveal itself through the standard sector-by-sector planning process more likely to be undertaken by local government, in accordance with the ministry-derived departmental structures and reporting chains currently in place.²⁰

To further private sector development in the Millennium Cities, MCI produced five City investment guides, to showcase specific investment opportunities as well as promising sectors for development, in Blantyre, Kisumu, Kumasi, Mekelle and Tabora.²¹ With MCI's support and facilitation, our global partner, the renowned global professional services firm KPMG, has produced its own series of investment guides for the same five Cities and for the Millennium City of Akure, Nigeria.²²

MCI'S CITY INVESTMENT GUIDES



The reach of two of these first-ever municipal investment guides has been further expanded with the help of investment-related websites created by the municipal governments of Kumasi and Tabora, with MCI support, in order to promote domestic and foreign direct investment in those Millennium Cities.²³ Both MCI and KPMG carried out analyses and profiles of specific investment opportunities, often followed by more detailed feasibility studies and SWOT analyses.²⁴

Another global business development partner, the United Nations Industrial Development Organization (UNIDO), profiled small-to-medium-sized enterprises in five Millennium Cities.²⁵ MCI also enlisted three major international law firms to conduct regulatory reviews of the business and investment climate in six of the countries and Cities in which we have worked.²⁶

MCI itself developed an industrial infrastructure survey instrument and conducted surveys in three Millennium Cities to assist local governments and potential investors in ascertaining whether, given an identified potable water shortage, for instance, they were in fact ready for a hoped-for influx of tourists or juice factory, or whether, as a given City dreamed of designating and building a new industrial zone, it might first focus on expanding the electrical and transport grids.²⁷

²⁰It is not only in Africa, of course, that a surprising proportion of the research conducted in urban communities fails to zero in on the relevant factors keeping the majority of residents trapped in poverty. And when such research is undertaken, the findings are evidently not regularly shared with the research subjects, who have often donated valuable workday hours to providing invaluable information to investigators. When MCI returned to our subject communities in Kisumu and Blantyre, to share our findings and to solicit comments and suggestions, we were told that we were the first investigators ever to do so. This came as a particular surprise in the Kisumu settlements, which have been roundly studied by local, national and international organizations and which have been the locus of countless well-intentioned interventions. More generally, this response from this admittedly minuscule sample – six informal settlements in two regional capitals, comprising nearly 1500 households – suggests that the efflorescence over the last decade of community- and action-based research has not yet resulted in returning the full fruits of such efforts to the communities themselves, so that residents might also act upon this newly uncovered understanding of the problems inhibiting development in their neighborhoods by implementing some of the promising solutions at hand.

²¹MCI's published investment guides can be found at: <http://mci.ei.columbia.edu/research-publications/investment-guides-handbook-profiles/>.

²²KPMG's city investment guides created in partnership with MCI can be found at: <http://mci.ei.columbia.edu/research-publications/investment-working-paper-series/kpmg-investment-reports-for-the-millennium-cities/>.

²³See www.investinkumasi.com, and www.investintabora.com.

²⁴A SWOT analysis is a structured diagnostic tool designed to evaluate the Strengths, Weaknesses, Opportunities and Threats involved in a given project, product or business venture, person, venue or industry. Attributed to Albert Humphrey, who in the 1960s and '70s first made use of Fortune 500 company data to conduct such systematic analyses (at the Stanford Research Institute, now SRI International), the methodology first specifies the objective of the entity (product, venture, etc.) and identifies the internal and external variables that might be favorable or unfavorable to its realization.

IV. FOLLOW-ON RESEARCH AND INTERVENTIONS

Once this initial, relatively comprehensive round of research was completed for a given site, MCI's subsequent research attempted to dig deeper – into intriguing or perplexing findings in a particular sector, or to pursue specific topics at the request of local officials or communities. Examples have included MCI's health, education and waste disposal facility mapping, undertaken in Accra, Blantyre, Kisumu and Mekelle; research and support for municipal neonatal and maternal mortality surveys, undertaken in Kisumu and Mekelle; environmental studies in Accra and Kisumu, including analyses of the waste-to-energy options, solid waste composition and systemic water pollution; community profiling, to scope out infrastructural and economic needs, assets and possibilities in six underserved Accra neighborhoods; and four successive urban design and planning studies, in concert with The Earth Institute's Urban Design Lab, involving immersion, collaboration and extensive research in poor neighborhoods in Accra, Kumasi and Kisumu.²⁸ In the vital areas of urban planning and design, as may be clear from the focus of the above-mentioned studies, MCI's research has largely taken a community-based approach, creating detailed GIS maps, evaluating physical infrastructure, looking at the potential for environmental remediation and landscaping, conducting focus groups on urgent needs and aspirations and supporting community-led interventions, as well as developing recommendations and concrete designs for comprehensive upgrades that include market and residential fixes, the preservation or creation of public spaces and the enabling of more robust and sustainable economic development.

With regard to furthering sustainable economic development, MCI has developed a matrix to help evaluate investment possibilities as to their relative durability.

MCI has attempted, where the need has proven urgent or the opportunity has presented itself, to import and/or design direct interventions capable of jumpstarting progress toward achieving the MDG targets.

With regard also to furthering *sustainable* economic development, MCI has developed a matrix to help evaluate investment possibilities in terms of their ultimate sustainability,²⁹ this last as part of our Regional Partnership to Promote Trade and Investment in sub-Saharan Africa, a three-year program financed by the Government of Finland, with contributions from the three participating Millennium Cities, Kumasi, Ghana, Mekelle, Ethiopia, and Tabora, Tanzania.

Launched in 2012 with the aim of furthering private sector development and maximizing the impact of MCI's investment work on the participating Cities, the Regional Partnership focused on building capacity in investment promotion within each municipal government to attract, target, host and address the needs and concerns of prospective and actual investors.

²⁵UNIDO profiled small businesses in Mekelle, as well as in Akure, Kisumu, Kumasi and Blantyre (see <http://mci.ei.columbia.edu/research-publications/investment-working-paper-series/unido-reports-on-investment-opportunities-in-the-millennium-cities/>).

²⁶The three firms – Carter, Ledyard & Milburn LLP, Cravath, Swaine & Moore LLP and DLA Piper – took on pro bono the responsibility of evaluating the regulatory environment and business climate in Nigeria and Senegal; Kenya and Mali; and Ghana and Malawi, respectively.

²⁷"[Assessing Infrastructure Constraints on Business Activity in Blantyre, Malawi](#)," "[Assessing Infrastructure Constraints on Business Activity in Kumasi, Ghana](#)" and "[Assessing Infrastructure Constraints on Business Activity in Kisumu, Kenya](#)," are available at: <http://mci.ei.columbia.edu/research-publications/investment-working-paper-series/mci-working-papers-series-on-investment/>.

²⁸See [Urban Development in Accra, Ghana: An Implementation Toolkit](http://www.lulu.com/shop/urban-design-lab-gsapp/urban-development-in-accra-ghana/paperback/product-21676082.html), <http://www.lulu.com/shop/urban-design-lab-gsapp/urban-development-in-accra-ghana/paperback/product-21676082.html>; [Re-Cultivating the Garden City of Kumasi](http://www.lulu.com/shop/urban-design-lab-gsapp/re-cultivating-the-garden-city-of-kumasi/ebook/product-21676271.html): <http://www.lulu.com/shop/urban-design-lab-gsapp/re-cultivating-the-garden-city-of-kumasi/ebook/product-21676271.html>; [Re-Envisioning Health in Kumasi](http://www.lulu.com/shop/urban-design-lab/re-envisioning-health-in-kumasi/ebook/product-21647021.html): <http://www.lulu.com/shop/urban-design-lab/re-envisioning-health-in-kumasi/ebook/product-21647021.html>; [Spatial Strategies in Manyatta: Designing for Growth](http://www.lulu.com/shop/urban-design-lab/spatial-strategies-for-manyatta/ebook/product-21957054.html), <http://www.lulu.com/shop/urban-design-lab/spatial-strategies-for-manyatta/ebook/product-21957054.html>.

²⁹Kline, John (2012). Guidance Paper on Evaluating Sustainable Foreign Direct Investment. New York City: Millennium Cities Initiative. Retrieved from <http://mci.ei.columbia.edu/mci/files/2012/12/Sustainable-FDI-Guidance-Paper-Kline.pdf>.

We accomplished this through a series of trainings and mentoring of civil servants and local investment promotion specialists as they identified, profiled and promoted concrete investment opportunities and then reached out to interested investors. [See the chapter, Private Sector Development, page 74, for more on the Regional Partnership.]

Just as the Regional Partnership has taken a more proactive approach to assisting the Millennium Cities in furthering job-generating private sector development, MCI has attempted, where the need has proven urgent, to import and/or design direct interventions capable of jumpstarting progress toward achieving the MDG targets in the public and social sectors.

In public health, MCI has organized numerous series of medical trainings in a wide range of sub-specialties and has facilitated the provision of direct medical services, health facility construction and the donation of life-saving medicines, medical equipment and supplies. MCI also initiated health-related projects of our own, such as the neonatal resuscitation program implemented in four of



A mother and newborn at one of two Mother-and-Baby Units in Kumasi, Ghana, designed and built by the Israeli government and facilitated by MCI to improve health outcomes for City residents.

the Millennium Cities in Ghana, Kenya and Ethiopia, where neonatal mortality remains shockingly high.³⁰ Our collaborative development assistance effort in Segou, Mali, to create a reliable, regional blood-banking model for the country, where safe blood is still not readily available outside the national capital, is another example of MCI's working in partnership to fill a life-threatening gap in Mali's national healthcare delivery system.³¹



Another intervention designed to improve educational opportunities: training in early childhood education for Kumasi teachers, led by Israel's Mount Carmel Training Center, now expanded to Accra and to Ghana's north.

In public education, MCI has brought in or designed four major projects, including the innovative Early Childhood Education program that MCI helped organize for Kumasi, led by experts from Israel's Mount Carmel Training Center (see page 26) and MCI's own School2School Connectivity Project, both fulfilling unfunded Ghanaian government mandates; our Girls' Clubs projects, organized together with the New York-based non-profit, LitWorld, to support girls' literacy and empowerment in public Ghanaian and Kenyan schools; and training for women and girls in financial literacy, business skills, mobile banking, savings strategies and our "Social Capital Credits" pilot in Kumasi's Bantama Market, all of which MCI has organized in cooperation with capable local, national and international partners.³²

³⁰See page 72 for a fuller description of this project, in Kumasi.

³¹Described first in Footnote 8, this seminal project, undertaken in tandem with the Virginia-based non-profit Physicians for Peace (PfP), the American Red Cross (ARC), Safe Blood for Africa (SBFA), the National Blood-banking Authority of the Mali Ministry of Health, MCI's sister Millennium Villages Project (MVP) and l'Hopital Nianankoro Fomba de Segou, initially began in 2008, when MCI and PfP first recognized this dangerous gap in care in the course of a mission to conduct fistula repair surgeries in Segou, one of two Millennium Cities in Mali. Tirelessly led by PfP, it took some time to identify and engage the appropriate partners in this long-term effort, after which implementation was further delayed, but not derailed, by government bureaucracy, followed by Mali's 2011 coup and ensuing conflict. The new regional blood bank, now complete with ARC equipment and materiel, delivered by PfP, facilitated by MVP and with technical training provided by SBFA, in a building recently renovated courtesy of the Government of Japan, was inaugurated on August 22, 2013, and is now fully operative.

³²The Social Capital Credits Program, developed by UDL faculty and MCI Advisory Board member Dr. Geeta Mehta and the non-profit Asia Initiatives, is being carried out in collaboration with the NGO Self Help Ghana; for more, see page 49.



At the heart of each intervention and study undertaken lie the monitoring and evaluation components of our program. MCI has trained local officials to carry out follow-on needs assessments to measure their City's interim progress, and MCI has sought as well to examine its own performance on many levels, most importantly, the ability to deliver on its commitments to the Cities in which it has worked.

V. STAKEHOLDER CONSULTATIONS & STRATEGY FORMULATION, DISSEMINATION AND OUTREACH

As MCI's and our partners' interventions and studies continued, the Cities' own development planning also moved ahead. Once MCI's own research was completed and locally vetted, MCI helped numerous Millennium Cities organize broad-based stakeholder consultations to disseminate our findings and to open up a rich and fruitful dialogue aimed at achieving some consensus as to what the City's top priorities should be. These culminating sessions, which MCI was able to conduct in six Cities,³³ mirrored the preliminary series of stakeholder consultations MCI held in January 2006, before we launched the Millennium Cities Initiative. At that time, vocal participants – successful businessmen, slum dwellers, NGO and technical experts, City officials – expressed their ideas about their City's needs and aspirations. On this latter occasion, given the clarity brought about by the simple passage of time, and by the deeper understanding hopefully gleaned from MCI's research findings, a similarly diverse array of stakeholders was able to reckon their updated perception of their City's needs against the relative severity of each service or infrastructure gap and the relative cost of filling these. Ultimately, the objective of these rare and remarkable exchanges was to engender a comprehensive, MDG-based urban development plan for each participating City, predicated on realizing its diverse stakeholders' agreed priorities.

In the instances where a final development strategy was agreed, MCI has assisted some of the Millennium Cities in organizing City-focused Investment Days and/or Donor Roundtables aimed at mobilizing the financing for the interventions prescribed by the strategy.³⁴ The organization of these events involved a further layer of capacity-building, in showcasing investment opportunities,

handling prospective investors, estimating the costs of major infrastructure upgrades and drafting formal grant proposals. Given current global economic stresses and the domestic and international exigencies weighing on the traditional donor community, the outcomes of these events are not ultimately in the hands of the City or of MCI; however, the requisite preparatory work has now been achieved, networks of valuable potential linkages have been established through these events and it is finally up to the municipalities themselves, often in partnership with their regional and national governments, to follow up.

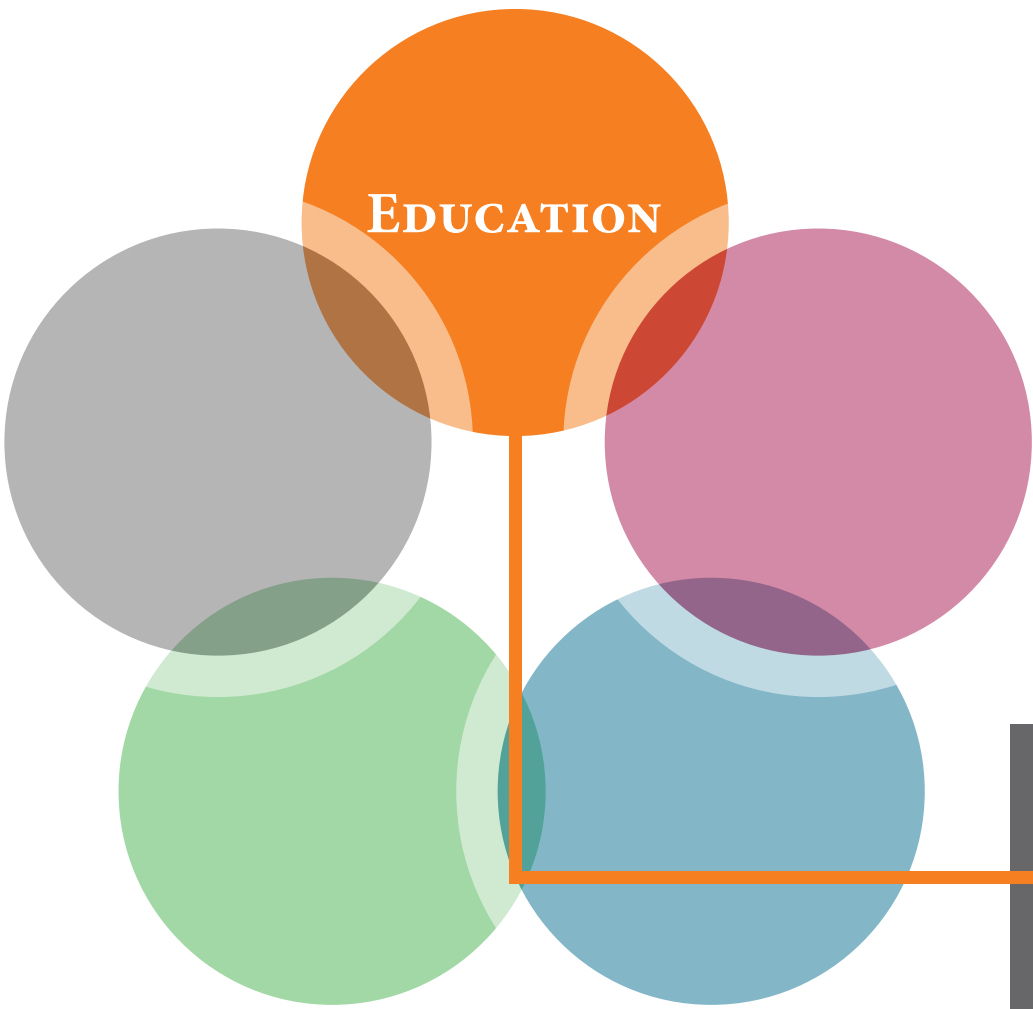
Chapters 1 - 5 chronicle MCI's efforts in the key MDG-related sectors of education, gender, health, private sector development and urban ecosystems; in each case, lessons learned and/or best practices are discussed. Each chapter closes with a spotlight on one or more successful intervention(s) that, in kindred settings with similar indicators, might readily be replicated or scaled. A brief conclusion follows, summarizing MCI's work, gleaning key considerations that, in MCI's experience, have proven essential to any successful intervention, and highlighting promising avenues critical to speeding the course of effective urban development, now and over the years to come.



A view from the Mekelle, Ethiopia's mayor's office, showing commercial growth in the background and low-income housing in the foreground.

³³Bamako, Blantyre, Segou, Mekelle, Kisumu and Kumasi.

³⁴Investment promotional events were held for Kumasi, Ghana (4); Kisumu, Kenya (2); and Blantyre, Malawi; Akure and Kaduna, Nigeria; Mekelle, Ethiopia; and Tabora, Tanzania (1 each). Donor Roundtables were held for Kumasi, Ghana; Louga, Senegal; and Mekelle, Ethiopia. In all of these cases, MCI supported the municipal governments in organizing and facilitating the events.



CONTEXT:

Sub-Saharan governments responded swiftly and dynamically to the challenge of MDG 2, achieving universal primary education, by eradicating mandatory school fees for primary education and throwing open the doors to their public schools, leading to an average 3.1 percent growth per year between 1999 - 2009 in the gross enrollment rate for primary schooling regionwide. Still, an estimated 35 million primary school-age children remain out of school, and across the continent completion rates in 2009 remained low, at 67 percent.¹

Although the primary school completion rate in the sub-Saharan region is projected to rise to 75 percent by 2015, a full quarter of primary school children across the region will likely not finish their basic schooling, falling well short of this important Goal.



EDUCATION

RESPONSE:

MCI has endeavored to assist the Millennium Cities in their efforts to narrow this educational gap, through:

Research, intended to help the Cities understand their specific needs within education, the costs of addressing them and to prioritize those needs and budget allocations; and

Targeted interventions, intended to address these priorities, thereby building capacity and improving both access and retention.

RESEARCH

EDUCATION NEEDS ASSESSMENTS

In seven of the Millennium Cities, MCI conducted MDG-based Education Needs Assessments to identify the gaps impeding each City's realization of MDG 2 and to cost out the recommended remedies.

The needs assessment instrument utilized, developed under the United Nations Millennium Project's Education Task Force for use at the national level in developing countries aspiring to attain the MDGs,² was applied here for the first time at the municipal level by MCI.

Graduate students from multiple institutions and United Nations volunteers traveled to the Cities, where, under MCI supervision,³ they gathered data and conducted interviews with key stakeholders across the education sector. The findings generally uncovered crucial needs, in some cases leading MCI to facilitate targeted interventions expressly designed to address those needs and to spur improvements.

The research fed into MCI's presentations to City authorities and a wide array of stakeholders, as part of a process of stimulating dialogue and collective decision-making with regard to each City's priorities in all MDG-related sectors.

Education Needs Assessments were conducted in the following Cities:

- Blantyre, Malawi
- Kaduna, Nigeria
- Kisumu, Kenya
- Kumasi, Ghana
- Louga, Senegal
- Mekelle, Ethiopia
- Segou, Mali

¹Majgaard, Kirsten; Mingat, Alain (2012). *Education in Sub-Saharan Africa: a comparative analysis*. A World Bank study. Washington, DC: World Bank. Retrieved from <http://documents.worldbank.org/curated/en/2012/06/16498934/education-sub-saharan-africa-comparative-analysis>.

²In countries where the costing instrument employed by the national government to estimate the MDG 2 attainment costs at the national level was UNESCO's Education Policy and Strategy Solution Model, developed by the United Nations Educational, Scientific and Cultural Organization, MCI also employed this model at the subnational level, to ensure coherence between municipal, regional and national authorities in understanding the precise needs of these Millennium Cities.

³Former MCI Associate Director for Research Moumié Maoulidi, Ph.D., supervised the research and analysis conducted for MCI's Education Needs Assessments.

School children from Opoku Ware Basic School in Kumasi, Ghana, enjoy role-playing and benefit from a hands-on learning philosophy in early childhood education.

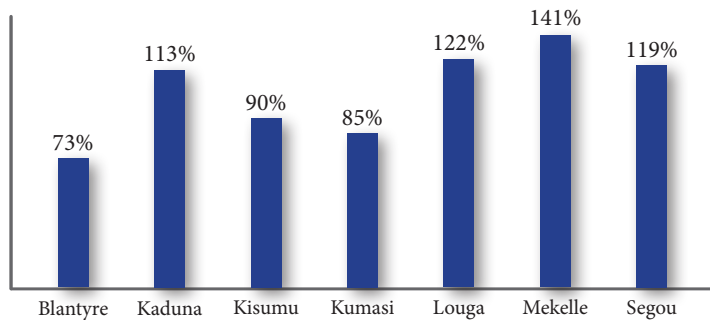


KEY FINDINGS ACROSS THE SECTOR

Primary Enrollment and Completion Ratios

The context and the associated challenges for the educational system in each Millennium City vary considerably, yet many of the issues stem from a largely positive development: the ever-increasing number of students attending primary school. MCI's Education Needs Assessments, conducted between 2006-2012, found that most of the Millennium Cities had relatively high primary enrollment rates (see Primary School Enrollment Rates, below).⁴ Those Cities that did not – Blantyre, Kumasi, and Kisumu – were all struggling to address infrastructure and quality issues to increase enrollment rates. And in Kisumu, as in other Cities, some children living in the informal settlements were not attending primary school because despite the eradication of school fees, the costs associated with schooling, such as uniforms, books and supplies, remained prohibitive for some families.

PRIMARY SCHOOL ENROLLMENT RATES



Although primary school enrollment rates continue to rise, completion rates as documented in these studies appear to be relatively low in a number of the Millennium Cities. Kumasi completion rates are at nearly 85 percent; however, rates in Kaduna, Louga, and Mekelle, (this last for grades 5-8 only) were at roughly 50 percent. Multiple factors contribute to these low numbers, including the costs of attending school, the opportunity costs for parents (who may need or prefer to keep children at home to help with housework or labor or for their safety), and the inadequacy of classrooms and teaching staff.

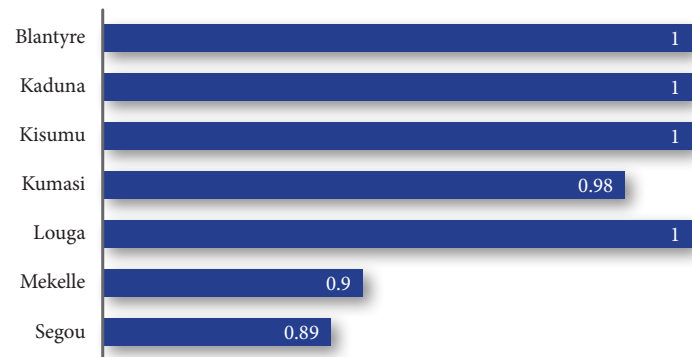
The data in the charts were compiled based on MCI's Education Needs Assessments conducted in the Millennium Cities between 2006-2012.

Completion rates for Blantyre were not available, although our findings uncovered high repetition rates and generally inadequate classrooms. And in Kisumu, where rates were also not available, we found that many girls were not completing primary school, reinforcing local officials' conviction that addressing gender-specific needs in their schools and communities should be a priority.

Gender Parity

Our research found that all the Millennium Cities had made significant strides toward achieving gender parity at the primary level, but again, some Cities fared better than others. Generally speaking, female students are underrepresented in higher levels of academia, particularly at tertiary institutions in Kisumu and Blantyre, where only a quarter of students are women. Factors interfering with girls' continuing education are related both to household poverty – from the need to help with household chores, to families' low prioritization of female education – and to issues related to the schools themselves, such as a lack of latrines and sanitary facilities, problematic particularly for girls who have entered puberty, and expulsion, in cases of early pregnancy. Girls' sexual maturation also plays a role in whether they continue their studies, MCI found, given the safety concerns that arise both in and en route to school.

GENDER PARITY INDEX

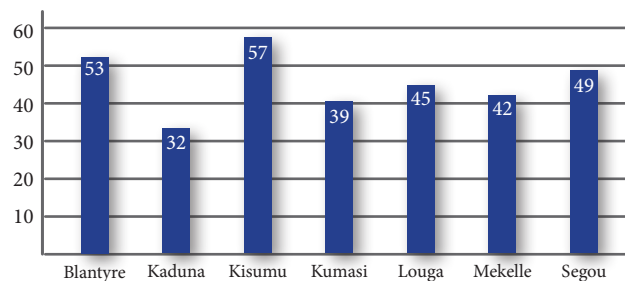


⁴The enrollment rates can be greater than 100 percent because MCI calculates Gross Enrollment Rates as the number of enrolled primary school students regardless of their ages, in relation to the number of children officially counted as belonging to that age group.

Teacher-Student Ratio

Teacher-student ratios are high across the Millennium Cities, especially so in Blantyre, with a ratio of 1:53 in 2007, and in Kisumu, with a ratio of 1:57 in 2006.⁵ Some of the Millennium Cities have also suffered from teacher absenteeism - in Louga and Kumasi, for a teachers' strike, in Blantyre, Mekelle and Kisumu, as a collateral effect of the HIV/AIDS epidemic.

TEACHER-STUDENT RATIO:
NUMBER OF PUPILS PER TEACHER



Students packed into classrooms in Bamako, Mali.

Teacher-student ratios are high across the Millennium Cities, especially so in Blantyre and Kisumu, with ratios at 1:53 and 1:57, respectively.

Another challenge relates to the recruitment of qualified teachers. At the time of these assessments, many Millennium City schools relied heavily on demonstrably unqualified teachers. In Louga, perhaps in response to the rapidly increasing enrollments resulting from the attainment of MDG 2, many primary schools relied on “volunteers” who lacked formal training through a teachers’ training college and were paid less than more qualified teachers.⁶

School Infrastructure

The rising enrollment rates, particularly at the primary level, have placed significant stresses on school infrastructure. As evidenced by the teacher-student ratios, many classrooms are overcrowded, particularly in slum areas such as in Kisumu. In addition, most of the Millennium Cities are in dire need of new facilities. In Kaduna, MCI found that more than a quarter of the City’s 2,500 public primary classrooms are not in good condition - some with leaky roofs or a lack of desks, and others with unsafe structural conditions. In Kumasi, the Metropolitan Education Directorate found

⁵In comparison, in the United States, the average teacher-student ratio was 1:20 in public schools, even in some of the US’s poorest cities. Snyder, T.D., and Dillow, S.A. (2013). Digest of Education Statistics 2012 (NCES 2014-015). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC. Retrieved from <http://nces.ed.gov/pubs2014/2014015.pdf>.

⁶Fadjri, Walf. (n.d.). Année Scolaire 2010-2011: Kalidou Diallo Effectue Sa Rentrée. *Rewmi.com*. Retrieved from http://www.rewmi.com/annee-scolaire-2010-2011-kalidou-diallo-effectue-sa-rentree_a32880.html.

that 70 percent of schools needed toilets, and in Mekelle, MCI found that on average, 438 students shared each toilet. Access to clean drinking water is also a major challenge in Mekelle and in other Millennium City schools, where there are also shortages of such basic supplies as notebooks, pencils, furniture, teachers' manuals and student textbooks, which are generally shared.

Data Collection

Obtaining data on a number of academic indicators – particularly completion rates – proved challenging, possibly due in part to the ongoing devolution process unfolding across the region, aimed at strengthening the autonomy of subnational jurisdictions. In some cases, we found that data collection was not handled by local government; in others, the data available were often incomplete, possibly because the municipality lacked the capacity to monitor fully all of the programs in place. Some local officials were also reluctant to share the pertinent information, explaining to MCI that the data might not reflect well on their City's actual progress.

The data collection process, therefore, took longer than anticipated in many Cities. In addition to the factors just mentioned, this was a learning experience for MCI, regarding the depth of experience required on the part of our own graduate student interns to undertake such research. But these needs assessments were conducted precisely to address some of the issues we faced along the way in the Millennium Cities: the MCI team's goal, first and last, was to assist City authorities in gathering and organizing their official data so as to inform their decisions about their own top priorities, key programming and budget allocations.

The feedback we received from municipal officials regarding each needs assessment was overwhelmingly positive, and in numerous cases, as anticipated, the feedback fed directly into the Cities' own strategic planning processes and appeals for government and donor financing.



Obtaining accurate data on a number of academic indicators - particularly completion rates - proved challenging.



In Kumasi, Ghana, a preschool teacher leads story time (top of page) and Kumasi eighth graders meet for class (above).



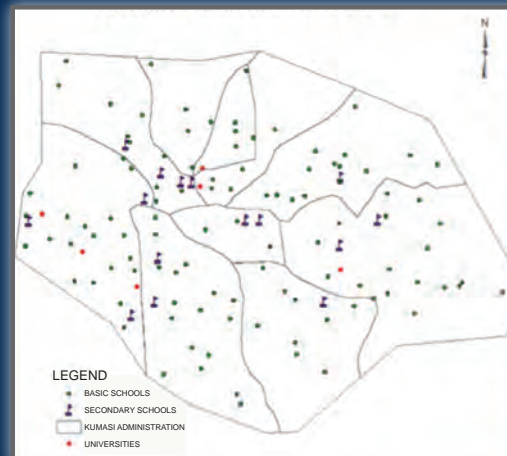
EDUCATION FACILITY MAPPING

In three of the Millennium Cities - Kisumu, Kumasi and Louga - MCI was able to map the education facilities, permitting us to determine both the concentration of schools per neighborhood and how well children were served via the existing public and private school options. The sample maps below show the location of all education institutions in these three Cities.

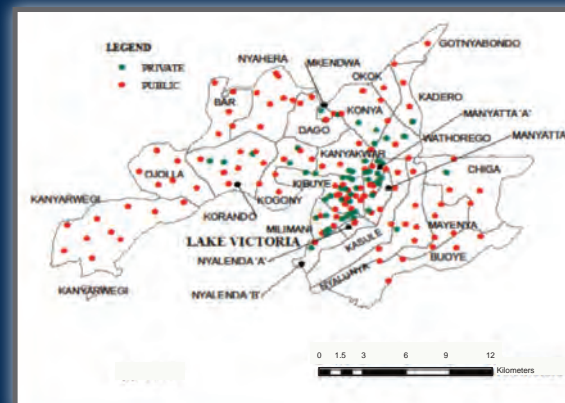
LOUGA, SENEGAL *Education Institutions*



KUMASI, GHANA *Education Institutions*



KISUMU, KENYA *Primary Schools by Type*



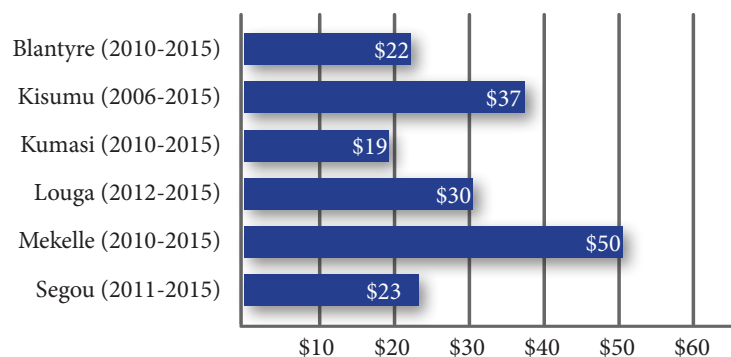
RECOMMENDATIONS

FROM MCI'S EDUCATION NEEDS ASSESSMENTS

Each MCI needs assessment concludes with recommendations to help each Millennium City improve the quality of and access to education.

Specific recommendations include: updating infrastructure and building new schools, especially in low-income neighborhoods; investing in teacher training programs and raising teacher salaries, to offer more quality instruction; and promoting bursary schemes and loans, to make secondary and tertiary schooling more affordable and accessible.

ANNUAL COST PER CAPITA TO PROMOTE EDUCATION⁷



MCI's findings indicate the relative cost estimates for each City's implementation of the recommended improvements, all of which figure in the formulary for MDG 2 attainment derived by the UNMP Education Task Force, projected as an average, annual, per-capita commitment by each City until 2015.⁸

Preschool students in Kumasi, Ghana, wear traditional dresses as part of a school celebration.



David Homa, a teacher at Los Gatos High School in California and one of MCI's partners, meets with students in Kisumu, Kenya, as part of the School2School Partnership program (see page 13).

\$30

the average recommended annual per capita cost to achieve universal primary education, MDG 2, in the Millennium Cities assessed.



HOUSEHOLD SURVEY ANALYSIS

To gain a separate perspective from that offered through the lens of our needs assessments which, necessarily, afford more of a top-down, supply-side view of what it will take to fill gaps in MDG delivery, MCI zeroed in on two Millennium Cities, Kisumu, Kenya, and Blantyre, Malawi, to take an in-depth, bottom-up look at the challenges facing the urban poor in several severely impoverished communities in each municipality.

We developed our own comprehensive, MDG-based household survey instrument expressly so that we might distinguish between those factors keeping a Blantyre woman head-of-household trapped in extreme urban poverty, for instance, as distinct from those constraining her Kisumu counterpart. MCI's trained enumerators, girded with some 600 questions, engaged in extended conversations with residents about their and their families' lives, livelihoods and their access to schooling, public health and other public services in these communities.

These conversations were then coded, compiled and analyzed, to gain sufficient understanding of our interlocutors' most critical needs to be able to recommend to the respective local and national authorities, interested donors and investors a uniquely targeted package of proven interventions that we believe, based on our findings, is capable of jumpstarting irreversible educational and social development within these sites.

In each City, MCI chose three informal settlements for this exercise. The Kisumu Household Survey gathered information from Nyalenda A, Nyalenda B and Obunga; the Blantyre survey delved into the communities of Mbayani, Misesa and Nancholi. Some of our findings regarding the educational attainments and gaps within these communities, as determined at the time of the respective surveys, are listed to the right.



HIGHLIGHTS

From Nyalenda A, Nyalenda B and Obunga, in Kisumu:

- Nearly one out of every five adult women in Nyalenda A and Obunga has never attended school.
- 52 percent of respondents in all three locations have attended primary school, and 21 percent have studied in a secondary school.
- Obunga has no public primary and secondary schools;⁹ it also has fewer pre-primary schools than either Nyalenda A and Nyalenda B.
- One-fourth of Obunga households reported that the nearest pre-primary institution was 2-3 kilometers away.

From Mbayani, Misesa and Nancholi, in Blantyre:

- Nearly 7 percent of respondents from Mbayani, Misesa and Nancholi said they had never attended school.
- 44 percent of respondents reported having attended primary school, 47 percent studied at the secondary level and 4.5 percent attended a tertiary institution for some period of time.
- Approximately 85 percent of respondents reported having access to a nearby early childhood care and education center; 46 percent of residents in Mbayani and 43 percent in Nancholi reported that it would take more than 30 minutes for them to access a pre-primary school.

⁷An Education Needs Assessment for Kaduna, Nigeria, was conducted; however, an annual cost per capita to achieve the education MDGs was not determined.

⁸These cost estimates were calculated in different years, reflecting different local currency valuations, rendering any back-of-the-envelope comparative estimates of required outlays not particularly useful.

⁹Karanja, I. (2010). An Enumeration and Mapping of Informal Settlements in Kisumu, Kenya, Implemented by their Inhabitants. *Environment and Urbanization*, 22(1), pp. 217-239. doi: 10.1177/095624780936264.

INTERVENTIONS

MCI's research on access to and the quality of public education within the Millennium Cities uncovered significant needs that we shared with a wide array of stakeholders, who appealed to MCI to address some of the most significant gaps in substantive ways. Together with our wonderful partners – including local and national government officials, international NGOs, universities, corporations and community-based organizations – MCI has facilitated, designed and implemented multiple interventions to improve the educational experience within and across the Millennium Cities.

Most notably, we have organized training for educators from early childhood to university, as well as School2School Partnerships linking Millennium City teachers and students to their American counterparts. We have enabled and led instruction in the use of technologies to enable richer educational opportunities and have spearheaded multiple efforts to advocate for gender equality at all levels of schooling. Some highlights of MCI's and our partners' interventions are described briefly below.

DYNAMIC INTERVENTIONS

Giving Early Learners a Bright Start:

The Golda Meir Mount Carmel Training Center in Haifa, Israel, supported by the Israel's Agency for International Development Cooperation (MASHAV) in the Ministry of Foreign Affairs, and with MCI facilitation, established a program in Kumasi now being replicated elsewhere in Ghana, in accordance with a Ministry of Education mandate to offer early childhood education at every primary school. More information can be found on page 26.

School2School (S2S) Connectivity Project:

This signature three-year, public-private partnership was designed by MCI, in consultation with the Kumasi Metropolitan Education Directorate, Teachers College at Columbia University and a number of New York public and private middle schools, to train teachers in using computers and the Internet as resources in teaching the STEM subjects (Science, Technology, Engineering, Math).



Kumasi, Ghana, teachers lead preschoolers outside to enjoy play time, encouraged through an early childhood education training offered by MCI partners in Israel.

The program paired Kumasi and New York City math and science teachers who worked together to devise joint classroom exercises that strengthen their and their students' technological skills while elucidating mathematical and scientific principles representing aspects of the Millennium Development Goals. More information can be found on page 29.

“It (the Internet) has become a part of my teaching. Before, I only used books and the syllabus and did a lot of lecture. Now I do research and find better information and practical activities to help my students better understand, before going into the classroom.”

- A Kumasi teacher, speaking about his participation in the School2School Connectivity Project.



A STUDENT'S ORIGINAL FABLE ON THE IMPORTANCE OF WORKING TOGETHER

Inspired Through the S2S Partnership

A long time ago, in the biggest forest of Africa, lived a big lion, the biggest of all. One day when he was looking for a hare to eat, he met a little mouse and wanted to eat him. But when he caught the mouse, this one said if the lion let him safe, he could help him one day, so the lion agreed it.

One day the lion fell in a well and hurt himself. At the same time, the mouse was walking around the well, and he heard the lion crying. Immediately he understood that the lion was in difficulty and called all mice he knew to help the lion. They brought rope and together tried to put the lion off the well.

Finally they did it, after that accident the mouse reminded the lion his word and showed him that the size not matters but doing things together is more important.

*- Ibrahim Daouda Koné, student at École du Progrès,
in Mali's capital, Bamako.*

School2School Partnerships:

This less formal program encouraged partnerships between Millennium City schools and schools in the United States, in the belief that both sides benefit from the unique learning opportunity of learning more about their peers, however distant, through lessons, enjoyable activities and personal exchanges.

Over the course of several years, MCI facilitated S2S connections between schools in the Millennium Cities of Accra and Kumasi, Ghana; Bamako, Mali; Kisumu, Kenya; and Louga, Senegal, with public and private schools in California, Connecticut, Delaware, Maryland, Massachusetts, New York and Washington, D.C.



Kumasi teachers receive trainings in ICT through the School2School Connectivity Project, which facilitates partnerships between Millennium Cities schools and US-based schools to enhance long-distance learning and personal exchanges between the varied cultures.

KEEPING GIRLS IN SCHOOL

MCI and its partners recognized the importance of ensuring that Millennium City schools are safe, comfortable and intellectually challenging places for girls to be and to learn.

Sanitary Pads:

With MCI facilitation, Columbia University School of Nursing Clinical Instructor Mary Moran and her organization Girls2Women trained female students at Mekelle schools to make reusable sanitary cloth pads, eventually impacting more than 1,000 girls. For more on this initiative, see page 44.

Life Skills Training:

A girls' life skills program comprised two training courses conducted by MCI in Mekelle to equip teenage girls with community-building, leadership and public speaking skills by encouraging them to investigate an issue, create a video to depict it and to advocate for improvements. The first session focused on the importance of safe, single-sex, sanitary latrines in schools; the second, on waterborne diseases and access to clean drinking water. For more, see page 43.

De-Worming and Treatment of Waterborne Diseases:

Professor Zvi Bentwich and his team from Ben Gurion University trained Mekelle physicians, hospital staff and medical students in infectious diseases, carried out de-worming campaigns in Mekelle primary schools and treated those with waterborne diseases, while training local medical staff to carry out these activities.

Girls' LitClubs:

MCI's partner LitWorld, a New York non-profit dedicated to improving literacy worldwide, introduced LitClubs in Kumasi and Kisumu as one tool designed to help keep girls in school. The clubs provided adolescent girls with a curriculum focused on literacy that emphasized confidence-building, empathy, self-reliance and sisterhood. For more information, see page 46.

Students from Opoku Ware Junior High School in Kumasi, Ghana, participate in a Skype exchange with a Washington, DC-based school to celebrate World Read Aloud Day.

INSISTING ON THE RIGHT TO LEARN

Many of MCI's School2School Partnerships and Girls' LitClubs have been strengthened through the schools' participation in celebrations organized by our partner LitWorld:

World Read Aloud Day:

For the past several years, MCI has joined LitWorld and other partners in early March to champion efforts to improve literacy worldwide by encouraging our teachers and school children to read aloud. A number of our LitClubs and S2S Partnership schools have created their own events to champion the right to literacy, inviting guest readers to come to their schools, connecting via Skype with schools in the U.S. and writing stories and poems celebrating the power of story telling.

Stand Up for Girls:

Each October, on the UN's International Day of the Girl Child, our Girls' Clubs hosted marches and meetings celebrating girls' right to read and write.



POST-PROFESSIONAL TRAINING: HELPING EDUCATORS ACQUIRE NEW SKILLS

MCI invited a number of able and dedicated partners to help train teachers to provide 21st-century learning opportunities and to encourage the use of new technologies in the classroom. MCI also helped build capacity by facilitating trainings for numerous professionals, largely civil servants, in a variety of areas, including tourism, ICT, public health, investment promotion and urban design.

CyberSmart! Africa, the American NGO, trained teachers at a Louga middle school to use smart boards, smart pens and other innovative educational tools in the classroom.

GlaxoSmithKline seconded professionals to the Millennium Cities Initiative through its PULSE volunteer partnership program who used their expertise to support and advance MCI's work in multiple sectors. Two volunteers, both experts in inventory and supply chain control, worked closely with hospital staff in Kumasi and Accra to help them improve their own logistics and supply chain management; a third was instrumental in supporting Kumasi's S2S Connectivity Project by training teachers, creating our own teachers' manual and keeping the computers in shape. Other GSK PULSE volunteers served in Mekelle, Blantyre and Kisumu, helping to survey neonatal and maternal mortality and health facilities; findings were shared with local community leaders.

United Nations Industrial Development Organization (UNIDO) experts in SME development worked with entrepreneurs in five Millennium Cities, to profile enterprises, detail their needs and to showcase on the UNIDO website promising firms for which technical or financial partnerships are now critical to their further growth and sustainability.

PARTNERSHIPS WITH UNIVERSITIES: SHARED LEARNING OPPORTUNITIES

MCI partnered with schools and departments across Columbia University and with universities in the Millennium Cities on numerous projects, bringing shared learning opportunities to everyone involved and building capacity in the process. Descriptions of our fruitful partnerships follow.

University of Ghana-Legon (in Accra), **Kwame Nkrumah University of Science and Technology** (KNUST, in Kumasi) and **Maseno University** (in Kisumu) have collaborated with MCI and **Columbia University's Urban Design Lab** and **Graduate School of Architecture Planning & Preservation**, on thoughtful and visionary design studies focused on upgrading low-income communities in Accra, Kumasi and Kisumu in multiple dimensions;

Columbia Business School and **Columbia's School of International and Public Affairs** (SIPA) conducted feasibility studies and developed case studies designed to support MCI's private sector development efforts in the Millennium Cities of Blantyre, Kisumu and Louga;

Columbia University SIPA students also conducted research to support our social sector needs assessments and follow-on research in numerous Cities; and graduate student interns through Columbia University's Masters in Development Practice program, a collaboration between the Earth Institute, SIPA and more than 20 universities around the world, carried out their practicum for their MDP degrees in the Millennium Cities of Mekelle and Kisumu, where they conducted health-related, education and environmental research for MCI;

Columbia University's Mailman School of Public Health students contributed greatly to the research feeding into MCI's health needs assessments;

Teachers College at Columbia University supported the design and implementation of the S2S Connectivity Project.

**SPOTLIGHT ON:
EARLY CHILDHOOD EDUCATION**

Objective

To develop an interactive, child-centered early childhood education (ECE) program for Kumasi, Ghana, in support of the Ministry of Education's renewed focus on preparing Ghana's earliest learners for succeeding in school.

Research and Response

After launching the Millennium Cities Initiative in 2006 in Kumasi, Ghana, MCI quickly discovered through our own research something that Ghana's Ministry of Education had acknowledged years earlier to be a problem nationwide: that educational opportunities at the pre-primary level were lacking, jeopardizing young learners' foundation and preparation for successful school-age experiences and lives of learning.



Kumasi teachers work with primary school students on literacy activities.



Kumasi preschoolers receive the gift of a picture book written by the Empress of Japan.

To address this pressing challenge, and in furtherance of attaining MDG 2, the Ministry issued a directive that ECE now be included in Ghana's formal education system, with a kindergarten attached to every primary school.

In support of this unfunded government initiative, MCI turned to its partner, the Government of Israel's Agency for International Development Cooperation (MASHAV), and through MASHAV, to Israel's world-renowned early childhood development experts at the Golda Meir Mount Carmel Training Center (MCTC) in Haifa.

After several MASHAV-sponsored scoping missions to Kumasi, and in close collaboration with the Kumasi Metropolitan Education Directorate, MCTC designed a customized early childhood curriculum aimed at developing young children's learning skills, creativity and curiosity, thereby introducing a new approach to early learning in Ghana's second largest city.





Implementation

MCTC specialists began by observing Kumasi's existing kindergarten classrooms, noticing that many dark, airless classrooms held more than 100 children and lacked space for movement. There were no books or toys, few playtime activities and the walls were generally bare. The students sat at empty tables facing a teacher and they repeated whatever the teacher said in English, without always understanding. Not surprisingly, absenteeism among teachers and children was high.

MCTC experts worked closely with the leadership of the Kumasi Metropolitan Education Directorate, MCI and a core group of Kumasi teachers to

develop a new early childhood program based on the philosophy that young children learn best through play and experience. With the tireless facilitation of MCI West Africa Regional Coordinator Abenaa Akuamo-Boateng, the team also worked to change the classroom environment, making imaginative use of the out-of-doors and inventing dedicated spaces for reading, building blocks, games and other activities, all to encourage learning through the fostering of imagination, inquisitiveness, tenacity, kindness and mutual respect. MCTC also suggested that teachers begin by speaking in Twi, their native Asante language, rather than in English, to encourage freer and more creative expression.

The Kumasi teachers trained by the MCTC specialists participated in several levels of training in both Israel and Kumasi, with three eventually becoming master trainers, following a period of intensive additional training and practice in Israel. The master trainers have since introduced this new early childhood education program to 15 "Trainers of Trainers," who have helped train more than 150 Kumasi teachers. All of the trainers participated in eight sessions, each comprised of days of lectures, discussions and demonstrations focused on the preparation of teaching and learning materials and on writing simple stories. With

MASHAV's staunch support, 17 model preschools have been built in Kumasi, serving nearly 3,000 students, and teachers now spend more time reading and engaging their students in storytelling and the written word.

Near-Term Outcomes

In 2012, Ghana's then-President John Atta Mills sent a delegation from the Council of State to review the program and to report back to him as to its efficacy and promise. MCI, MCTC and the KMED presented the program to the esteemed group, which was also able to visit the classroom and which acclaimed the program. This led to the visit of a second delegation, this one organized by the then-First Lady, seasoned educationist Ernestina Naadu Mills, who was impressed with the positive impact and scope of the program and expressed her intention to extend it nationwide.¹⁰

Thanks to the advocacy of the Israeli Embassy in Accra, MASHAV, MCTC and the Honorable Mayor of Accra, the project has now been replicated in Ghana's capital. Educators are being trained there and in Israel, and the Kumasi teachers are enjoying the opportunity to serve as mentors and trainers. And with the help of UNICEF, MASHAV and Kumasi's now-seasoned ECE teachers, dozens of educators in northern Ghana have now been trained. In addition, at MCI's recommendation, 10 teachers from Kumasi's St. Louis College of Education have learned the new methods, so that they can transmit the conceptualization, ethos and details of this innovative approach to student teachers.

Ghana Education Service, MCTC and MCI also met with scholars at the University of Education, Winneba, in Ghana's Central Region, to explore how this institution, which oversees the certification of the country's Teacher Colleges, might align itself with this conceptual shift in teaching preschoolers and to revise the early childhood teacher training curricula to incorporate this new approach.

¹⁰Sadly, President Atta Mills died in office, and the First Lady was no longer able to execute her vision as planned.

Lessons Learned

MCTC outlined a number of lessons learned that they planned to apply, in replicating and scaling the program in other parts of Ghana, including:

- Build strong relationships with trainees so both groups can work cohesively toward a common goal, and empower trainees to further contribute to the development of the project, which ensures that the teaching lessons are culturally relevant;
- Include the head teachers and first-grade teachers from the beginning of the process, to ensure institutional buy-in and ongoing support;
- Appoint one of the lead teachers to document the training sessions and to video the process of change taking place in the kindergartens in order to generate materials for future teacher trainings;
- Work bottom-up, as the demonstrable success of changes in the field helps convince policymakers that change is necessary, and that, with a relatively modest financial investment, it is possible;
- Adapt the teaching strategies to local conditions as much as possible.



Kumasi preschoolers learn about shapes by sculpting clay during arts and crafts time at school.

Long-Term Impact

The program has proven itself every bit as viable and adaptable as the former First Lady had predicted, with its successful replication in progress across the Greater Accra Metropolitan Area and in Ghana's three northern regions, and with Kumasi now recognized as the pedagogical center of excellence in implementing and training in this approach.

The expanded programs are currently managed in the capital by the Accra Metropolitan Education Directorate and by UNICEF and local educators in northern Ghana, all with strong support from KMED, MCTC, the Israeli Embassy in Accra and MASHAV. MCI hopes that the Ghana Education Service, the Ministry of Education, the certificate-granting institutions and the highest levels of government will continue to engage in this effort and to implement consistent and expanded programming nationwide – from teacher training, to preschool construction, to curriculum development, to the broadest possible dissemination of innovative learning materials. With such a commitment, hundreds of thousands of Ghana preschoolers will have the chance to benefit from this dynamic, hands-on approach to early learning.



Young students learn best through play, as demonstrated by Mount Carmel Training Center, MCI's partner in Israel, which introduced an early childhood education model to Kumasi preschools.



SPOTLIGHT ON: SCHOOL2SCHOOL CONNECTIVITY PROJECT

Objective

To assist junior high school teachers in Kumasi, Ghana, in the uses of the computer and Internet in teaching the Science, Technology, Engineering and Math (STEM) subjects and the MDGs, and to connect those teachers with their peers in New York City, so that they might share techniques, best practices and lesson plans.

Research and Response

MCI's education research revealed that students need access to both quality instruction and challenging learning opportunities. At the junior high level, helping students thrive can be even more challenging than in primary school. When teachers gain access to training and new technologies, the impact can be transformational.

To address this issue and to respond to another unfunded Government of Ghana directive that junior high teachers should utilize computers and the Internet as an educational resource, MCI and Teachers College at Columbia University partnered with the Kumasi Metropolitan Assembly (KMA) and two global communications firms, Ericsson and Zain Communications (Ghana) Limited (now Airtel Ghana), to set up a three-year School2School Connectivity Partnership pilot project.

Implementation

Fifteen Kumasi schools built air-conditioned and secure computer labs to house two Dell computers gifted by the KMA, a router from Ericsson and low-cost Internet access enabled by Zain/Airtel-Ghana. MCI's Project Manager Elizabeth Kubis and Project Coordinator Wilfred Acquah, a Kumasi IT teacher, provided assistance in procuring other needed materials, installing anti-virus software, providing technical training and developing a maintenance protocol.

MCI then trained 45 math and science teachers in 15 Kumasi junior high schools to use the computer, explore the Internet, discover new resources for classrooms and access subject-related content. The project also featured the

development of a unique, protected website dedicated to Ghana's national math and science curriculum for this level of student, where instructors could find lessons, activities and information directly related to their teaching. Teachers were also given an opportunity to share their experiences with the group, creating a learning community amongst the teachers – not a common practice in the Kumasi schools, due mostly to time and spatial constraints – and motivating each other to try out new practices.

The Kumasi teachers also shared their experiences with partner schools in New York City, with each NYC teacher assigned to work with three Kumasi teachers, each from a different school. Teachers were encouraged to foster STEM-related as well as cross-cultural learning opportunities for the students, sharing information about themselves, their schools and their communities; developing lessons addressing both their respective math or science curricula and the MDGs; and creating lesson plans and conducting online conversations regarding relevant MDG-related issues.



A Kumasi teacher accesses resources on the Internet to enhance her curriculum; these were provided through MCI's School2School Connectivity Project.

Near-Term Outcomes

By the end of the first year, the number of participants doubled, to 90 teachers in 30 schools citywide. Ongoing challenges ranged from setting up computer labs and maintaining regular access to the Internet – especially given the high costs and problems with electricity outages – to minimizing security concerns such as viruses, hacking and theft.

By the end of the three years, all participating teachers felt confident connecting to the Internet, compared with just 30 percent in 2010. Teachers' comfort with word-processing increased from 58 to 92 percent between 2010-13, 85 percent of teachers now say they regularly visit the Web and 93 percent reported regularly using the project's Wikispaces to plan lessons.

The partnerships between the Kumasi and NYC schools were also invaluable, not only for enabling teachers to share lesson plans and exchange ideas with their peers overseas, but for making it possible for students to get to know their peers on the other side of the Atlantic Ocean. Partner schools exchanged hundreds of messages and held 72 joint lessons over the course of the project, benefiting students and teachers alike.

Another significant impact: many teachers participating in the program recognized the value and potential gains from in-classroom technology use and purchased their own equipment, and participating schools have taken the initiative to acquire additional equipment, largely through the generosity of Kumasi banks, parent/teacher organizations and local and national government.

Teachers' comfort
with word-processing
increased from
58 to 92 percent
between 2010-13.

Lessons Learned

MCI learned a number of valuable lessons along the way. Among them:

- When designing a technology integration project, consider who will be using and maintaining the equipment to ensure that trainings are appropriate for project participants and to enhance project sustainability;
- Provide computer maintenance workshops to at least one teacher/school administrator at each participating institution, with an emphasis on troubleshooting unanticipated issues (i.e. viruses, electrical spikes, etc.) and to address changes/advances in technology;
- Locate and utilize local resources, including wireless providers, local firms and local equipment, for ease of maintenance and replacement of parts;
- Develop a contingency plan to deal with extra costs that may arise during the lifespan of the project;
- Create a learning community among participants by encouraging groups to meet regularly with one another to share their experiences regarding the use and application of new technology;
- When selecting service providers, consider the topology, connectivity and the needs of each participating institution so that the program can be implemented with limited delays, and revisit these variables when contracts expire, new firms enter the scene and when scaling the program at other sites;
- Link the project to government organizations, like-minded NGOs and/or to the community, as possible and appropriate, to augment community buy-in and to safeguard against project “shocks” that might derail progress;
- Leave room for local adaptation to account for what is needed on the ground, keeping in mind that these needs may change from season to season.



Kumasi students at work, as part of the School2School Connectivity Project.

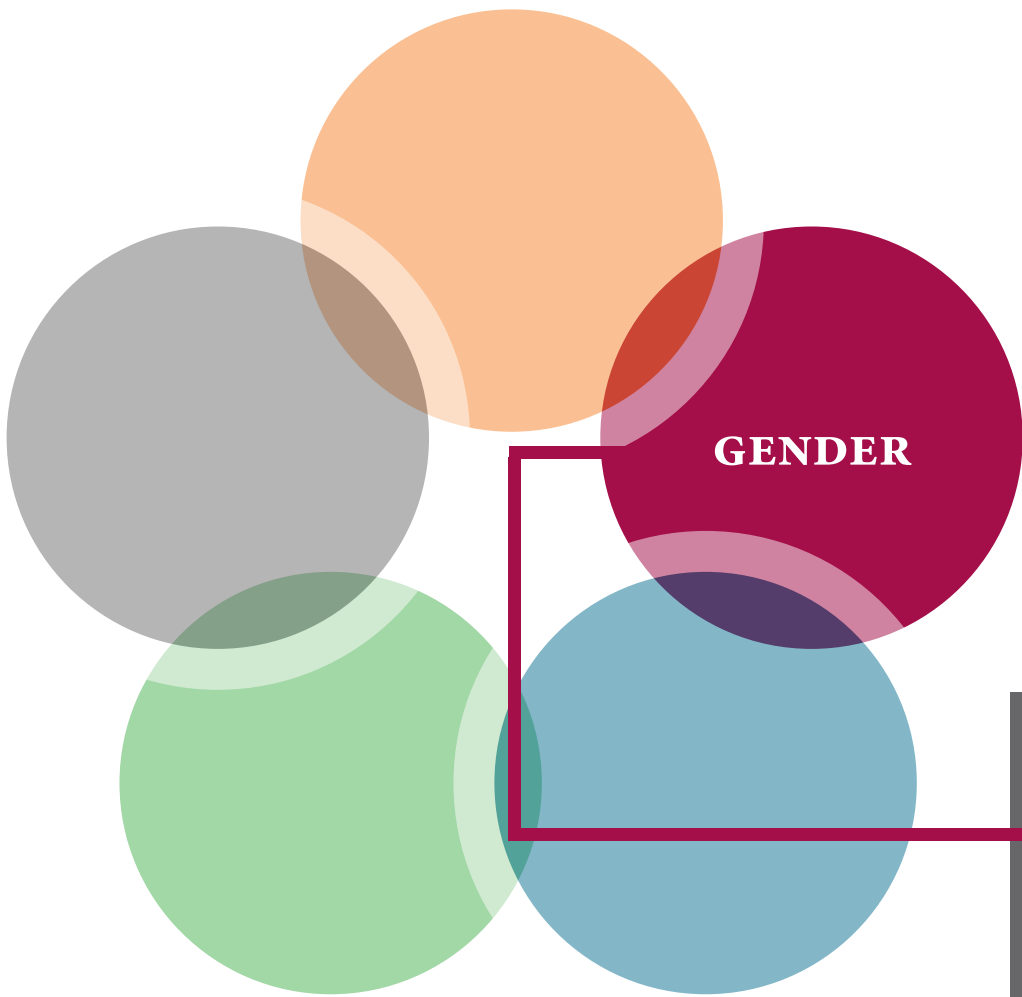
Long-Term Impact

The S2S Connectivity Project has ended, but its benefits will carry on. Dozens of Kumasi teachers now know how to use a computer and the Internet and are regularly accessing a wealth of information to incorporate into their lessons. The students have also been exposed to unique learning opportunities, from using the computers for their studies, to communicating via Skype or “Google Hangout” with their counterparts, to enhancing their science and math skills, to learning more about the MDGs.

MCI hopes that programs akin to the S2S Connectivity Project will be replicated elsewhere in Ghana and beyond. The challenges along the way provided valuable lessons for organizations embarking on similar initiatives; yet the many successes prove that there can be important takeaways – valuable skills that will remain with both the teachers and students, helping them both to succeed and to continue to grow.

Kumasi students take a break.





CONTEXT:

Many sub-Saharan African countries have implemented effective policies designed to level the playing field between girls and boys and men and women. Efforts have been focused on achieving gender parity in primary education and increasing women's participation in local and national government. However, despite these great strides, much work remains for governments to fully address MDG 3, promoting gender equality and empowering women.

Worldwide, women continue to struggle to attain equal footing. Despite the fact that each additional year of schooling beyond primary offers greater payoffs for improved outcomes for girls, fewer girls than boys complete secondary school, formal employment opportunities for women are the exception and women remain underrepresented in politics, particularly at the national level.¹ Violence against women is also a critical issue, with 1 in 3 women experiencing either physical or sexual violence by a partner or by a non-partner.²



GENDER

RESPONSE:

MCI has worked closely with the Millennium Cities to improve gender equality by:

Conducting in-depth research intended to help the Cities better understand the existing challenges in attaining MDG 3;

Identifying and estimating specific costs associated with programs and initiatives to address these challenges;

Introducing and designing targeted interventions designed to help the Cities provide greater opportunity for girls and women.

RESEARCH

GENDER NEEDS ASSESSMENTS

In seven Millennium Cities, MCI conducted MDG-based Gender Needs Assessments to better understand the gaps in each of the Millennium Cities' efforts to attain MDG 3. As with the Education Needs Assessments, most of the data and feedback from local stakeholders were collected by graduate students supervised by MCI's leadership team.

MCI presented the research findings to local officials and other key stakeholders in the Millennium Cities as part of a broader exercise aimed at prioritizing needs and proposed solutions. Our findings also enabled MCI to identify partners capable of undertaking specific interventions focused on meeting those needs.

Gender Needs Assessments were conducted in:

- Blantyre, Malawi
- Kaduna, Nigeria
- Kisumu, Kenya
- Kumasi, Ghana
- Louga, Senegal
- Mekelle, Ethiopia
- Segou, Mali

¹International Centre for Research on Women [ICRW]. (2005). *A Second Look at the Role Education Plays in Women's Empowerment*. Washington, D.C.: ICRW. Retrieved from <http://www.icrw.org/sites/default/files/publications/A-Second-Look-at-the-Role-Education-Plays-in-Womens-Empowerment.pdf>.

²World Health Organization [WHO], Department of Reproductive Health and Research, London School of Hygiene and Tropical Medicine, and South African Medical Research Council. *Violence Against Women: Global Picture Health Response* [Infographic]. Retrieved from <http://strive.lshtm.ac.uk/sites/strive.lshtm.ac.uk/files/WHO%20VAW%20Infographic.pdf>.

Seventh-grade students in Mekelle, Ethiopia, work together in Girls' Leadership Skills Training, facilitated by MCI.

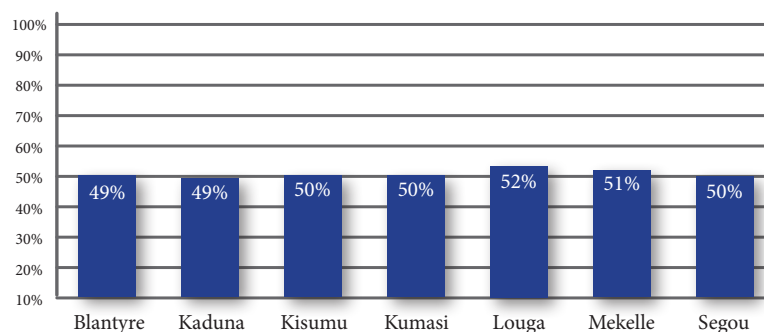


GENDER

KEY FINDINGS ACROSS THE SECTOR

According to census information (between 2006 and 2009) for each of the seven Millennium Cities where Gender Needs Assessments were conducted, women comprised half or more than half of the population of each City. Yet in each venue, women continue to lack for equal rights, protection and political representation.

FEMALE PERCENTAGE OF POPULATION

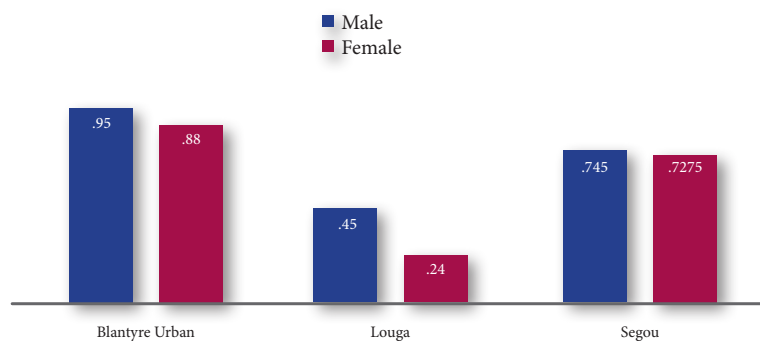


Education Gender Disparities

Literacy is a useful indicator for measuring gender disparities in education. Our needs assessments found large differences in literacy rates between men and women in some of the Millennium Cities, such as in Louga, where the rate of male literacy is nearly twice that of women. In contrast, in Blantyre and Segou the needs assessments revealed a closing gender gap in literacy rates.

One of the best ways to increase gender equality is by providing girls and women access to education. For girls and women, each year of schooling beyond primary offers greater payoffs in the form of expanded opportunities and

LITERACY RATES, BY GENDER

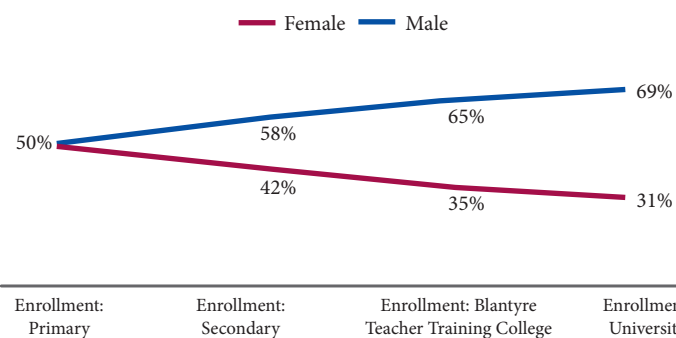


The data in these charts were compiled based on MCI's Gender Needs Assessments, which were conducted in the Millennium Cities between 2010-2012.

improved health outcomes.³ Higher levels of education are also associated with lower total fertility rates, longer birth intervals, better child health and increased awareness and use of modern methods of contraception.⁴

Our research indicates that most of the Millennium Cities had relatively high primary enrollment rates for girls. For those Cities that did not, the rates of progress at the time the needs assessments were conducted indicate that they were nevertheless on track to meet the MDG target of achieving gender parity in primary education by 2015. While it is promising that girls' enrollment has been increasing, gender parity actually declines at higher levels of schooling, as can be seen in the graph below for Malawi as a whole, suggesting that more must be done to promote girls' continued participation in higher grades.

MALAWI SCHOOL ENROLLMENT, BY GENDER



A major educational challenge facing the Millennium Cities is an inadequate number of accessible secondary schools. In Kaduna, there were approximately 72 public junior secondary schools in 2006, compared with 501 public primary schools.⁵

Higher levels of education among girls are associated with lower total fertility rates, longer birth intervals, better child health and increased awareness and use of modern methods of contraception.



An alumna greets a current student at Opoku Ware Basic School in Kumasi, Ghana; the alumna gained the confidence to pursue higher education through her past participation in a Girls' LitClub.

The resulting shortage of places often compels parents – particularly those living in poverty – to make choices about which children go to secondary school. Traditional values often come into play, as many families prefer that girls stay home to help with chores, care for younger children or earn additional income. In Kisumu, despite the introduction of free secondary school by the national government in 2010, girls are still not transitioning to secondary school at the anticipated rates, or are leaving early, likely due in part to the limited number of secondary schools, where families tend to prefer sending boys. Another factor may be the area's relatively high HIV-prevalence rates, since girls are more likely to drop out to care for family members living with HIV/AIDS.⁶

Consequences of Early Marriages & Childbirth

Early marriage also prevents girls from attending secondary school in some Millennium Cities. Girls who marry young – whether due to unplanned pregnancy, family pressures or to escape extreme poverty – generally then find themselves caring for their own young children, forgoing any chance at higher education. While some countries try to prevent early marriage – as examples, Nigeria and Ethiopia have passed laws making 18 the marriageable age for girls – early marriage remains fairly common. In Kisumu, Luo

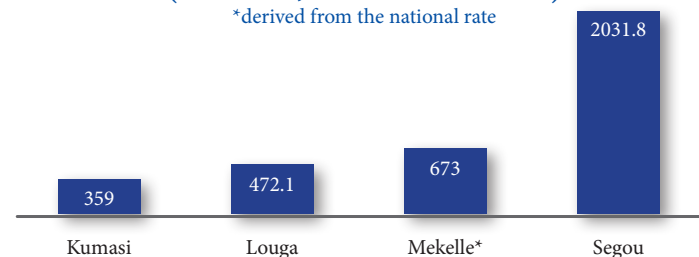


Girls' LitClubs, like this one in Kisumu, Kenya, help students and families realize the value of girls' education, rather than keeping girls at home to fulfill household duties.

society is often accepting of teen marriages, and many families rely on the dowry that comes with a daughter's wedding. But once married, the girls' options dwindle. In Blantyre, the median age at first birth to women aged 20-49 ranges from 18.7-19.4 years, and the percentage of teen mothers aged 15-19 ranges from 27-37 percent.⁷

Early marriage can also lead to complications with childbirth. According to United Nations Population Fund, girls aged 15-19 are twice as likely to die of obstructed labor, leading to obstetric fistula, than women aged 20-24.⁸ In general, maternal mortality is a grave challenge facing women in at least four Millennium Cities: Kumasi, Louga, Mekelle (as derived from Ethiopia's national rate) and Ségou.⁹

MATERNAL MORTALITY RATIO (PER 100,000 LIVE BIRTHS)



³International Centre for Research on Women [ICRW]. (2005). *A Second Look at the Role Education Plays in Women's Empowerment*. Washington, D.C.: ICRW. Retrieved from <http://www.icrw.org/sites/default/files/publications/A-Second-Look-at-the-Role-Education-Plays-in-Womens-Empowerment.pdf>.

⁴United Nations Children's Fund [UNICEF] and Malawi National Statistical Office. (2008). *2006 Multiple Indicator Cluster Survey*. Lilongwe, Malawi, and Zomba, Malawi. Retrieved from http://www.unicef.org/malawi/resources_9803.html.

⁵Federal Government of Nigeria - UNESCO. *Education Sector Analysis: Kaduna State Report*, February 2008. Retrieved from http://inesm.education.unesco.org/files/ESA_revised_b22.pdf.

⁶National Coordinating Agency for Population and Development [NCAPD] (2005). *Kenya HIV/AIDS Service Provision Assessment Survey 2004*. Nairobi, Kenya, and Calverton, Maryland, USA: NSO and ORC Macro. Retrieved from <http://dhsprogram.com/pubs/pdf/SPA9/KESPA04-HIVAIDS.pdf>.

⁷United Nations Children's Fund [UNICEF] and Malawi National Statistical Office. (2008). *2006 Multiple Indicator Cluster Survey*. Lilongwe, Malawi, and Zomba, Malawi. Retrieved from http://www.unicef.org/malawi/resources_9803.html.

⁸World Health Organization [WHO]. (2007). *Maternal Mortality in 2005: Estimates Developed by WHO, UNICEF, UNFPA and the World Bank*. Geneva: WHO Press. Retrieved from http://whqlibdoc.who.int/publications/2007/9789241596213_eng.pdf.

⁹By comparison, the 2013 estimated MMR for the United States is 28 (per 100,000 live births), which is considered high for a developed nation. The World Bank. (2013). [Graph illustration "HNP Data Dashboards: United States"] Accessed from the Health, Nutrition and Population Data Dashboard. Retrieved from <http://datatopics.worldbank.org/h>.

Lack of Antenatal Care

In Kaduna, one of the leading causes of maternal death stems from complications during pregnancy or childbirth. Sadly, many women in Kaduna and elsewhere are often unaware of the essential components of basic prenatal care. Poor and less educated women tend to have less antenatal care than their wealthy or better-educated counterparts. To address this in Ghana, in 2008 the national government initiated a program to include coverage of antenatal care and deliveries under the National Health Insurance Scheme, which has helped facilitate progress in lowering maternal mortality.¹⁰



Women in Kisumu, Kenya, participate in a Mothers' LitClub, a natural extension of the Girls' LitClubs, where mothers have benefitted from exchanges with their peers.

High HIV Rates Among Women

HIV also complicates the lives of many of the women in the Millennium Cities. This is a result of many complex factors, from low modern contraceptive use among many Millennium City women, to a lack of information about sexual health, as in Kisumu, where sex education was banned in schools for decades. Kisumu now incorporates reproductive health education into the school curriculum, a result of a new National School Health Policy and Adolescent Reproductive Health and Development Policy.

Gender-Based Violence

Gender-based violence poses another threat to women in the Millennium Cities. In 2009 there were 46 cases of rape and "indecent assaults" reported in Kaduna.¹¹ In 2008 Kenya's Federation of Women Lawyers conducted a study analyzing trends related to gender-based domestic violence and found it had been on the rise in Kenya since

2002. Unfortunately, many cases go unreported to law enforcement in Kisumu and elsewhere, as women tend to treat sexual violence as a private matter and are afraid of the consequences and shame it can bring on their families if the crime is made public, among many other reasons.¹² Verbal and psychological abuse are also difficult to document, and while suspected to be fairly common, there are few available data to support this. We know that programs focused on women's empowerment, such as microfinance or job skills training, can help prevent gender-based violence, particularly when combined with other initiatives to promote gender equality.¹³

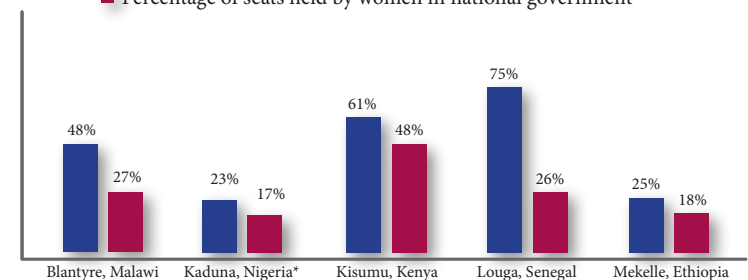
Women's Un- and Under-Employment

Across five of the seven Millennium Cities for which data existed in our Gender Needs Assessments, women's unemployment rates surpass those of men. Formal sector employment – with standard wages and hours – can be difficult for women to obtain, as many lack higher education and have little previous work experience.

UNEMPLOYMENT RATES, BY GENDER

*derived from the national rate

- Percentage of seats held by women in local government
- Percentage of seats held by women in national government



Across 5 of the 7 Millennium Cities studied, women's unemployment rates significantly surpass those of men.

In Kaduna in 2010, the estimated earned income was \$266 for women and \$1,114 for men.

¹⁰United Nations Development Programme [UNDP]. (n.d.). UNDP in Ghana: Improve maternal health. Retrieved from <http://www.gh.undp.org/content/ghana/en/home/mdgoverview/overview/mdg5.html>.

When women do work, it is often in the low-income and informal sectors of the economy. In Kaduna, the estimated earned income in 2010 was \$266 for women and \$1,114 for men;¹⁴ in Kisumu, many women work in the informal sector, earning less than their male counterparts, particularly those employed in the formal sector.¹⁵

Fortunately, a number of community-based organizations support women's employment, such as the *Groupements pour la Promotion de la Femme* (Groups for the Advancement for Women) in Louga, which organizes women's groups and helps them find funding.

Property Rights

Property rights can pose another significant and potentially disempowering challenge for women. Although Nigerian law permits females to acquire and own property, these policies are sometimes not carried out at the local level. In Kisumu, many women have been dispossessed after their husbands died because the relatives of the deceased evicted them from their homes and confiscated their husbands' property. Kumasi women can acquire land through marriage, inheritance and contractual agreements, yet few women have the land titles that can help protect them from squatters or dispossession.¹⁶

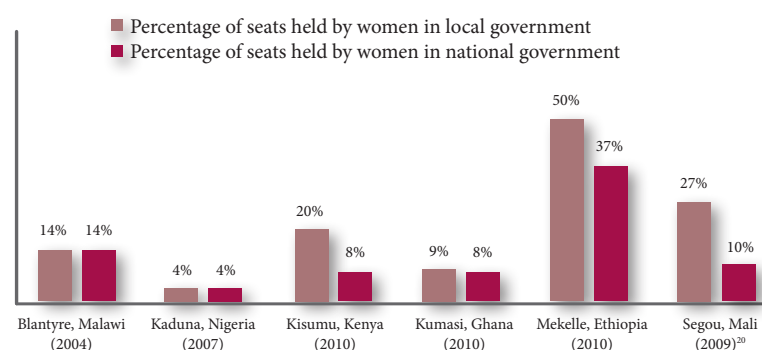
Women in Government

While progress towards gender equity varies across the Millennium Cities, there is evidence that, overall, women are increasingly involved in regional and national government. The Millennium Cities and their respective countries continue to strive for greater female representation in the political arena, as indicated in the chart to the right. In the Tigray Regional Parliament and the Mekelle *Woreda* and *Tabia* councils, women represent 50 percent, far more than at the federal level of government in Ethiopia, where women hold about 37 percent of top positions. In Kaduna, while women have continued to be underrepresented in the formal sector, they play an active and influential role in the public sector, where wages and salaries correspond to their respective civil service grade level, irrespective of gender. In Kisumu, former Mayor Grace Onyango was elected as the City's first female mayor in 1965 and served until 1969, when she initiated a successful campaign for the national Parliament. Mme Patricia Appiagyei was

elected mayor of Kumasi in 1996, becoming Ghana's first female mayor; however, in the same year only nine percent of District Assembly seats in the Ashanti Region were held by women.¹⁷ Even in 2010, only nine percent of Kumasi Metropolitan Assembly seats were held by women.¹⁸

Millennium Cities continue to strive for greater female representation in the political arena.

SEATS HELD BY WOMEN IN GOVERNMENT¹⁹



¹¹Gyong, J.E. (2010). Criminal Victimization and the Reporting of Crime in Kaduna State: Towards Integrating the Victim of Crime and Criminological Discourse. *Current Research Journal of Social Sciences*, 2 (5) pp. 288-295. **These numbers have likely increased dramatically since the appearance of and attacks allegedly perpetrated by the designated terrorist group Boko Haram, in neighboring Borno State (scene of the Chibok kidnappings of several hundred adolescent girls), Kano State and in Kaduna itself.

¹²Federation of Women Lawyers in Kenya. (2010). *Gender-Based Domestic Violence in Kenya*. Nairobi: FIDA. Retrieved from <http://www.womankind.org.uk/wp-content/uploads/2012/03/FIDA-Kenya-Report-on-Gender-Based-Domestic-Violence-in-Kenya.pdf>.

¹³World Health Organization [WHO], Department of Reproductive Health and Research, London School of Hygiene and Tropical Medicine, and South African Medical Research Council. (2013). *Global and regional estimates of violence against women: Prevalence and health effects of intimate partner violence and non-partner sexual violence*. Geneva: World Health Organization. Retrieved from <http://who.int/reproductivehealth/publications/violence/9789241564625/en/>.

¹⁴National Bureau of Statistics. (2010). *National Manpower Stock and Employment Generation Survey*. Abuja: Federal Republic of Nigeria. Retrieved from www.nigerianstat.gov.ng/pages/download/41.

¹⁵UN-HABITAT (2005). *Situational Analysis of Informal Settlements in Kisumu* (Nairobi: UNHABITAT/SIDA).

¹⁶Land Administration Project [LAP] (2009). *An Overview of LAP's Gender Initiative*, (Accra: Land Administration Project). Retrieved from <http://www.ghanalap.gov.gh/index.php/social-development-and-gender/196-an-overview-of-lap-s-gender-initiative>.

¹⁷Ghana Districts: A Repository of All Districts in the Republic of Ghana (2006). Know Your Assembly Members: Ashanti Region. Retrieved from http://ghanadistricts.com/home/?_15&sa=3655.

¹⁸Mohammed, A. R. (2010). *Relevance of Women's Participation in Local Governance: Case Study of Kumasi Metropolitan Assembly*. (Doctoral dissertation). Kwame Nkrumah University of Science and Technology. Retrieved from <http://hdl.handle.net/123456789/1051>.

¹⁹Data not available for Louga.

²⁰The World Bank. (2013). [Graph illustration of the "Proportion of Seats Held by Women in National Parliaments."] Accessed from the Catalog Sources World Development Indicators. Retrieved from <http://data.worldbank.org/indicator/SG.GEN.PARL.ZS>.

RECOMMENDATIONS

FROM MCI'S GENDER NEEDS ASSESSMENTS

Our needs assessments conclude with recommendations to improve the overall wellbeing of women in each Millennium City and to contribute toward the achievement of MDG 3.

Suggestions include:

- Prioritizing infrastructure investments that help women, such as building roads to increase safety and improve access to markets;
- Increasing the capacity of women's organizations that support gender equality, further education and literacy and promote healthful behavior;
- Improving access to skills trainings and credit to expand businesses and further economic growth benefitting women;
- Conducting mass media campaigns to raise awareness of the importance of attending secondary school, as well as on issues pertaining to sexual and reproductive health;
- Training government and judicial officials and police officers to address gender-based violence.

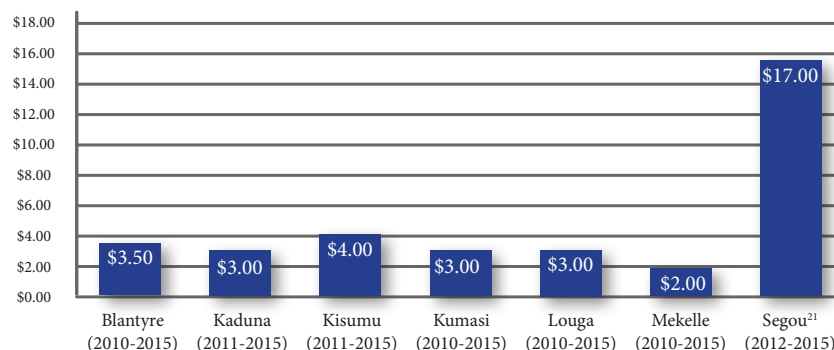
MCI's findings include the relative cost estimates per capita pertaining to each Millennium City's implementation of the recommended improvements, as noted in the grid below.



Kisumu women participate in a MCI-led Group Savings & Loan program to help expand businesses through skills training and access to credit.

\$3 average recommended annual per capita cost of achieving MDG 3 in each of the Millennium Cities.²¹

ANNUAL COST PER CAPITA TO PROMOTE GENDER EQUALITY



²¹The annual amount per capita invested in Ségou significantly surpasses the amount for the other six Cities due to the shortened time period of investment; MCI's Gender Needs Assessment was conducted in 2012, giving the City only three years to meet the MDG target date of 2015.



HOUSEHOLD SURVEY ANALYSIS

As noted in the Education Chapter, in addition to the needs assessments, MCI developed a MDG-based household survey instrument to take an in-depth look at the challenges facing the urban poor in three informal settlements, all impoverished communities, in Kisumu and Blantyre. Some of our findings regarding the gender achievements and gaps within these communities are included below.

From Kisumu's Nyalenda A, Nyalenda B and Obunga communities:

- Use of contraceptives, such as injectables, intrauterine devices (IUD), pills, condoms and sterilization, was reported by only 44 percent of households including women of reproductive age, despite government efforts to increase use of family planning services to 70 percent by 2012.
- Although the World Health Organization recommends a minimum of four antenatal visits, only 55 percent of women surveyed in Nyalenda A and Obunga underwent four or more antenatal visits.
- 77 percent of households say their last delivery was assisted by skilled health personnel.

From Blantyre's Mbayani, Misesa and Nancholi communities:

- Family planning is widely used across the Blantyre communities surveyed, and more than 60 percent of households in all three areas are using injectables.
- About 69 percent of women in the three surveyed areas attended four or more antenatal visits.
- Nearly 93 percent of women in the surveyed households say that their last delivery was assisted by skilled personnel.
- Nearly 98 percent of women said that they breastfed after giving birth.



Kisumu, Kenya, students participate in a Girls' LitClub, created by the US-based literacy organization LitWorld to promote literacy and opportunities for girls.

INTERVENTIONS

To address some of the gaps uncovered in the course of our research, MCI and our partners have facilitated and designed numerous interventions to improve gender equality within and across the Millennium Cities. All of these involve the mobilization, engagement and empowerment of community members, who themselves will serve as the agents of lasting change.

MCI has strived to create programs that offer girls and women more opportunities to succeed by equipping them with critical skills, from reading and writing to job, IT and financial literacy training, bolstering confidence along the way.

DYNAMIC INTERVENTIONS

Boosting Literacy and a Love of Learning - Girls', Teens' and Mothers' LitClubs

In 2009 MCI teamed with LitWorld, a New York-based nonprofit, to bring learning and personal enrichment opportunities to girls in Kumasi and Kisumu. Girls' LitClubs share a curriculum that helps build girls' literacy and life skills, while celebrating their strengths and empowering them as young adults. In recent years, in response to requests from local officials in Kisumu, we have expanded the program to include Teen Clubs, which have addressed age-appropriate issues such as sexual abuse, bullying, teenage pregnancies and relationships, and Mothers' Clubs, where savings programs have been introduced. We fully anticipate these dynamic clubs will continue to bring opportunity to the girls and women in Kisumu and to girls in Kumasi. For more information, see page 46.



Girls in Kumasi, Ghana, at a LitClub meeting.



These young learners from Kisumu, Kenya, have also enjoyed LitWorld programming.



LitClub girls at Migosi Primary School in Kisumu, Kenya, pose with two volunteers who introduced solar lanterns to the school.

LitClubs helped build girls' literacy and life skills while celebrating their strengths and empowering them as young adults.



A GIRL'S POEM ON EQUAL EDUCATIONAL OPPORTUNITIES

Oh girls, Oh girls

*Oh girls oh girls
we have been neglected for so long
parents didn't care if we were educated
neither do they care about our [being] taught*

*Oh girls oh girls
majority of girls especially those in the rural
communities are facing so many challenges that
they don't know how to handle them all
because of illiteracy*

*Oh girls oh girls
we can put a stop to illiteracy if we are willing
to educate ourselves and parents are encouraged
to take their girls to school*

*Oh africa, europe, america, australia and asia
let's come together to create one goal and say
stop to illiteracy in girls for if you educate a
man you educate one person but if you
educate a girl you educate a nation*

*- Sephora, student at Boundary Road Cluster of Schools,
Kumasi, Ghana*

Providing Girls with Life Skills – Mekelle Girls' Leadership Training

MCI organized and led two Girls' Life Skills Trainings in Mekelle, each focused on a specific issue of concern to the girls themselves. The first such training, held in July 2013, concentrated on the need for safe, separate girls' latrines in Mekelle schools. Participating girls investigated the conditions of latrines at City secondary schools, interviewed students, created a video and designed an advocacy campaign focused on persuading City and school officials to install safe, single-sex, sanitary latrines in their schools. The second, held two months later, emphasized the importance of hygiene in preventing waterborne disease as the focus of their video and advocacy efforts. Four schools sent 25 female students to each training, during which the girls created educational videos on these subjects that were then screened at their schools. MCI also offered an additional Life Skills Professional Development Training, in response to a request from female teachers, the Ministry of Education and the Bureau of Women's Affairs; this adult training, which included 13 female teachers and representatives from the Ministry and Women's Bureau, walked these committed educators through the process of designing, organizing and conducting such empowerment and advocacy trainings for girls and opened up consideration and broader discussions of how best to foster student-centered learning in general.



Students in Mekelle, Ethiopia, participate in a Girls' Life Skills Training facilitated by MCI.

Decreasing Girls' Absenteeism from School with Reusable Feminine Pads

Girls often miss several days of school each month during their menstruation due to the absence of private latrines and/or feminine hygiene products. These absences can cause girls to fall behind, eventually leading many to drop out. A simple intervention designed by Columbia University School of Nursing Instructor Mary Moran and her organization Girls2Women, facilitated by MCI, trained female students in 19 Mekelle schools to make reusable sanitary cloth pads out of locally available soft cotton. The pads, well-received by the girls, have given them a greater sense of independence. At the request of the Ministry of Health, a demonstration was carried out for 75 Health Extension Workers in Wukro, a town not far from Mekelle and near to Ethiopia's Millennium Villages Project sites, with cotton donated by the MAA Garment Factory, an Ethiopian-based clothing manufacturer. The trainings have since been institutionalized by the Midwifery School and have been formalized in a textbook now being distributed in secondary schools. The lessons, which have been incorporated into science, economics and health classes, have now reached well over 1,000 girls.



A number of Mekelle, Ethiopia, schools benefited from a MCI-facilitated program to decrease girls' absenteeism with reusable feminine pads, a program created by Girls2Women.

*"This will save my family money."
"I will not feel afraid to go out during menstruation."*

- Participants in Reusable Sanitary Pad Program

Helping Women Market Traders Grow their Businesses

In 2013, MCI introduced an exciting new program in Kumasi to foster improved health, financial literacy and to open doors for the women traders working in the bustling Bantama Market, one of Kumasi's largest. Women traders, many of whom have never received a health screening, now come for screenings and physicals at our Bantama Market Clinic, set up by MCI with support from the Kumasi Metropolitan Assembly and the Kumasi Metropolitan Health Directorate, under the leadership of MCI Regional Coordinator for West Africa Abenaa Akuamo-Boateng. Once each woman's screening has been completed, she is eligible to participate in a Social Capital Credits program, which encourages women to save and rewards them for performing tasks beneficial to themselves and their community. (For more information, see page 49.)



MCI Advisory Board and Columbia University Urban Design faculty member Geeta Mehta joins women market traders in Kumasi, Ghana, who are learning saving techniques and access credit to grow businesses through a Social Capital Credits scheme.

Empowering Slum Residents through Savings & Lending Opportunities

In Manyatta, one of Kisumu's largest informal settlements, MCI has created tremendous opportunity for women residents in particular by instituting a Group Savings & Loan program (GS&L) modeled after a similar program developed by CARE International. This initiative encourages collaborative savings and lending models wherein group members support one another. MCI's program, the first to use mobile phones to record data on attendance, savings, loans, fines and meeting summaries, has witnessed remarkable success in its pilot phase. In 2014, 123 participants, comprising eight savings groups, had a cumulative savings of KES 710,766 (~\$8,000) within the

second quarter, while the average loan outstanding is KES 8,187 (~\$90). This translates into an average savings per member of KES 5,799.00 (~\$65), with the groups realizing a 45.8 percent return on their savings. The pilot closed with a savings “share out” activity in December 2014. MCI has ensured that the program will continue, empowering more residents to build better lives for themselves and their families as they become more financially literate and better able to significantly increase their savings.

Strengthening the Community’s “VOiCE”

MCI has worked closely for several years with a youth organization located in Accra’s Nima neighborhood, Voices in Community Empowerment, or VOiCE. VOiCE has organized numerous community-based projects, among them, a “Nima-Maamobi East Girls’ and Young Ladies’ Forum,” which drew 72 girls and young women who participated in a lively, women-led discussion of what they consider their key challenges, including girls’ secondary and tertiary education and security at night.

Consensus built around the need for a campaign to emphasize the importance of girls’ education and for the installation of streetlights in unsafe areas in and around Nima and Maamobi. As a result, MCI helped VOiCE and the community members install streetlights, to enhance security in those areas.

In June of 2014, MCI also helped VOiCE host an Annual Midwives’ Celebration – the first in this predominantly Muslim community – together with the Greater Accra Midwives’ Association, where information on maternal and reproductive health, family planning and becoming a midwife was provided to girls and women. In October, VOiCE and MCI teamed up with the national Vocational Training Institute to provide a three-day training seminar for girls in Information, Communications & Technology.

Another novel VOiCE-MCI initiative was our outdoor workshop for street food vendors, most of whom are women. City food safety officials offered training both on general hygiene and on specific cooking and cleaning habits, issuing certificates to the vendors that, VOiCE hopes, will encourage consumers to eat there and other vendors to get trained and certified.



MCI and VOiCE, a community-based organization in Accra, Ghana, join the national Vocational Institute to provide a three-day seminar for girls.

MCI partnered with VOiCE to facilitate women-led discussions about relevant issues: safety, education, family planning and vocational training.

Advocating for Women and Girls

In addition to MCI’s support of international holidays and partners’ activities intended to advocate on behalf of girls and women, MCI’s staff in the Millennium Cities have long advocated for, and sought support for, girls in need, including in individual cases within our Girls’ Clubs. In Kisumu, MCI staff have helped several young victims of sexual assault receive care and legal support; these cases have led to broader discussions within and among the Girls’ Clubs about when and how to seek safety and protection, should they feel threatened or in any kind of danger. In Kumasi, MCI has helped secure safer lodging for several Girls’ Club members who had been “kept” by older gentlemen, reportedly induced to trade sexual favors for the payment of their school fees.

SPOTLIGHT ON: GIRLS' AND MOTHERS' LITERACY

Objective

To cultivate literacy skills and encourage advocacy among women and girls in Kumasi and Kisumu through the formation and participation in Girls', Teens', and Mothers' LitClubs.

Research and Response

Of the 773 million adults around the world who lack basic reading and writing skills, two-thirds are women, and the majority live in sub-Saharan Africa.²² MCI's own research has illustrated some of the stories behind these statistics, finding that, in the Millennium Cities, the numbers of uneducated adult women may result from their having dropped out of school as girls, due to their lack of funds for books and uniforms, household responsibilities, pregnancy, family illness, unsafe routes to school, embarrassment about their menstruation and the absence of safe school toilets.

Research has shown that educating girls and women can lead to a wide range of benefits, many central to achieving the Millennium Development Goals, including: improved maternal health, reduced infant mortality, decreased fertility rates, increased prevention of HIV and AIDS, higher wages for educated girls and increased likelihood to produce smaller, healthier, better educated families.

To strive for these benefits, in 1997 the Government of Ghana created a "Girl's Education Unit" within the Ghana Education Service, to address gender imbalances in primary and secondary school. And in 2008 in Kenya, the Government established its new Ministry of Gender, Children and Social Development, to promote equal opportunity for girls and women.

Challenges to girls' education persisted in both Kumasi and Kisumu, however, with girls continuing to lag behind boys in primary completion rates and secondary enrollment rates. MCI's research also uncovered that girls lacked confidence and faced teasing and significant social stresses that impeded their educational progress. To address these issues, MCI and LitWorld, a New York-based nonprofit



Kumasi Girls' LitClub participants sing their joyful "Hello" song, a greeting sung at every gathering.

**Of the 773 million
adults around the world
who lack basic reading
and writing skills, two-
thirds are women, and
the majority live in
sub-Saharan Africa.**

organization dedicated to improving literacy worldwide, partnered to create Girls' "LitClubs" in two Millennium Cities, for girls and young women between the ages of 7-15. These LitClubs offer safe environments in which girls are encouraged to cultivate literacy and advocacy skills, build confidence, acquire life skills and connect with their peers locally and worldwide.





Implementation

In 2009 MCI and LitWorld collaborated with the Kisumu Municipal Education Office to start four Girls' LitClubs in primary schools in Kisumu, Kenya's third largest city. The following year, the organizations established 15 Girls' LitClubs in junior high schools in Kumasi, Ghana's second largest city. LitWorld trained female teachers – many of whom recalled the perils of being neglected or maltreated themselves as female students – as Girls' LitClub Coordinators. LitWorld also provided the coordinators with a yearlong curriculum

consisting of 45 lesson plans, each of which addresses reading and writing, as well as social and emotional learning, to help fill gaps in the existing education system. The curriculum emphasizes seven strengths – belonging, curiosity, kindness, friendship, confidence, courage and hope – as key to building resilience. Two grants from the New York Community Trust helped enable MCI to support the clubs with materials, transport and dedicated MCI Education Coordinators in both Millennium Cities.

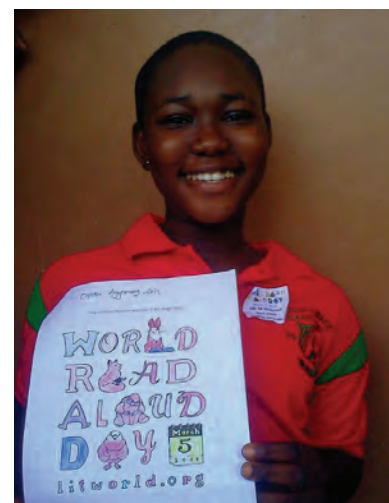
Near-Term Outcomes

The program continued to grow in both Kumasi and Kisumu. In 2011 MCI-Kisumu scaled the program, adapting the curriculum for the mothers of the Girls' Club members to form Mothers' Clubs, and, in recognition of the tremendous challenges facing at-risk boys in and out of school, with the help of students from a Harvard summer program, we piloted two Boys' Clubs. Additionally, from the girls' groups sprang Teen LitClubs, comprised of Girls' Club graduates, which held serious, intimate and dynamic discussions of sexual abuse, bullying, teenage pregnancies and relationships - all prime concerns among teenage girls. For the Girls' Clubs alone, in association with the public school districts in both Millennium Cities, LitWorld and

MCI trained well over 40 female educators to lead more than 20 school-based Girls' Clubs, touching the lives of hundreds of girls.

Although the LitClubs faced challenges in implementation – lack of support from some families, complaints of the clubs interfering with girls' household chores, difficulty finding time to host meetings within the school day – the Girls' LitClubs profoundly affected the young female participants, club facilitators and communities. Coordinators were able to identify at-risk girls, triggering life-saving interventions where needed, such as when one young girl was rescued from recurring rape by a family member. Girls and facilitators flourished with the opportunity to connect as young women, to explore and learn from their own narratives, demonstrate compassion for other girls and women and build sustainable communities for literacy in which they all have a chance to pursue their dreams. One Kisumu school principal told LitWorld's director that the Girls' LitClubs are “causing a ripple effect that is literally changing our schools overnight.”

In March 2014, Girls' LitClubs in both Kumasi and Kisumu celebrated their 5th annual World Read Aloud Day, an event created by LitWorld to champion the right to literacy by encouraging supporters to read aloud. In Kisumu, Girls' LitClub members fulfilled this mission by reading among themselves and to teachers, primary school students, food vendors, workers at the local telecom provider and to women prisoners. The girls of both Cities commemorated not only the power of words, but also their own powers – to learn, to support one another and to make a better life for themselves.



A Kisumu, Kenya, student participates in World Read Aloud Day, an annual LitWorld event that advocates for the right to literacy.

²²United Nations Educational, Scientific and Cultural Organization [UNESCO] Institute for Statistics. (2013). [Graph illustration “Did you know?”]. Accessed from The Official Source of Literacy Data. Retrieved from <http://www.uis.unesco.org/literacy/Pages/default.aspx>.

Long-Term Impact

Literacy rates for youth across sub-Saharan Africa continue to rise, from a current estimate of 70 percent to a projected youth literacy rate of 74 percent in 2015, in no small measure thanks to the hundreds of organizations contributing to this effort.²³ The LitClubs have clearly played a role in increasing literacy rates in the Millennium Cities of Kisumu and Kumasi.

In Kenya, the Ministry of Education measured participating girls' performance on the 8th-grade exam; not surprisingly, their scores were higher than those of other girls completing the exam. As such, the Ministry has expressed its commitment to the program and its hopes to expand it to more schools. Top educators in



Students in Kumasi, Ghana, wear Stand Up for Girls t-shirts in support of the LitWorld program focusing on girls' empowerment.

Ghana, recognizing that LitClub girls are now routinely scoring high on their exams and being selected as "Prefects" by their junior high school administrators, are also supportive of LitClubs and have expressed a desire for them to continue.

Given the training, initial materials and support provided by MCI and LitWorld, the Girls' Teens' and Mothers' Clubs will continue well beyond the closure of MCI. Facilitators are developing their own lessons for the girls, lending to the clubs' sustainability and replicability. They have plans to expand the curriculum further, to include workshops focused on local literature, financial literacy, entrepreneurship, gender sensitivity and family health and hygiene.

²³United Nations Educational, Scientific and Cultural Organization [UNESCO] Institute for Statistics. (2013). [Graph illustration "Did you know?"]. Accessed from The Official Source of Literacy Data. Retrieved from <http://www.uis.unesco.org/literacy/Pages/default.aspx>.



Literacy rates for youth across sub-Saharan Africa continue to rise, from a current estimate of 70% to a projected rate of 74% in 2015.



Students in Kumasi, Ghana, participate in World Read Aloud Day and create artwork as part of Stand Up for Girls (photos above).



SPOTLIGHT ON: EMPOWERING MARKET WOMEN

Objective

To provide accessible healthcare for market women and establish a reliable credit system through the Bantama Market Clinic and Social Capital Credits Scheme.

Research and Response

MCI's Gender Needs Assessment for Kumasi revealed that women faced significant barriers with regard to education, sexual and reproductive health, and access to credit and economic opportunity. After MCI presented these findings to the Kumasi Metropolitan Assembly (KMA) and other stakeholders in 2012, the KMA and the then-Regional Head of the Ministry for Women's and Children's Affairs suggested that MCI take a deeper dive to better understand some of these challenges. We focused on women market traders in Bantama Market, the City's second largest in terms of the volume of goods traded.

The women vendors expressed their priorities as gaining access to affordable health and affordable credit, which might enable them to expand their trading activities and, hopefully, to better provide for their families. Following those discussions, MCI, together with the KMA and other Columbia University partners, designed a beautiful, comprehensive Women's and Girls' Resource Center in Bantama to address these needs and more. Funds were not readily available for such an ambitious capital investment, leading MCI instead to attempt to address some of the women's most pressing concerns immediately. We engaged in further dialogue with the traders, who revealed their desire for a health clinic. Before setting it up, to better understand the traders' demographic and health characteristics, between July-August 2013 MCI conducted a baseline survey of 316 randomly selected respondents, 297 of which were females.

Implementation

In September 2013 MCI established the Bantama Market Clinic, with support from the Kumasi Metropolitan Health Directorate and the Bantama sub-Metro health team. The goals were lofty, yet attainable; among them, to provide

counseling and screening services for non-communicable diseases and cancers; to facilitate timely referrals for women found to have hypertension, diabetes, breast lumps and precancerous cervical lesions; to treat minor ailments; to promote family planning and reproductive health; and to provide child welfare services for the traders' children and area residents.

The clinic, which operates in one of the market stalls, is staffed by two community health nurses and one health assistant, with activities supervised by MCI's Regional Coordinator for West Africa Abenaa Akumoa-Boateng. Initially, the clinic screened 316 women traders with enumerated stores in the market, but has since expanded to serve women traders selling in the open spaces. MCI provided equipment for the clinic, while our longtime partner AmeriCares provided drugs and supplies. We conducted multiple staff trainings, enabling them to better care for the women in the market.

Many Market Clinic patients have also benefitted from our Social Capital Credits scheme (SoCCs), a program created by MCI Advisory Board and Urban Design faculty member Geeta Mehta aimed at rewarding women for engaging in acts beneficial to themselves and their communities. Women who completed their screenings were invited to participate and to earn credits for actions beneficial to themselves and their community that they could then trade for things of value to them, such as school fees or supplies, inventory for their market stalls or assistance in applying for microloans from MCI's partner nonprofit, Self Help Ghana.



Kumasi market women submit loan paperwork through the Bantama Market Clinic's Social Capital Credits scheme, giving them access to reliable credit.

Near-Term Outcomes

In its first year, the Bantama Market Clinic conducted nearly 1,800 health assessments for more than 380 market women, screening for body mass index, blood pressure, blood sugar and breast cancer. These women now have electronic medical records, enabling them to be reminded of check-ups as needed. More than 260 women completed all of their screenings in the clinic's first year – a remarkable number, given an initial delay while staff members were trained to conduct pap smears and cervical cancer screenings. The clinic continues to serve market women, providing breast and cervical screenings and physicals; family planning and reproductive health counseling; treatment for minor ailments; child welfare services for the children of market traders and others in the community; community outreach and follow-on care.

The SoCCs program has also taken off. In its first year, 13 groups of 3-5 women received small loans from Self Help Ghana totaling GHS 25,500 (~\$8,000) at an interest rate (among Ghana's lowest) with no collateral required, and the money recouped was GHS 5,100 (~\$1,600). Another 13 groups had applied for loans, to be provided through Self Help Ghana.

Long-Term Impact

The Bantama Market Clinic, the first of its kind in Kumasi and, we believe, in Ghana as a whole, has had a significant impact on the lives of hundreds of women vendors and their families. Before its establishment, fewer than one in 10 of the Bantama traders had undergone any health screening in the last five years.

The clinic has changed that, while also providing counseling and referrals for women diagnosed with hypertension, diabetes, precancerous lesions of the cervix, breast lumps and cervical cancer. MCI's Market Clinic has also made it possible for the market women to learn more about health issues through weekly radio programs we have produced and broadcast over the market's station.

These early successes are set up to continue after MCI's close, serving not only Bantama's women traders, but also those who shop in the market. We also believe that this model health clinic, a public-private partnership, is highly replicable and can be scaled to other large markets in Kumasi in the coming months and years, possibly also offering mobile screening services to smaller market centers in and around the City.

We are hopeful that the Bantama Market Clinic will also be able to strengthen its referral system, to support the many women diagnosed with non-communicable diseases.

IN ITS FIRST YEAR, THE BANTAMA MARKET CLINIC:

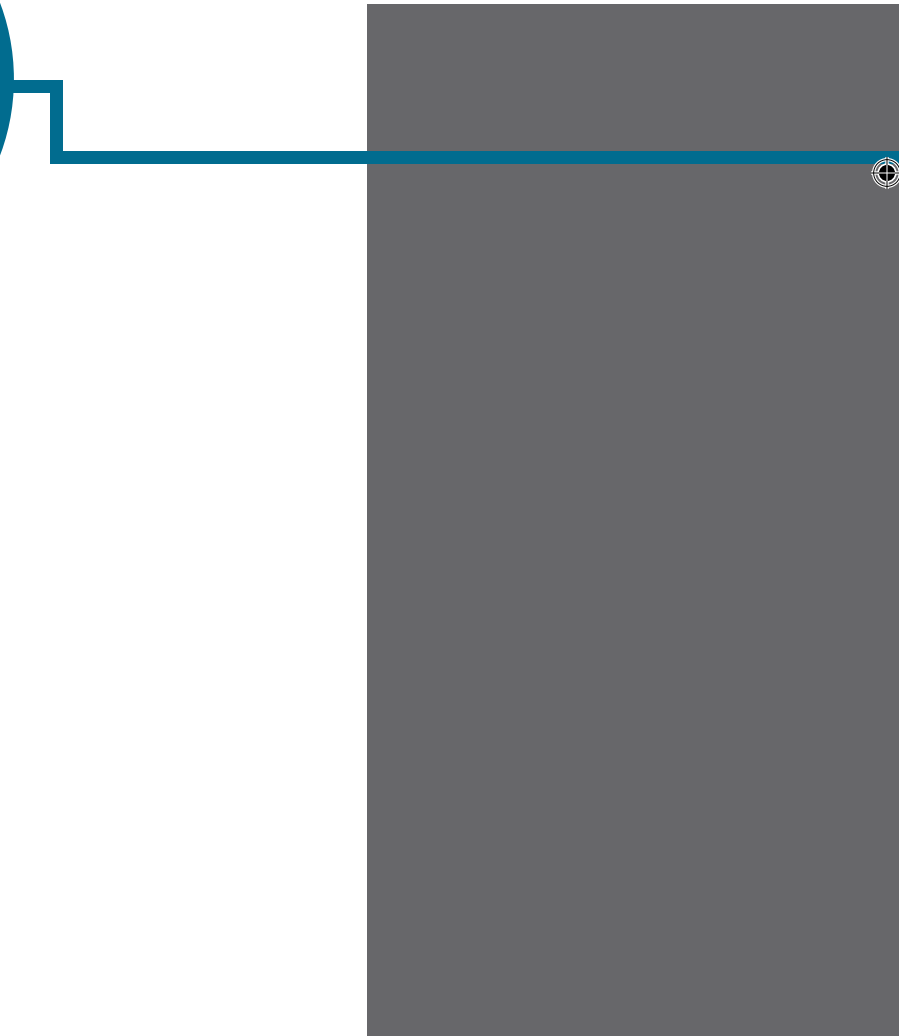
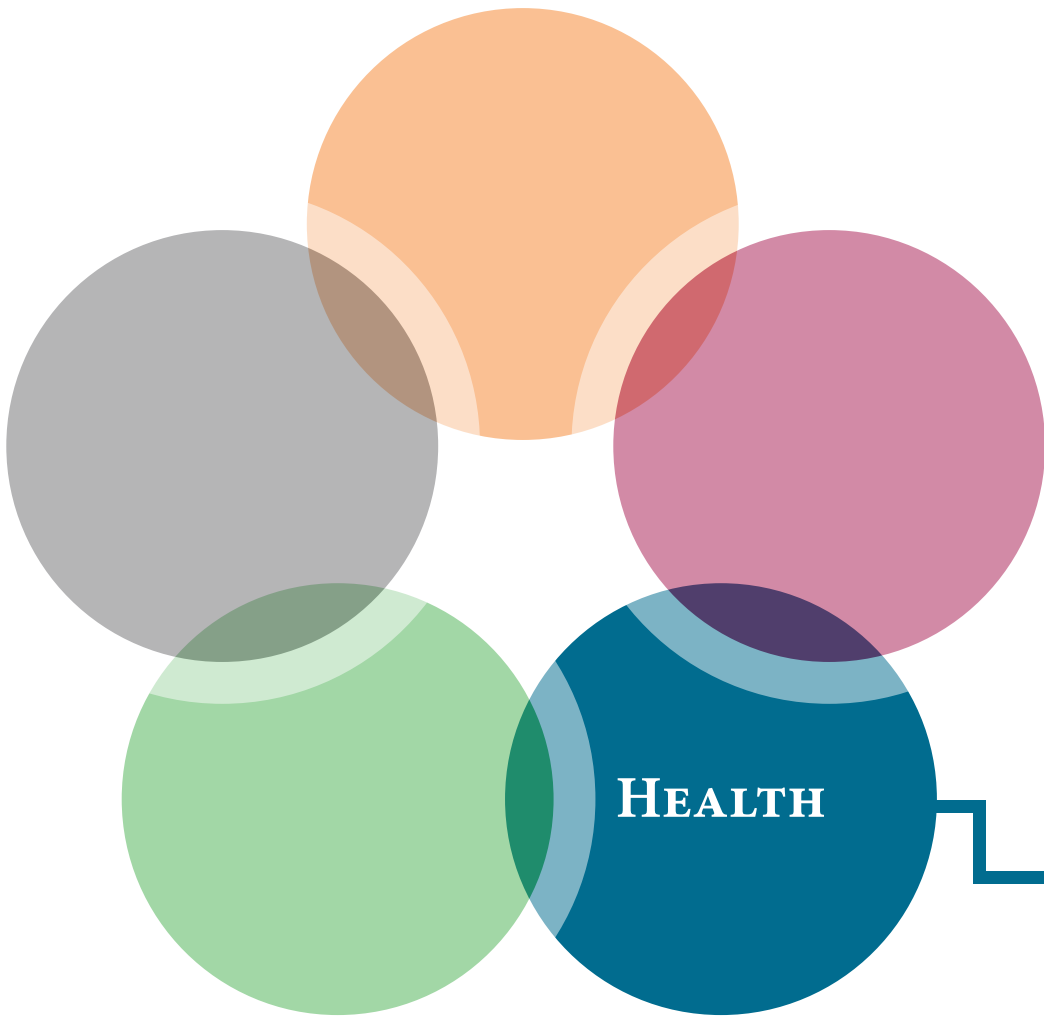
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health assessments for
380+ market women.

Facilitated loans to **13**
groups of **3-5** women
at low interest
rates, with no
collateral required.





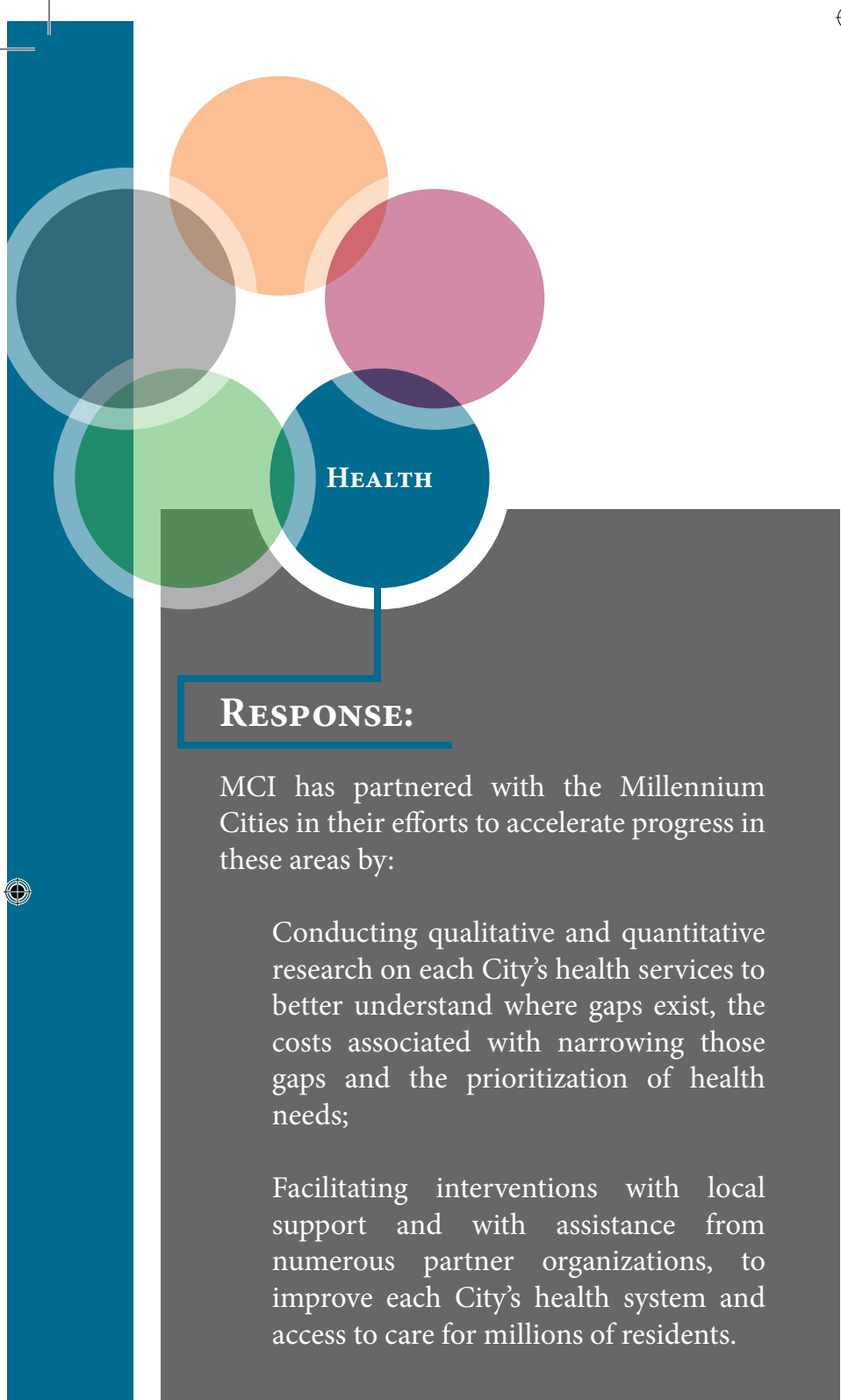
Bantama Market women traders now enjoy the benefits of reliable healthcare and a Social Capital Credits scheme to increase their savings.



CONTEXT:

More than a billion people live in poverty and lack access to quality, affordable healthcare. Sub-Saharan Africa, accounting for 11 percent of the world's population, has some of the world's worst health indicators, with the greatest number of under-five deaths, maternal deaths and the highest prevalence of HIV/AIDS.¹ Yet the region receives less than one percent of global health expenditures.²

The Millennium Cities and their respective national governments have all introduced significant positive change to their healthcare systems over the past decade, improving access for their residents. Many challenges remain, however, with regard to attaining the health-related MDGs, including lowering maternal and child mortality, implementing proactive prevention and treatment for HIV/AIDS, tuberculosis, malaria and other infectious diseases and improving health infrastructure and health professionals' skills.



HEALTH

RESPONSE:

MCI has partnered with the Millennium Cities in their efforts to accelerate progress in these areas by:

Conducting qualitative and quantitative research on each City's health services to better understand where gaps exist, the costs associated with narrowing those gaps and the prioritization of health needs;

Facilitating interventions with local support and with assistance from numerous partner organizations, to improve each City's health system and access to care for millions of residents.

RESEARCH

HEALTH NEEDS ASSESSMENTS

In seven of the Millennium Cities, MCI conducted MDG-based Health Needs Assessments to identify the gaps to be met for each City to attain the health-related MDGs: reducing child mortality by two-thirds (MDG 4); reducing maternal mortality by three-fourths (MDG 5); and combatting the infection rates of HIV/AIDS, malaria and other infectious diseases (MDG 6).

To examine each Millennium City's health system, MCI supervised graduate students as they gathered qualitative and quantitative data from local, regional and national government health bureaus and from other organizations focused on health issues.

Our research included estimated costs for each City to attain the health MDGs, calculated through the use of the Integrated Health Model developed by the United Nations Millennium Project Task Force on Health.³ Our assessments typically led to further discussions with key City stakeholders, which often prompted MCI to design and/or facilitate targeted interventions aimed specifically at meeting those needs, in tandem with a wide array of local and international partners.

Health Needs Assessments were conducted in the following Cities:

- Bamako, Mali
- Blantyre, Malawi
- Kisumu, Kenya
- Kumasi, Ghana
- Louga, Senegal
- Mekelle, Ethiopia
- Ségou, Mali

¹The World Bank. (2013). [Graph illustration "What are the regions with higher under-5 mortality?"] Accessed from the Health, Nutrition and Population Data Dashboard. Retrieved from <http://datatopics.worldbank.org/hnp/HNPDash.aspx>.

²The World Bank. (2008). *The business of health in Africa: partnering with the private sector to improve people's lives*. International Finance Corporation. Washington, DC: World Bank. Retrieved from <http://documents.worldbank.org/curated/en/2008/01/9526453/business-health-africa-partnering-private-sector-improve-peoples-lives>.

³This costing model, developed by the UN Millennium Project Task Force on Health, uses demographic, epidemiological and health services data to determine the total costs of meeting the health-related MDGs at the national level. To acquire information about the cost of health-related goods and services in the Millennium Cities, costs were tracked back to the purchasing source wherever possible. The limitations of the needs assessments are due in part to the completeness, accuracy and quality of the data collected at the municipal level, which, in turn, are limited by the reporting structure throughout each Millennium City's national government regarding its health data. The Integrated Health Model is now managed by the Poverty Unit of the UN Development Programme (UNDP).





HEALTH

Mother, Yaa, and her infant daughter, Savior, benefited from a MCI Neonatal Survival program in Kumasi, Ghana.

KEY FINDINGS ACROSS THE SECTOR

All of the Millennium Cities where Health Needs Assessments were conducted have made substantial progress toward attaining the health-related MDGs. Our research confirmed that work nevertheless remains to be done, particularly in the areas of maternal and child health.

Health Facilities

The levels of care vary across the Millennium Cities, yet each City offers primary care, typically at clinics and health centers, for the treatment of basic and preventive services, such as testing for HIV and acute respiratory infections, diarrhea, pneumonia and other diseases affecting children under five.

At City- or district-level hospitals, patients generally access more specialized care – often including obstetric care for complicated childbirths and surgical and post-operative care. Many of these facilities are equipped with laboratories and pharmacies. Most Millennium Cities also have tertiary care centers and teaching hospitals, where the most serious illnesses and conditions can be addressed. Although the Millennium Cities have sought to make primary care more accessible with frontline health centers or clinics, residents continue to bypass these facilities, as in Bamako and Blantyre, where residents who fall ill tend to go directly to the higher-level facilities. This preference is often based on one or more negative personal experiences of inadequate care at the smaller neighborhood facilities, which regularly turn out to have fewer well-trained staff on duty and a shortage of equipment and supplies than the higher-level facilities.

Our Health Needs Assessments found that residents in informal settlements suffer from the most restricted access to quality, affordable health services. In Blantyre's lower-income communities, facilities are unevenly distributed throughout the area,⁴ and in Kisumu's informal settlements, the few government health facilities and the unaffordability of private ones mean that residents are typically traveling long distances to access care.⁵ MCI has helped to improve health access for Kisumu residents

by training more than 100 Urban Community Health Workers in Manyatta, Kisumu's largest informal settlement, and also by assisting the Government of Israel with the facilitation of the City's first emergency room, now staffed by more than 40 local medical professionals trained by Israeli emergency care specialists.

Transportation to health facilities is also an issue. In Bamako, although each commune has procedures in place for transporting women in labor to appropriate facilities, few communes actually have functional ambulances, forcing residents to rely on public transportation. And in Kumasi, severe congestion resulting from the too few, narrow streets already clogged with *tro-tros* (mini-buses), taxis and private cars complicates the transfer of patients in distress.

Residents in informal settlements suffer from the most restricted access to quality, affordable health services.



A physician with MCI partner International Surgical Mission Support treats a patient at Kisumu's New Nyanza Provincial General Hospital.

Health Resources

The shortage of skilled health workers worldwide is one of today's most critical global challenges. In 2012, the Global Health Workforce Alliance and the World Health Organization (WHO) estimated a worldwide gap of 7.2 million professional health workers in 2012; WHO recommends that countries maintain a basic minimum threshold of 23 skilled health professionals per 10,000 people.⁶ Yet 83 countries fall



A Physicians for Peace doctor greets a patient during an MCI-facilitated fistula repair mission in Segou, Mali.

short, including many in the sub-Saharan region.⁷ Indeed, some of the Millennium Cities are in clear need of more medical professionals. Kisumu had one doctor serving 15,182 inhabitants in 2008, with a nurse-to-population ratio of 1:2,069. In Blantyre, 2010 saw 77 doctors at the tertiary care center, or one doctor per 6,993 inhabitants, even as the entirety of the City's health centers counted zero doctors, with a need for a minimum of 19. In Louga, in 2007, the ratio of doctors per person was 1:11,802, while the nurse-to-population ratio was 1:1,222; in Mekelle, all health centers serve catchment areas much larger than the City's intended population of 25,000; and in 2009 in Kumasi, the doctor-to-patient ratio was 1:46,338, and the nurse-to-patient ratio was 1:3,993.

⁶United Nations Human Settlements Programme [UN-HABITAT], Regional and Technical Cooperation Division. (2011). *Malawi: Blantyre Urban Profile*. Nairobi: UN-HABITAT. Retrieved from <http://unhabitat.org/?wpdmact=process&did=MzYxLmhvdGxpbnMs>.

⁵United Nations Human Settlements Programme [UN-HABITAT], Kenya Slum Upgrading Programme. (2005). *Situation Analysis of Informal Settlements in Kisumu*. Nairobi: UN-HABITAT. Retrieved from <http://www.chs.ubc.ca/archives/files/situational%20analysis%20of%20informal%20settlements%20in%20Kisumu.pdf>.

⁶World Health Organization. (2013). Global Health Workforce Shortage to Reach 12.9 Million in Coming Decades [News Release]. Retrieved from <http://www.who.int/mediacentre/news/releases/2013/health-workforce-shortage/en/>.

⁷Campbell J, Dussault G, Buchan J, Pozo-Martin F, Guerra Arias M, Leone C, Siyam A, Cometto G. (2013). *A universal truth: no health without a workforce*. Forum Report, Third Global Forum on Human Resources for Health, Recife, Brazil. Geneva, Global Health Workforce Alliance and World Health Organization. Retrieved from http://www.who.int/workforcealliance/knowledge/resources/GHWA-a_universal_truth_report.pdf?ua=1.

Many of the Millennium Cities fall short of the WHO-recommended minimum threshold of 23 skilled health professionals per 10,000 people.

Another challenge for the Millennium Cities is access to adequately trained staff, medicine, supplies and medical equipment. Blantyre has suffered from shortages of drugs, medical supplies, equipment, ambulances and trained health workers. Deficiencies in medications, medical supplies (consumables) and ambulances are also common in Kisumu, where MCI helped arrange for the delivery of five shipments of medical equipment, supplies and medicine donated by AmeriCares, as well as an entire container of advanced surgical equipment donated by the KNOCK Foundation, which sent a team of surgeons to train their Kisumu counterparts on its use.

In Ségo, where patients routinely were asked to bring their own or a relative's blood after vehicular accidents or before transfusions, MCI partnered with the Mali Ministry of Health and National Blood-Banking Authority, Physicians for Peace, American Red Cross, Safe Blood for Africa and the Millennium Villages Project, to establish, outfit and train medical practitioners in the safe operation of Mali's first regional blood bank at the Nianankoro Fomba Hospital in Ségo, where services are now ongoing.

Health Promotion

A number of Millennium Cities engaged in health promotional and outreach activities for residents – generally spanning antenatal care, child health and nutrition, family planning and more general health and hygiene education – to help increase awareness among inhabitants of important health issues and of opportunities for low-cost care.

In 2007, the Kumasi Metro Health Directorate, MCI and other partners sponsored a health fair during which more than 500 people were screened for hypertension and diabetes and had their body mass index checked. A Child Health Promotion Week also took place in 2007, during which immunizations, Vitamin A supplementation, insecticide-treated bed nets (ITNs) and other services were offered. In Louga, the Office of Public Health Promotion (Bureau EIPS) uses a diverse selection of interventions to educate the public, including educational discussions, radio emissions, community meetings and video.

Millennium Cities engage in health promotional activities to increase awareness of important health issues and of opportunities for low-cost care.

The Mekelle Zonal Health Office and the City's health centers have initiated health education activities at schools, prisons and community associations and have organized child immunization and Voluntary Community Testing for HIV campaigns. MCI and infectious disease specialists from Ben Gurion University organized an awareness campaign in Mekelle regarding safe drinking water while doctors screened and dewormed students at all Mekelle primary schools and trained local practitioners in doing so.

MCI has observed that many of the health promotional programs in the Millennium Cities are carried out not by government health officials, but rather by NGOs and community-based organizations, often with enthusiastic support from local health and political officers.



Public health nurses at Kumasi's Bantama Market Clinic, established by MCI.



Mothers and their babies join together in Accra, Ghana, for MCI's ceremony to celebrate the successful end of MCI's Neonatal Survival program.



Healthcare workers in Kumasi, Ghana, review patient information.

⁸Malawi National Statistical Office and ICF Macro. (2011). *2010 Malawi Demographic and Health Survey: Key Findings*. Calverton, Maryland, USA: NSO and ICF Macro. Retrieved from <http://dhsprogram.com/pubs/pdf/SR184/SR184.pdf>.

⁹Data was gathered from Kumasi's Water + Sanitation for the Urban Poor Project in 2008, conducted with support from the Kumasi Metropolitan Health Department.



Child Health

At least three Millennium Cities are on track to attain MDG 4 (reducing infant and child mortality by two-thirds): Blantyre, Kumasi and Louga. Projections by Malawi's National Statistical Office show that in 2012 in Blantyre City, the Infant Mortality Rate (IMR) – the death of a child under one year of age – was 37 deaths per 1,000 live births (although the IMR for the entire Blantyre catchment area was 69 per 1,000 live births).⁸ In 2008 in Kumasi the IMR rate was also lower than in other Millennium Cities, at 68 deaths per 1,000 live births,⁹ and in 2010, Louga's was 61 deaths per 1,000 live births.¹⁰

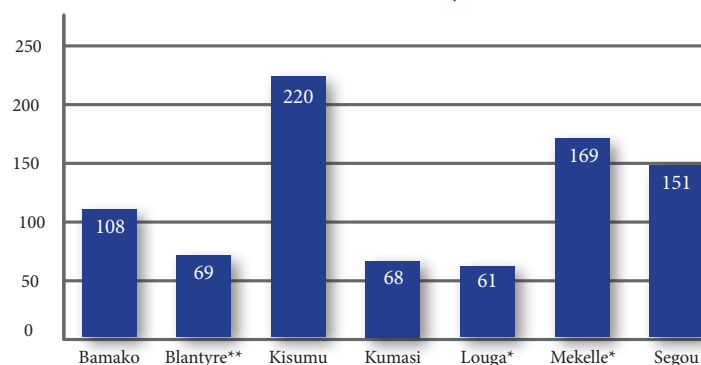
Some of the other Millennium Cities present a more challenging picture. In Kisumu, the IMR in 2008 was 123 per 1,000 live births, while the under-five mortality rate was 220 per 1,000 live births, considerably higher than the national urban and provincial rates. Neonatal mortality – the death of an infant within 28 days of birth – is also a grave concern in many of the Millennium Cities, due in large measure to prematurity and birth asphyxia. Kenya has one of Africa's highest neonatal mortality rates, at 33 per 1,000 live births, due in part to a lack of dedicated neonatal health units and proper training for health professionals. Given that training skilled birth attendants in routine neonatal care and resuscitation significantly reduces neonatal deaths,¹¹ MCI has responded to this need by introducing the American Academy of Pediatrics' neonatal resuscitation protocol for laypersons, "Helping Babies Breathe™ (HBB)." MCI enabled more than 200 health professionals trained in HBB pilot programs in Kumasi, Accra and Mekelle. Since then, hundreds more health professionals have participated in HBB training. A similar HBB program was run by Harvard Medical School pediatricians and facilitated by MCI-trained health professionals in Kisumu.

Kenya has one of Africa's highest neonatal mortality rates, at 33 per 1,000 live births, due in part to a lack of dedicated neonatal health units and proper training for health professionals.

Major causes of child morbidity in the Millennium Cities include malaria, acute respiratory infection and diarrhea and, in slum areas, lack of clean water, poor hygiene and improper fecal disposal.¹² Approximately 19 percent of all children in Ségou suffer from diarrhea at any given time;¹³ 20 percent of these cases are diagnosed as dysentery, and about 40 percent of cases result in significant dehydration. While parasitic infections are generally a minor cause of infant morbidity, they are nevertheless a concern, with infections like helminthiasis, which originates in the soil, mostly affecting children without shoes. Administrative records from health posts in Louga indicated that parasitic infections were found to increase fourfold as children age from under one year to five years of age.

INFANT MORTALITY RATE PER 1,000 LIVE BIRTHS¹⁴

*derived from national rate; **Blantyre District rate



The data in the charts were compiled based on MCI's Health Needs Assessments conducted in the Millennium Cities between 2006-2012.

¹⁰Ministère de la Santé et de la Prévention Médicale [MSPM] and ORC Macro. (2006). Senegal: Enquête Démographique et de Santé (DHS), 2005 (Calverton, MD: Measure DHS). Retrieved from http://www.measuredhs.com/pubs/pub_details.cfm?ID=583&srchTp=advanced.

¹¹Opiyo-Omolo, B. and Mukhopadhyay, S. (2010). "Barriers to Effective Neonatal Resuscitation in Kenya." Poster Presentation at the International Conference on Urban Health (ICUH), New York, October 27-29, 2010.

¹²United Nations Human Settlements Programme [UN-HABITAT], Kenya Slum Upgrading Programme. (2005). *Situation Analysis of Informal Settlements in Kisumu*. Nairobi: UN-HABITAT.

¹³Samaké S, Traoré SM, Ba S, Dembele E, Diop M, Mariko S, et al. (2007). *Enquête Démographique et de Santé du Mali 2006*. Calverton, Maryland, USA: Macro International Inc. Retrieved from <http://dhsprogram.com/pubs/pdf/fr199/fr199.pdf>.

¹⁴The IMR for Mekelle is derived from Ethiopia's national rate. The IMR in Blantyre District, including the City's more rural periphery, is 69 per 1,000 live births, but the NSO estimated Blantyre City to have an IMR of 37 per 1,000 live births in 2012.

Malnutrition is often found in young children, contributing to child morbidity in the Millennium Cities. Informal surveys at *Centre de Santé de Référence* in Bamako indicate that about six in 10 children are underweight, with one of those suffering from severe malnutrition.¹⁵ In Louga, 5-10 percent of all infants seen at urban health posts are malnourished, as indicated in administrative records from the City's health posts. Some interventions employed in Bamako to improve children's health include Vitamin A supplementation, fortified milk and Plumpy'nut®.

MCI's findings confirm that the Millennium Cities are making a concerted effort to improve infant and child health by providing bed nets to protect against malaria-bearing mosquitos and improving access to clean water. MCI has worked closely with four Millennium Cities to improve safe childbirth, neonatal survival and infant health through a number of interventions, including the facilitation of: a) trainings by capable partners in ultrasound and neonatal resuscitation protocols; b) the introduction of Kangaroo Mother Care to encourage nursing; c) training mothers in infant care, safe family hygiene and nutrition; and, d) together with Ben Gurion University neonatologists and the Government of Israel, the construction of two low-cost, low-tech Mother-and-Baby Units to treat minor newborn ailments and thereby decongest the neonatal intensive care unit at the tertiary care center.

Three Millennium Cities have made significant progress by carrying out child vaccinations, which are proven preventive measures against measles, whooping cough, tetanus and tuberculosis. Roughly 80 percent of children in Bamako and Ségou have had essential vaccinations, furnished at no charge by the Regional Health Directorates and distributed via cold chains to community and referral health centers. Malawi, too, has prioritized child immunizations, resulting in fewer child deaths in Blantyre and nationwide.

¹⁵Information obtained from staff at CSREF Commune II (2008).

¹⁶Data not available for Kumasi and Louga.

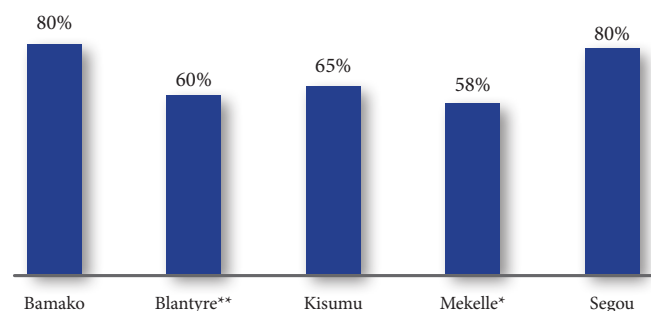
¹⁷World Health Organization [WHO]. (2012). Trends in Maternal Mortality: 1990-2010. Geneva: WHO Press. Retrieved from <http://www.who.int/reproductivehealth/publications/monitoring/9789241503631/en/>.

¹⁸Malawi National Statistical Office and ICF Macro. (2011). *2010 Malawi Demographic and Health Survey: Key Findings*. Calverton, Maryland, USA: NSO and ICF Macro. Retrieved from <http://dhsprogram.com/pubs/pdf/SR184/SR184.pdf>.

Several Millennium Cities have made significant progress in pediatric vaccination, protecting children against disease; 80% of children in Bamako and Segou have had essential vaccinations.

PERCENTAGE OF CHILDREN RECEIVING ESSENTIAL VACCINATIONS¹⁶

*derived from national rate; **Blantyre District rate



Women recover from cataract repair surgeries, following a health mission led by the Himalayan Cataract Project in Mekelle, Ethiopia.

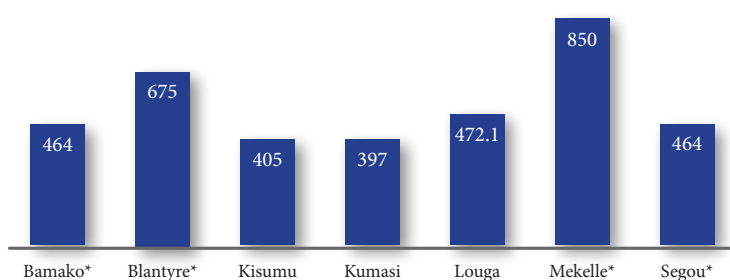


Maternal Health

Although Maternal Mortality Rates (MMR) were available only at the national level in several countries with Millennium Cities, it was made clear to MCI through available data, interviews with health officials and visits to public health facilities that all of the Cities need to do more to reduce maternal mortality. Yet we found that a number of Millennium Cities fared better than the average across the sub-Saharan region, which in 2010 was 500 per 100,000.¹⁷ Malawi has one of the highest MMRs in the world, and in Ethiopia, rates are also extremely high.

MATERNAL MORTALITY RATE PER 100,000 LIVE BIRTHS

*derived from national rate

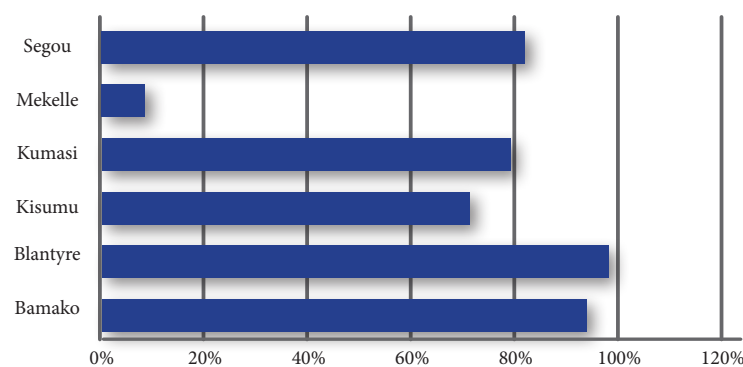


In Mekelle, poverty prevents many women from accessing maternal health resources, with many women choosing to deliver their babies outside of a health facility because they feel they receive better care at home than at the available public facilities. Expectant mothers at home generally lack access to skilled professionals and to emergency obstetric care; yet many maternal deaths occur precisely because complications arise during labor.

Early marriage is another reason for the heightened maternal mortality across the sub-Saharan region. In Malawi, 26 percent of women between 15-19 have already begun bearing children,¹⁸ ages when they are more likely to die in childbirth. Across Ethiopia there is a high prevalence of obstetric fistula, holes in the birth canal often caused by prolonged labor and common for younger mothers. In response, the Fistula Foundation established a satellite hospital facility in Mekelle in 2007 (the 20-bed Hamlin Fistula Hospital), and in 2012 and again in 2013, MCI facilitated surgical missions sponsored by the KNOCK Foundation, during which complex fistula cases, as well as other complex urological surgeries, were performed by KNOCK Foundation surgeons.

To make care more accessible, the Kenya Ministry of Health abolished user fees in all public maternity hospitals and clinics, and the Mali Ministry of Health has decreed that cesarean sections be provided free of charge. Yet high maternal mortality rates persist in many Millennium Cities, attributable also to transport costs, delays in reaching the hospital, fatal abortions and poorly equipped and staffed health facilities. Access to antenatal and post-natal care is also critical to maternal health. WHO recommends four antenatal visits,¹⁹ yet the actual number of visits to facilities by expectant mothers is generally lower in the Millennium Cities. At the time of MCI's Health Needs Assessments, only 30 percent of Kisumu women completed four antenatal visits, and in Ségou, where 82 percent make at least one visit, fewer than half completed all four visits over the course of their pregnancies, despite Mali's national reproductive health policy providing free antenatal care to all pregnant women.²⁰ Antenatal care is also free in Louga, yet only 19 percent of the pregnant women there who undergo their first prenatal consultation complete all four recommended visits.

ANTENATAL ACCESS AND UTILIZATION RATES²¹



¹⁹The Partnership for Maternal, Newborn and Child Health. (2006). Chapter 2: Antenatal Care. Joy Lawn and Kate Kerber (Eds.), *Opportunities for Africa's newborns: Practical data, policy and programmatic support for newborn care in Africa*. (pp. 51-62). Cape Town: Partnership for Maternal, Newborn and Child Health. Retrieved from http://www.who.int/pmnch/media/publications/aonsectionIII_2.pdf.

²⁰Samaké S, Traoré SM, Ba S, Dembele E, Diop M, Mariko S, et al. (2007). *Enquête Démographique et de Santé du Mali 2006*. Calverton, Maryland, USA: Macro International Inc. Retrieved from <http://dhsprogram.com/pubs/pdf/fr199/fr199.pdf>.

²¹Antenatal care utilization rates not available for Louga.



Yaa and Savior attend a MCI-sponsored wellness clinic for participants in the Neonatal Survival program.

The Millennium Cities and their national governments have made significant strides in accelerating progress toward achieving MDG 5. Malawi President Joyce Banda launched a nationwide Maternal Health and Safe Motherhood Initiative, and in Ghana, the Kumasi Metro Health Director and Directorate have worked tirelessly to instill a culture of accountability, information-sharing and self-reliance among the network of sub-Metro facilities regarding every mother's survival and successful delivery, making Kumasi and the entire Ashanti region a national model for effective public health policy. Where Community Health and Community Outreach Workers are mobilized, they, too, can play important roles by encouraging women to attend antenatal clinics and to deliver their infants in facilities, where they can be sure to be cared for by skilled birth attendants.

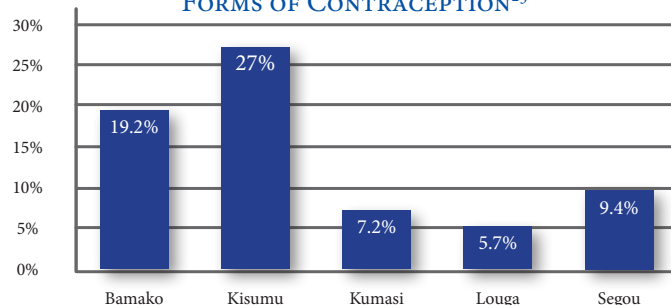


A Neonatal Survival program participant receives information on newborn care from MCI's Regional Coordinator for West Africa, Abenaa Akuamo-Boateng.

Family Planning

Reproductive health services can also contribute to improving both maternal and child health. Although the numbers of women reporting usage of modern forms of contraception in the Millennium Cities are quite low, utilization rates may well be under-reported, with many women actually accessing contraception through private sector channels, where it can be obtained more discreetly.²²

PERCENTAGE OF RESIDENTS USING MODERN FORMS OF CONTRACEPTION²³

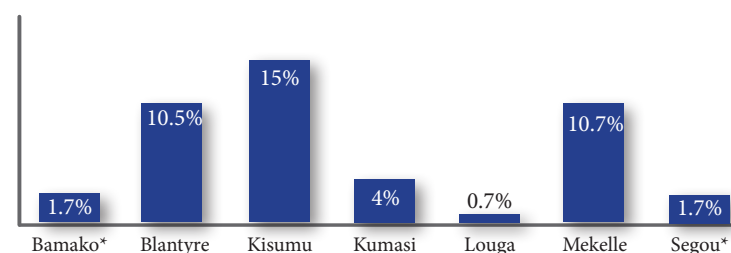


HIV/AIDS, Malaria and Other Diseases

Three of the Millennium Cities have faced major challenges in addressing the sixth MDG, combatting HIV/AIDS, malaria and other infectious diseases. Blantyre, Mekelle and Kisumu all have extremely high HIV/AIDS prevalence rates, particularly in their informal settlements and among women and girls compelled by their poverty to resort to transactional sex, exposing them to higher risks of transmission.²⁴ Exacerbating the impact, the stigma of HIV/AIDS also prevents many from seeking testing and early treatment.

HIV/AIDS PREVALENCE RATES

*derived from national rate



Fortunately, many urban areas are committed to combatting this disease and have made efforts to improve antiretroviral therapy (ART) programs, as in Malawi, where ART is provided through both public and private facilities and where healthcare workers at all ART sites have been trained. Across the continent, although Mali's HIV/AIDS prevalence in 2005 was a relatively low 1.7 percent,²⁵ the Mali Ministry of Health has nevertheless put into place programs to prevent the further spread of the disease, including providing antiretrovirals (ARVs) to all persons living with HIV/AIDS without discrimination and at no cost.²⁶ This is also the case in Kisumu, where the Kenya Ministry of Health, with support from the United States Agency for International Development (USAID), has mandated the availability of free ARVs in all government health facilities.

²²As staff members at a Bamako Community Referral Center (Commune VI) suggested in 2008, women may obtain contraceptives on the private market to avoid detection by their husbands.

²³Data not available for Blantyre or Mekelle.

²⁴Barnett, T. and Whiteside, A. (2002). Poverty & HIV/AIDS: Impact, Coping & Mitigation Policy. G.A. Cornia (Ed.), *AIDS, Public Policy, & Child Wellbeing*. (Florence: UNICEF).

Malaria is endemic in a number of Millennium Cities. Approximately one-third of all new outpatient visits reported in 2011 in Kisumu,²⁷ and 37 percent of all outpatient visits reported between July 2010-June 2011 in Blantyre were diagnosed as malaria - a primary cause of under-five morbidity in each City, as well as the primary cause of workplace absenteeism.²⁸ In Bamako, malaria is not only the primary cause of under-five morbidity and mortality, but also the primary cause for workplace absenteeism.²⁹

Children and pregnant mothers are particularly susceptible to malaria, and a number of Millennium Cities have initiated efforts to combat the disease. Bamako has benefited from the strategic “National Plan Against Malaria” promoted by the Mali Ministry of Health, which is intended to effectively prevent, diagnose and treat those falling ill with the disease. In Kumasi, with support from WHO, subsidized nets are distributed to all pregnant women and children under five and are offered at greatly reduced prices to other residents.

Tuberculosis (TB) is another serious infectious disease afflicting many Millennium City residents. Bamako’s TB burden is higher than Mali’s national average and needs to be reduced; in Mali’s Ségou region, TB is estimated to infect 55 people among each 100,000.³⁰ Because TB is stigmatized in Louga, officials there believe that the actual prevalence may be under-reported; however, the City claimed a 97 percent success rate in implementing the national “Directly Observed Therapy” (DOTS) procedure.³¹

Waterborne illnesses continue to be killers. At citywide meetings, Mekelle residents expressed concern about water and sanitation issues, including the contaminated river, trash in the City’s streets and the absence of latrines in schools and other public facilities. MCI’s research indicated that the public health in all of the Millennium Cities can be improved tremendously by upgrading sanitation and the quality of drinking water.

²⁵Samaké S, Traoré SM, Ba S, Dembele E, Diop M, Mariko S, et al. (2007). *Enquête Démographique et de Santé du Mali 2006*. Calverton, Maryland, USA: Macro International Inc. Retrieved from <http://dhsprogram.com/pubs/pdf/fr199/fr199.pdf>.

Health Costs

Several Millennium Cities rely heavily on their national governments to support health funding, making it difficult to implement local health plans, as noted in MCI’s Health Needs Assessment for Ségou. This national financing, although essential, nevertheless leaves a substantial gap in meeting each City’s primary health needs. Kenya allocated 1.3-1.7 percent of its gross domestic product to health from 2003 - 2008, or \$6-\$13 per capita, far less than half the \$44 recommended by WHO to cover basic health services.³²

Many Millennium Cities continue to rely heavily on external funding to supplement health programs, including from multilateral agencies and non-governmental organizations. In 2006, nearly 15 percent of Kenya’s health financing came from external donor sources, and Kisumu relies as well on outside donors for health resources and equipment. Since its establishment in Kisumu in early 2006, MCI has facilitated a series of interventions to help address those needs, including establishing clinics and professional partnerships and bringing equipment, medicines, trainers and surgical interventions to the City.

Healthcare remains very expensive for most individuals, and a number of national governments where Millennium Cities are located have introduced health insurance programs to improve access. In 2004, Kenya introduced a National Health Insurance Fund that permits employees to contribute a percentage of their salaries, with registration left to the individual; in Mali, some families participate in local insurance groups; and in 2008, Ethiopia made citizens eligible to receive child and maternal health visits, prenatal and delivery care, and HIV/AIDS, TB and malaria testing and treatment free of charge at government health facilities.³³

²⁶Sangho, Fanta. (2007). *Antiretroviral Drugs Accessibility to HIV/AIDS Patients in Bamako, Mali (West Africa)*. (Masters thesis). University of Oslo. Retrieved from <https://www.duo.uio.no/handle/10852/30148>.

²⁷Data provided by the Kisumu Health District Office.

²⁸Malawi National Statistical Office and ICF Macro. (2011). *2010 Malawi Demographic and Health Survey: Key Findings*. Calverton, Maryland, USA: NSO and ICF Macro. Retrieved from <http://dhsprogram.com/pubs/pdf/SR184/SR184.pdf>.

²⁹“National Program Against Malaria.” (2006). Bamako, Mali.

³⁰Ministry of Health, Secretary General, National Health Directorate. (2007). *Annuaire SLIS (Système Local d’Information Sanitaire) 2006* (Bamako: DNS-SLIS).

³¹Administrative data provided by Louga’s health centers.

³²World Health Organization [WHO]. (2012). *Trends in Maternal Mortality: 1990-2010*. Geneva: WHO Press. Retrieved from <http://www.who.int/reproductivehealth/publications/monitoring/9789241503631/en/>.

³³Patients are asked to pay for supplies used during their visits but may apply for need-based waivers.

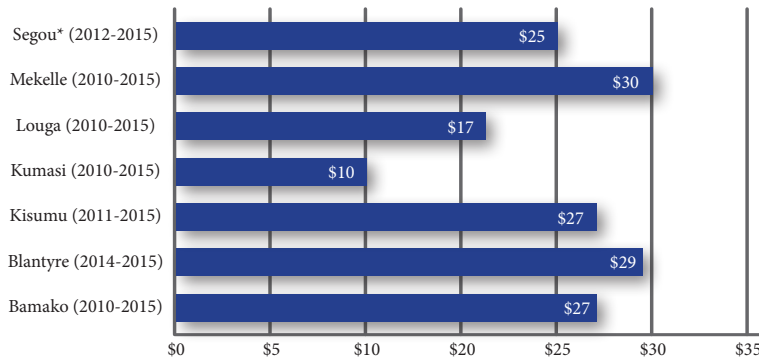
RECOMMENDATIONS

FROM MCI'S HEALTH NEEDS ASSESSMENTS

MCI's needs assessments made recommendations to each Millennium City regarding specific investments designed to help them achieve the health-related MDGs. These include investing in healthcare infrastructure; building the capacity of local health professionals, including community health workers and midwives, to improve maternal and neonatal care; providing long-lasting, insecticide-treated bed nets and other preventive treatments free of charge to protect residents against malaria; expanding family planning campaigns and encouraging the use of condoms to mitigate the spread of HIV/AIDS; and fostering support and involvement from community-based organizations.

MCI provided cost estimates for each City's implementation of these recommendations, calculated through the Integrated Health Model (IHM) developed under the UN Millennium Project, which assumes that "universal health care can be achieved by (1) providing communities with affordable, accessible, available and appropriate care; (2) expanding facility effectiveness; and (3) reducing morbidity and mortality, particularly amongst women and young children." MCI employed this model, which relies on both country-specific unit costs and regional unit costs derived from other sources, to project an average annual per-capita expenditure for each City's population to attain the health-related MDGs by 2015.

ANNUAL COST PER CAPITA TO PROMOTE HEALTH



\$24: the average recommended annual per-capita cost to achieve the health-related MDGs in the Millennium Cities assessed.



Mother and toddler visit MCI-supported health clinic in Segou.

Recommended highlights include investing in healthcare infrastructure, building the capacity of local healthcare professionals, expanding family planning and fostering support through community-based organizations.



HOUSEHOLD SURVEY ANALYSIS

Our needs assessments led us to create and facilitate an MDG-based household survey that we administered in two Millennium Cities – Kisumu and Blantyre. The household surveys offered a glimpse of daily life and the difficulties therein for the residents of three informal settlements in each City. Highlights of our findings follow, regarding the health challenges faced by these chronically under-resourced communities.

MCI's Health Findings for Blantyre's Urban Settlements: Mbayani, Misesa and Nancholi

- Children in 98 percent of households were vaccinated for TB, polio, measles and diseases such as whooping cough and tetanus.
- Although child mortality has declined, 22 percent of households reported that a child in the household died before reaching the age of five, with the highest child mortality rate in Myabani, at 24 percent.
- 69 percent of pregnant women in the three surveyed areas attended four or more antenatal visits.
- 93 percent of mothers reported that their last delivery was assisted by skilled personnel, and nearly 98 percent said that they breastfed after giving birth.
- About one in five households did not have even an untreated mosquito net; of those households with nets, two-thirds had been treated to repel mosquitoes.

MCI's Health Findings for Kisumu's Urban Settlements: Nyalenda A, Nyalenda B and Obunga

- The use of contraceptives, such as injectables, intrauterine devices (IUD), pills, condoms and sterilization, was reported by about 44 percent of households including women of reproductive age; this is a low percentage, given the government's MDG benchmark of increasing the use of family planning services to 70 percent by 2012.
- Over half of the pregnant women in Nyalenda A and Obunga attended four or more antenatal visits.
- 75 percent of mothers reported that their last delivery was assisted by skilled health personnel.
- Most children in Nyalenda A and Obunga had been vaccinated against polio and tuberculosis; in Nyalenda B, only four out of five children had been vaccinated.
- Roughly 80 percent of children in study areas were immunized against DPT; only 67 percent had received the measles vaccine.
- Approximately three out of four households had at least one mosquito net, but a full third of respondents did not know whether their households had been treated with insecticide.



Kumasi health workers receive training in neonatal resuscitation, using the American Academy of Pediatrics' Helping Babies Breathe™ protocol.

INTERVENTIONS

To address some of the most critical MDG-related gaps unearthed through our research, MCI has reached out to partners capable of helping us design and/or carry out targeted interventions. Our work has spanned critical healthcare concerns facing the Millennium Cities, from improving access to basic quality care for the urban poor through market clinic and community health worker programs, to improving maternal and neonatal health with ultrasound and resuscitation training and by establishing low-cost mother-and-baby units, to bringing in teams of qualified physicians to train local health professionals in a variety of sub-specialties so that they might provide enhanced care for patients.

Our hope is that the interventions facilitated by MCI have helped empower hundreds of health professionals who are now effecting change within the Millennium City healthcare systems.

DYNAMIC INTERVENTIONS

Giving Expectant Mothers a Clearer Picture

The Ghanaian National Health Insurance Scheme allows pregnant women two free ultrasound scans; yet many medical professionals are not trained in the uses of ultrasound technology. MCI therefore arranged for ultrasound training and screenings from the London-based International Society of Ultrasound in Obstetrics and Gynecology (ISUOG). Over the course of three separate weeklong trainings, ISUOG doctors and other medical professionals trained a team of their Kumasi peers at four local hospitals, including Manhyia District Hospital, Maternal and Child Health Hospital, and the two facilities, Kumasi South and Suntreso Hospitals, where the Government of Israel and MCI had established two neonatal units. Using three state-of-the-art machines donated by Siemens, ISUOG demonstrated how to use ultrasound to detect high-risk pregnancies and complications requiring specialized care by focusing on such typical indicators as vitality, presentation, amniotic fluid levels, placental location and biometry. ISUOG team lectures were followed by hands-on demonstrations and instruction regarding a

set of complex obstetric conditions. Together, the ISUOG team and the trainees detected a number of cases requiring specialized care, underlining the importance of ultrasound screening. These trainings will continue to have a significant impact on care for Kumasi's expectant mothers and on reducing maternal mortality rates.



A nurse gives guidance to a new mother at one of two Mother-and-Baby Units in Kumasi, Ghana, built with support from the Government of Israel and neonatologists at Israel's Ben Gurion University.

MCI arranged for the International Society of Ultrasound in Obstetrics and Gynecology to provide ultrasound trainings to help local technicians learn how to detect high-risk pregnancies and complications, improving overall birth outcomes.



Bringing a Bright Start to Newborns and their Mothers through Life-Saving Neonatal Care

MCI has established a strong model to improve neonatal outcomes in Kumasi, elements of which have served as a model for other Millennium Cities, including Kisumu, Accra and Mekelle, in their efforts to enhance neonatal health.

Neonatal Emergency Training

Veteran neonatologists at MCI partner Ben Gurion University trained staff at Kumasi's national teaching hospital, Komfo Anokye Teaching Hospital (KATH), to identify pre- and neonatal emergencies and to care for neonates in emergencies. It immediately became clear to the Israeli specialists that the neonatal intensive care unit was dangerously overcrowded, creating a perilous situation for mothers and babies alike.

Mother-and-Baby Units

With support from Israel's Agency for International Development Cooperation (MASHAV), the Ben Gurion neonatologists designed and built two low-tech, low-cost neonatal clinics ("Mother-and-Baby Units," or MBUs), attached to two sub-Metro Kumasi hospitals, Suntreso and Kumasi South. Staff were trained to operate the units, creating safe, clean spaces where new mothers can deliver, receive advice on nursing, health and nutrition and where their babies can be treated for non-life-threatening ailments. The MBUs have been very successful in increasing utilization rates, thus, decreasing the overcrowding in KATH's intensive care unit so that its medical team can focus on caring for the sickest neonates.



Neonatal Survival program participants receive newborn essentials from MCI's Abenaa Akuamo-Boateng in Kumasi.

Kangaroo Mother Care Training

The nurses and midwives at the MBUs have received extensive training to care for neonates and their mothers, including in Kangaroo Mother Care, a skin-to-skin approach to caring for neonates with life-saving possibilities, particularly for preterm babies.

"Helping Babies Breathe" Neonatal Survival Program

MCI designed and implemented an innovative pilot program in 2010, sponsored by Johnson & Johnson and supported by AmeriCares, to improve neonatal survival rates by training medical professionals in the American Academy of Pediatrics' Helping Babies Breathe™ protocol (HBB) and other infant care techniques. Through this program, which trained practitioners at all sub-Metro hospitals in Kumasi and Accra, more than 1,500 participating mothers also received information on caring for their newborns. Similar HBB trainings and refresher trainings were also conducted in 2012 and 2013 in Mekelle and again in Kumasi in 2014. For more information, see page 72.

Urban Community Health Workers Training Program

Residents of Manyatta, Kisumu's largest informal settlement, have benefitted from an Urban Community Health Worker (CHW) training program facilitated in 2012-2013 by MCI, in collaboration with the Municipal Council of Kisumu's Health Department and the Urban Matters program of the Dutch non-profit CORDAID. Trained using the Ministry of Health's Community Strategy Manual, Manyatta CHWs were taught to collect and analyze data at the household level; to identify and keep track of households including expectant mothers; to prevent and monitor for disease and to recognize danger signs; to perform essential lifesaving techniques; to refer patients for further care; and to advocate on their behalf. Many of the trained CHWs, all originally volunteers, have since been hired as CHWs by other organizations; MCI is hopeful that all those trained will be able to receive a stipend or be otherwise rewarded for their work, given their specialized contributions to the community in the areas of disease prevention, health promotion and essential care.



Mama Jael, a Community Health Worker in Manyatta.

Bantama Market Clinic

As noted above in our chapter on Gender, MCI set up a health clinic for the women traders in Kumasi's Bantama Market, one of the region's largest. With support from the Kumasi Metropolitan Assembly and the Kumasi Metropolitan Health Directorate, this clinic has registered hundreds of vendors who come to the market each day to sell their goods, all of whom now have electronic medical records. These women have all received cervical and breast screenings, physicals and treatment for minor ailments, and for those requiring further care, referrals to area hospitals, most of which are handled *pro bono*.

Furthering Medical Capacity in the Millennium Cities

Over the years MCI has partnered with a number of organizations to help build healthcare capacity in the Millennium Cities. This has included establishing new facilities, such as an emergency room, regional blood bank and clinics; identifying medical needs and facilitating trainings for local health professionals in specialized care to better meet those needs; and enabling the shipment and delivery of essential medical supplies, equipment and medicine.

Facilities

Cervical Cancer Clinics The California-based non-profit Cure Cervical Cancer (CCC) partnered with the Millennium Cities Initiative to help local professionals establish and maintain five cervical cancer clinics – one in Mekelle and four in Kisumu. These “See and Treat” clinics are designed to provide cervical cancer screenings and treatment for women in developing countries, where cervical cancer is rarely diagnosed in time to act and is consequently one of the leading causes of women's death.

Professionals in Kisumu and Mekelle were trained in low-cost, low-tech, high-impact techniques known as “visual inspection with acetic acid” (“the vinegar test”) and cryotherapy, to screen for and treat pre-malignant surgical lesions. In addition to setting up the clinics and providing the training, CCC equipped clinics with an immense store

of supplies used in their routine cervical cancer screenings and treatments. Through our collaborative partnership, CCC and MCI have trained 19 local health professionals, screened more than 3,000 women for cervical cancer and referred more than 440 women for treatment with cryotherapy.



Cure Cervical Cancer trains local health workers in Kisumu on the use of cryotherapy in the “See and Treat” cervical cancer clinics.



Graduates of the Kisumu “See and Treat” training celebrate the program's completion.

“See and Treat” cervical cancer clinics screened 3,000+ women for cervical cancer and referred 440+ women for treatment in Kisumu and Mekelle.



Emergency Room Israeli physicians and the Israeli aid agency MASHAV constructed the first Emergency Room (ER) in 2010 in Kisumu at Kisumu East District Hospital, which has served as the center of the City's emergency response and has enabled Kisumu's medical professionals to respond more immediately to emergency and trauma cases. Israeli specialists trained 41 medical professionals in emergency medicine at this cleverly designed ER, including doctors, nurses, clinical officers, medical officer interns and paramedics from facilities across the City. Trainees received instruction through videos, slides, skill exercises and case studies on a variety of topics, including how to conduct a triage, interpret and operate an EKG machine, handle trauma care, identify and treat life-threatening injuries and plan for mass casualties.

Community-Based Health Planning and Services Clinic In partnership with Global Communities (formerly CHF), MCI established and helped furnish a Community-Based Health Planning and Services (CHPS) clinic in Kwao Tsuru, a low-income, high-density settlement in Accra's New Town, which provides some prenatal care, treats minor ailments and screens for such infectious diseases as malaria and cholera. The Health Zone nurses, assigned by the Ghana Health Service, also educate neighborhood households on basic hygiene and disease prevention methods, reducing, in the process, practices that continue to put community health at risk.

Regional Blood Bank In collaboration with Physicians for Peace, the American Red Cross, Safe Blood for Africa, the Millennium Villages Project and the National Blood-Banking Authority of the Mali Ministry of Health, MCI initiated a broad-based collaboration to establish a regional blood bank at the Nianankoro Fomba Hospital in Ségou. The space was renovated with support from the Government of Japan, American Red Cross donated all the equipment, and the Johannesburg-based non-profit Safe Blood for Africa has trained attending physicians and other medical professionals in safe blood screening, preservation and administration; critical and ongoing support has been provided by Physicians for Peace, the Millennium Villages Project and Safe Blood for Africa.



Israeli aid agency MASHAV provides Kisumu health workers with training in emergency response.

MCI and its partners helped establish facilities to increase healthcare capacity and support the communities' needs, including:

Cervical Cancer Clinics

An Emergency Room

A Community-Based Health Planning and Services Clinic

Mali's first Regional Blood Bank



A team of U.S.-based urological surgeons, with support from United Therapies and the KNOCK Foundation, offer training for healthcare workers in Kisumu.

Trainings and Supplies

Urological Surgeries A team of U.S.-based urological surgeons, with support from United Therapies and the KNOCK Foundation, has initiated four successive annual missions, first to Kisumu for two years, then to Mekelle for another two years, to bring advanced surgical equipment and procedures to hundreds of patients presenting complex conditions in these two Cities, where few urological surgical specialists are readily available. The team first conducted screenings to assess patients' needs and to determine whether further care or surgery was needed. On their first trip to Kisumu, the urologists, working in concert with a small team of Kenyan surgeons they helped train, conducted more than 20 surgeries, removing tumors, inserting stents and performing a few prostatectomies, and helped nearly 50 patients suffering from conditions ranging from serious to life-threatening. United Therapies donated essential medical supplies, such as sutures, surgical scissors and gloves, making treatment affordable, especially since patients are typically required to pay for many of the supplies used during their hospital stays.

Fistula Repair The KNOCK Foundation teams also conducted fistula repair surgeries as needed in Mekelle, and Physicians for Peace conducted entire missions to Kaduna and Ségou explicitly to repair obstetric fistula. Treatment was provided for dozens of women who faced this difficult and often stigmatizing condition, and several medical professionals were trained so that they, too, can make emergency obstetric care more accessible. Physicians for Peace also trained midwives in helping to manage complications during delivery.

Ophthalmology MCI's longtime partner, Himalayan Cataract Project (HCP), conducted many medical missions, helping thousands of patients with preventable and curable forms of blindness in Blantyre, Kaduna, Kisumu, Kumasi, and Mekelle, as well as in the nearby Millennium Village Project clusters. HCP, which typically performs cataract repair surgeries and corneal transplants, also partnered with Mekelle's Quiha Zonal Hospital and the Tigray Regional Health Bureau to expand access to modern eye care in the region, creating a Regional Center

for Eye Care Excellence, Quiha Eye Hospital. Through this Center, HCP supports training for the hospital's nurses and other medical professionals, as it does in Kumasi, at a second Regional Center for Eye Care Excellence, established by HCP with support from USAID.



A healthcare practitioner with Himalayan Cataract Project performs an eye exam in Mekelle, Ethiopia.

General Surgery A team of medical professionals representing International Surgical Mission Support (ISMS), including plastic, general and thoracic surgeons, obstetrician-gynecologists, internists and intensive care physicians spent time in Kisumu at New Nyanza Provincial General Hospital, where they treated some of the region's most critical cases, as determined by a pre-trip screening of high-risk patients. The ISMS team also offered lectures, presentations and hands-on training for local practitioners on such vital subjects as post-operative care and new surgical techniques. ISMS also donated essential medicine and equipment, such as an electro-cardio machine, a Loop Electrosurgical Excision Procedure (LEEP) machine, bronchoscopes, colon scopes, patient monitors and spinal needles. A second trip to Kisumu was led by ISMS pediatric surgeons who focused on treating children and training NNPGH's staff in specialized pediatric care.

General Wellness Professors from Israel's Ben Gurion and Hadassah Universities, with support from MASHAV and MCI, held several trainings for doctors and nurses in Kumasi on infectious diseases, HIV/AIDS and nutrition, lifestyle and heart disease, emergency and trauma care and treatment for patients with hypertension or diabetes.

Infectious Diseases Ben Gurion University infectious disease specialists also traveled to Mekelle to screen thousands of school children for waterborne diseases and carry out de-worming in the Mekelle public schools, train health practitioners to repeat the exercise on a regular basis, and to train physicians in the recognition and treatment of infectious diseases.

Medical Equipment, Medicines and Supplies AmeriCares, a Connecticut-based nonprofit, provided multiple donations of medical equipment, medicines and supplies to Kisumu and to Kumasi, including medicines to prevent postpartum hemorrhaging. In Kisumu, AmeriCares delivered three sea and two air shipments worth more than \$6 million, including medical examining tables and such consumables as sterile gloves, dressings, syringes and hygiene products. The distribution of the donations to City health facilities was initially managed by the Municipal Council of Kisumu and later by Nyanza Provincial General Hospital. The Kumasi Metro Health services have received an average of four sea shipments and one air shipment per year since 2008 – more than \$20 million in goods, benefitting Kumasi's two teaching hospitals, 26 regional hospitals across the Ashanti region, 10 clinics in Ashanti and one orthopedic training center in the Greater Accra Metropolitan Region.



Top: Midwives in Accra, Ghana, receive donated supplies;
Bottom: Healthcare workers at Accra's Ussher Hospital unpack shipments from MCI partner, AmeriCares.

MCI has facilitated numerous trainings for Millennium City residents to address a variety of healthcare needs, including urological surgeries, fistula repair and ophthalmology.

Hospital Inventories and Health Surveys Two Glaxo-SmithKline-PULSE Volunteers were seconded to MCI to serve as supply chain management consultants for the Kumasi and Accra Metropolitan Health Directorates, where their work involved reviewing the existing systems within each City's public health facilities and suggesting recommendations aimed at improving performance and service delivery. Their research led to a meeting for more than 40 health professionals in Accra to exchange technical tips and lessons learned. Two other GSK PULSE volunteers designed and began to carry out neonatal and maternal mortality surveys in Kisumu and Mekelle; still another volunteer designed and carried out a public health facility survey in Blantyre.

National Health Service Fellows MCI helped to facilitate a partnership between the Thames Valley and Wessex Leadership Academy in the United Kingdom and the Kisumu County Ministry of Health in 2014, whereby two National Health Service (NHS) Fellows participated in short-term assignments in Kisumu. MCI's public health specialist for Kisumu served as an advisor to the volunteers; one volunteer worked on a cost-based analysis of options available to improve pre-hospital public sector emergency services in Kisumu County, with an emphasis on ambulatory care, in response to a request issued by the County Minister and the Director of Health for the County Government. The other focused on enhancing the training for and the services provided by Community Health Workers (CHWs) in Kisumu County, with an emphasis on improving record-keeping regarding referrals, CHWs' medical knowledge and skills sets, and the standardization of services. She also developed a CHW Handbook, to provide guidance to CHWs in managing common medical conditions. The County Minister identified a number of areas that might be worked on by future NHS Fellows, in the hope that the partnership continues beyond MCI's close.

SPOTLIGHT ON: “HELPING BABIES BREATHE™”

A Neonatal Survival Program developed by the American Academy of Pediatrics and introduced in several Millennium Cities by MCI

Objective

To address dangerously high neonatal mortality rates by training frontline caregivers in neonatal resuscitation techniques.

Research and Response

Nearly one million babies die every year due to respiratory complications immediately after birth, according to WHO.³² MCI’s own needs assessments found that neonatal mortality is a serious issue in the Millennium Cities. Fortunately, research indicates that basic, cost-effective resuscitation techniques and equipment can dramatically alter this reality. The American Academy of Pediatrics (AAP) guidelines suggest that within the first minute of life, a baby should be breathing well; if not, the infant should be resuscitated by warming it in a dry blanket, carefully removing mucus from the infant’s mouth and nose with a tiny inexpensive bulb syringe, bag and mask, and, where indicated, stimulating breathing by rubbing the infant’s back. This simple set of Helping Babies Breathe™ protocols (HBB), which can be performed by trained laypeople and are being introduced worldwide, were brought to Accra, Kumasi and Mekelle with support from the AAP, Johnson & Johnson and AmeriCares, and to Kisumu with support from the AAP, Harvard University School of Medicine and other local and international partners.

Implementation in Ghana and Kenya

Four Ghanaian physicians were taught to be HBB “master trainers,” two of whom traveled to the United States to participate in the AAP’s initial training conference. Those master trainers then helped teach 116 midwives, nurses and other health professionals at every hospital in Accra and Kumasi to identify at-risk newborns and to provide improved ventilation techniques. The program was supported by the Ghana Ministry of Health, Ghana Health Service and the Accra and Kumasi Metropolitan Health Directorates and was carried out at two hospitals, Suntreso Hospital in Kumasi, home to one of two Israeli-

built neonatal units, and Ussher Hospital, a centrally located facility in Accra. All those trained at Suntreso and Ussher were also given information on breastfeeding, infection prevention and on recognizing the symptoms of common newborn illnesses, as part of a supplementary training on infant care enabled by MCI and adapted from the manual for pediatric care developed by the non-profit Save the Children. The health staff then shared this essential information at their respective facilities with more than 1,600 new mothers who came in with their infants for post-natal visits and left with AmeriCares tote bags filled with newborn essentials from Johnson & Johnson.



Johnson & Johnson also supported the program’s implementation in Mekelle and for the nearby Millennium Villages Project Koraro cluster, both in northern Ethiopia’s Tigray region, where infant mortality is very high. The Mekelle programs included two sets of HBB refresher trainings for healthcare providers, building on a UNICEF-sponsored training conducted a few years ago.



Top: Neonatal Survival program master trainer Dr. Fred Adomoko Boateng trains a Kumasi health worker in resuscitation techniques; *Bottom:* mothers and babies who benefitted from program gather in Kumasi.

Near-Term Outcomes

In Accra and Kumasi, 68 newborns were resuscitated using the AAP techniques, out of a total of 2,004 live births, marking a 3.4 percent increase in neonatal survival. The mother and baby pairs were followed for a six-month period and were encouraged to attend child welfare clinics, where the babies could be weighed, checked and given critical early vaccinations, even as their mothers were given information on newborn care, hygiene and recognizing signs of illnesses. More than 700 pairs attended their first child welfare clinic sessions, and 168 pairs attended four follow-up visits. In the first Mekelle training, 104 urban health staff and birth attendants were trained, with another 100 practitioners trained in Hawzien, near to the Koraro Millennium Villages cluster. A second HBB refresher training of 103 practitioners took place in Mekelle in 2013. A refresher training in HBB was also held in Kumasi in 2014, for staff at Suntreso and Kumasi South, along with comprehensive, three-day trainings for staff at five other Kumasi hospitals - Maternal and Child Health Hospital, SDA Hospital, Manhyia Government Hospital, Tafo Government Hospital and KNUST Hospital.

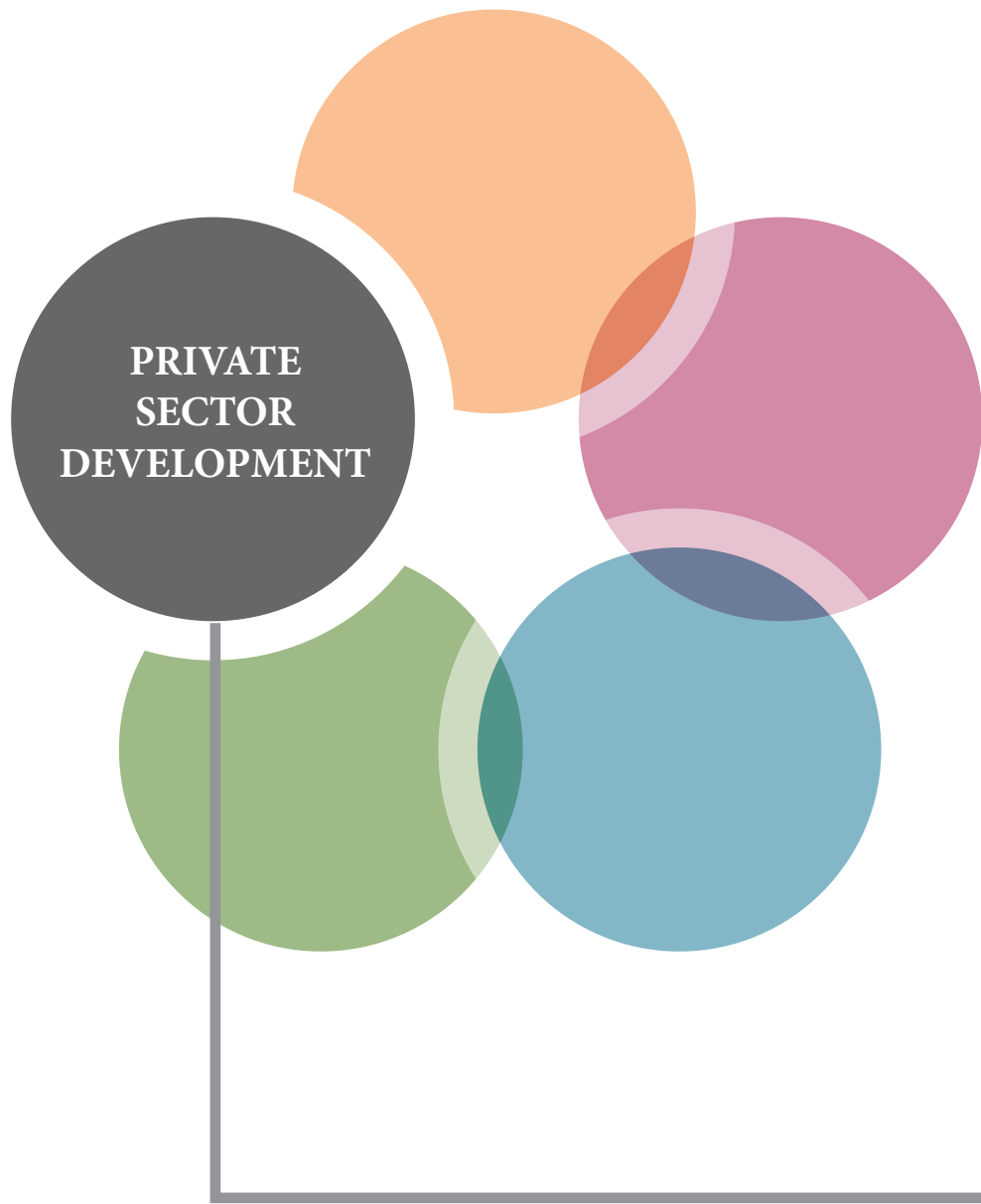
Long-Term Impact

Neonatal mortality remains a critical concern across the Millennium Cities. Yet MCI is confident that programs such as the AAP's neonatal survival training are already transforming the care given to mothers and their babies. The Director of Health for Ghana's Volta Region, who came to Kumasi to observe the training and state of practice, is now planning to replicate the Neonatal Survival program across the Volta Region, and MCI and its local and international partners are hopeful that this simple, low-cost, ingenious program will soon be introduced in Ghana's other regions, across Ethiopia and beyond.

**MCI found a 3.4% increase
in neonatal survival in Accra and
Kumasi after the HBB™ trainings.**

A baby girl, born at Suntreso Hospital in Kumasi, is deemed healthy during her MCI-sponsored wellness check-up following the Neonatal Survival program.





CONTEXT:

While private sector development is not a Millennium Development Goal, a vibrant private sector can play an important role in supporting the MDGs in a number of ways. In MCI's view, there is a strong synergy between social sector improvements and private sector investment that should consciously be striven for in developing an integrated city development strategy. For this reason, MCI's strategy from its inception was to integrate private sector development as a key component of its work with the Millennium Cities, focusing on enhancing their capacity to identify, target and attract private sector investment, both domestic and international.

More than half the world now resides in cities.¹ With Africa's urban population expected to nearly triple by 2050,² augmenting the local revenue base is a vital necessity for city administrations and local authorities to meet these demands.

Private enterprise can and frequently does provide a range and stream of benefits, particularly where it operates under sound laws and regulations. Taxes, fees and licenses paid by the private sector enhance revenues available at the city level to finance social sector activities, and workers with disposable income increase the demand for locally produced goods and

services. Access to job opportunities provides incentives for parents to encourage their children to attend school and for students to succeed in their educational endeavors.

Yet, when MCI began its works in 2006, little was being done at the level of the Millennium Cities to proactively market opportunities for private sector investment, both domestic and international, that would help spur and sustain local economic development. Historically, such investment, particularly foreign direct investment, has been located or headquartered around national capitals and has focused almost exclusively on natural resource extraction, rather than on manufacturing enterprises that might produce goods for the domestic and export markets. Thus, in integrating private sector development into its strategy for working with Millennium Cities, MCI sought to demonstrate the value of a more localized approach.

Private sector development activities, therefore, were intrinsic to MCI's programming in the following Millennium Cities: Akure, Nigeria; Bamako and Segou, Mali; Blantyre, Malawi; Kisumu, Kenya; Kumasi, Ghana; Louga, Senegal; Mekelle, Ethiopia; and Tabora, Tanzania.

¹United Nations, Department of Economic and Social Affairs, Population Division (2014). *World Urbanization Prospects: The 2014 Revision, Highlights* (ST/ESA/SER.A/352). Retrieved from <http://esa.un.org/unpd/wup/>.

²Kessides, Christine. (2006). The Context of Urban of Urban Development in sub-Saharan Africa. *The Urban Transition in sub-Saharan Africa* (Chapter 2). Retrieved from https://www.citiesalliance.org/sites/citiesalliance.org/files/CA_Docs/resources/paper-pres/ssa/eng/chap_2.pdf.



PRIVATE
SECTOR
DEVELOPMENT

APPROACH:

MCI's approach to private sector development rested on five main pillars:

- Identifying commercially viable investment opportunities in sectors that offered the strongest potential for attracting private sector investment, domestic and international;
- Strengthening the capacity of each City to develop investment profiles for those opportunities identified and prioritized by the City administrations for proactive investment promotion;
- Facilitating the set-up of structures and systems in the Millennium Cities to engage in proactive outreach to potential investors and to service the needs of new and existing investors;
- Training local staff in the tools and techniques of investment promotion and investor servicing;
- Engaging the Cities in proactive investment promotion activities through:
 - o Creating promotional materials, such as investment guides (hard copy, online, CD), brochures and websites, as tools to disseminate information on investment opportunities, including infrastructure availability, labor force and investment laws and regulations;
 - o Convening investment forums to showcase investment opportunities, in the Cities themselves, in the national capitals and in international venues.

Many of the Millennium Cities – like Accra, Ghana (*below*) – have growing populations, necessitating the need for development that can stimulate job creation. *Photo credit: Travel Across Accra*



PROGRAM ACTIVITIES

In preparing the work program for its private sector activities, MCI first sought to establish baseline information on the main sectors, the investment climate and business operating conditions in the Millennium Cities. This was seen as a prerequisite to identifying the challenges to be addressed, as well as the opportunities and actions City-level governments would need to take, in order to attract productive private sector investment. In doing so, MCI consulted City officials and business leaders, conducted its own extensive research and reached out to other partners with the necessary reach and expertise to collaborate on researching and compiling the requisite information.

In the context of its global partnership with MCI, KPMG, the global professional services firm, conducted field research in several of the Millennium Cities, specifically Blantyre, Kisumu, Kumasi, Mekelle, Ondo State, Nigeria, and Tabora, to identify sectors with the greatest potential for private sector investment. These reports, which include valuable information on the local and national investment climate, infrastructure and other relevant factors, were published in a glossy format and are also available in electronic form at <http://mci.ei.columbia.edu/research-publications/investment-working-paper-series/kpmg-investment-reports-for-the-millennium-cities/>.

In the early stages of the program, the United Nations Industrial Development Organization (UNIDO) conducted research in five Millennium Cities, investigating firm-level opportunities for investment. UNIDO's profiles, identifying capable small-to-medium-sized enterprises (SMEs) seeking financial or technical partners in Mekelle, Akure, Kisumu, Kumasi, and Blantyre, are available at http://mci.ei.columbia.edu/files/2012/12/UNIDO-MCI_investment_opportunities_for_development-Akure-Kisumu-Kumasi-Blantyre.pdf and http://mci.ei.columbia.edu/files/2012/12/UNIDO-MCI_investment_opportunities_for_development.pdf (for Mekelle only).

Even with such in-depth information at hand, by 2011 it was clear that the Millennium Cities needed to have structures in place and trained staff who could attract commercially



MCI partnered with KPMG and UNIDO to conduct field research in a number of Millennium Cities to identify potential investment opportunities.

viable investment opportunities capable of engendering lasting regional development. MCI understood that it would require sustained engagement over a period of time, as well as sufficient funding to support this engagement, for the Millennium Cities to be prepared to undertake proactive investment promotion and to service the needs of private sector investors, including advising and assisting them with such procedures as business registration, licensing and, in some cases, site selection and related issues.

Three Cities previously assisted by MCI in promoting private sector investment – Kumasi, Mekelle and Tabora – chose to participate in and to co-finance a special three-year initiative between 2011-2014 called the Regional Partnership to Promote Trade and Investment in Sub-Saharan Africa (Regional Partnership), funded by the Ministry of Foreign Affairs of the Government of Finland (MoFA). The program's design and implementation were carried out by MCI in New York; the World Agroforestry Center, headquartered in Nairobi, Kenya, received and helped administer the grant, with support from the Columbia Global Center in Nairobi, the MDG Center for West and Central Africa in Dakar, Senegal (formerly in Bamako, Mali), and Columbia's Earth Institute.





MCI's team at the Mekelle, Ethiopia, Investment Day meeting in Addis Ababa with Mekelle Mayor Mr. Teweldebrhan Tesfalem.

MCI launched the Regional Partnership in April 2011. Under its auspices, these three Cities benefited from a comprehensive program of training, mentoring and coaching, described below in further detail.

Because the level and duration of engagement with private sector development in the Millennium Cities has varied according to each City's leadership, level of commitment and to the availability of funding to support such activities, we have divided the detailed coverage of MCI's activities into two periods: 2006-2011 and 2011-2014.



At this forum in Bamako, Mali, MCI helped promote the processing of shea butter in Segou, near to the Millennium Villages.

PRIVATE SECTOR DEVELOPMENT ACTIVITIES, 2006-2011

Akure & Ondo State, Nigeria

MCI first collaborated with Akure and Ondo State officials by introducing to the City of Akure and its surrounds KPMG-Nigeria investment promotion officers and UNIDO experts, who profiled investment opportunities, promising sectors for development and SMEs seeking investment. These partners, Ondo State officials and the Economist Intelligence Unit, then worked together to host a roundtable discussion for investors at a nationwide, Economist-led investment forum in Abuja in 2007. Ondo State leaders, UNIDO and KPMG representatives and MCI presented details regarding the investment environment and showcased specific opportunities in and around Akure, many of which were based on UNIDO's and KPMG's profiling.

MCI and KPMG-Nigeria later organized a capacity-building workshop for the Ondo State investment promotion and economic development team, traditional leaders and representatives of the Akure diaspora, who seized the opportunity to familiarize themselves with the concepts of investment promotion and SWOT analysis. The workshop was followed by the establishment of an investment desk staffed by Ondo State employees, who then helped create a website dedicated to investment promotion.

Bamako and Segou, Mali

MCI's investment specialist for Bamako and Segou, Mali, helped organize a well-attended investment forum in Bamako in 2008 to promote the production and processing of shea butter, a seasonal commodity produced as a sideline by women farmers in the nearby MVP Tiby cluster.

Kisumu, Kenya

When the Kenya national investment authority KenInvest, with MCI's support, decided to staff an investment promotion expert in Kenya's third largest city, Kisumu's investment program really got underway. The City hosted a successful investment day in 2007, targeting investors already established in Kenya, with more than 180 representatives in attendance. UNIDO and KPMG presented the



Native bamboo, used to produce bamboo bicycles in Kumasi through an investment opportunity facilitated by MCI.

business and investment opportunities they had identified in the course of each organization's research in and around the City, and MCI organized a number of meetings and visits to area enterprises. This workshop led to the initiation of several of MCI's research outputs, including: the *Handbook for Promoting Foreign Direct Investment in Medium-Size, Low-Budget Cities in Emerging Markets*; follow-on analysis by KPMG of the area's sugar industry; additional research on the production of bamboo bikes, by Columbia University graduate students; and KPMG's and MCI's own Kisumu investment guides. MCI also worked with the German business organization AfrikaVerein, to bring a delegation of potential European investors to have a look at interesting investment projects in Kisumu and the environs. Other workshops took place, and the Mayor of Kisumu also had the opportunity to present some of the City's prioritized investment opportunities at the 2007 London forum organized by MCI, KPMG and DLA Piper.

Kumasi, Ghana

Kumasi is one of only two Millennium Cities that benefited both from MCI's early engagement on private sector development issues, beginning in 2006, and from its participation in the Regional Partnership project. Consequently, information regarding our private sector development work in Kumasi appears under both periods.

After two years of research by MCI, UNIDO and KPMG into various sectors, concrete investment opportunities

and capable SMEs ripe for investment, Kumasi hosted its own local investment day in April 2008, with more than 120 in attendance, including representatives from the private sector, the City administration, the national government and the Asantehene (the King of the Ashanti region). In September of that year, MCI helped organize Kumasi Investment Day North America, co-sponsored by the American law firm Alston & Bird and hosted in partnership with the Kumasi Development Foundation, the Kumasi Metropolitan Assembly (KMA), the Asanteman, the Asanteman Council of North America, the Corporate Council on Africa and the Council on Africa and the Vale Columbia Center on Sustainable International Investment, now the Columbia Center for Sustainable International Investment. A number of investment opportunities were presented, from real estate development to the cocoa and palm fruit processing to the production of bamboo bikes. The Mayor of Kumasi also presented an overview of specific investment opportunities, business operating conditions and the local investment climate at our 2007 international investment forum in London.

The Governor of Kaduna State, Nigeria, and representatives from the Malawi Investment Promotion Agency also presented investment opportunities in Kaduna City and Blantyre, respectively, and spoke of both the national investment climate and local business conditions at MCI's 2007 investment promotion event in London, which was organized with support from KPMG, DLA Piper and VCC.





A promising investment opportunity in Kumasi identified by MCI and its partners: palm oil processing.

PRIVATE SECTOR DEVELOPMENT ACTIVITIES 2011-2014

With the launch of the Regional Partnership in New York in April 2011, MCI's deeper engagement began, with Kumasi, Mekelle and, newly, with Tabora, Tanzania.

Under the project, MCI hired an Investment Promotion Specialist in each City who was embedded within the City administration and mandated to work closely with a range of relevant local actors, including the private sector. In Kumasi, the local authority was the Kumasi Metropolitan Assembly (KMA), headed by the City's Mayor. In Mekelle, the local authority was more complex, consisting of the Office of the Mayor, the Mekelle Investment Promotion Office and the Tigray Investment Promotion Office. In Tabora, MCI's counterpart was the Municipality of Tabora and the City's Lord Mayor. MCI's Regional Coordinators, though not funded under the Regional Partnership, provided local coordination, and a small number of international consultants, based out of MCI-New York, rounded out the project team.

In the early stages of the project rollout, consultations were held with City administrations and other key stakeholders to agree on priorities for action under the private sector development agenda, and, in the cases of Kumasi and Mekelle, to integrate the private sector activities into the overall City Development Strategy that included social sector priorities. (With no social sector program operating under MCI in Tabora, consultations there focused solely on private sector development.)

Although project activities included many common elements across locations, the local, regional and international project team designed and implemented a project in each City tailored to its specific needs and conditions. This included building the knowledge and capacity of key staff from a number of City-level offices and from the neighboring Millennium Villages, to understand the tools and techniques of investment promotion, as well as equipping them with the knowledge and skills to identify specific investment opportunities and to develop succinct and compelling investment profiles.



Many of the businesses in Tabora and the other Regional Partnership Cities are small, such as this salon; our team helped the Cities build capacity to attract larger-scale investment and to grow the business sector.

Capacity-Building

Under the auspices of the Regional Partnership, MCI held a number of hands-on training seminars in each City, each several days long, spaced several months apart, for the benefit of local staff and other key stakeholders. Participants in each location included the Investment Promotion Specialist hired under the Regional Partnership, as well as representatives of the national investment promotion agencies of each country or region (i.e., the Ghana Investment Promotion Centre (GIPC), Tanzania Investment Center (TIC), Mekelle Investment Promotion Process (MIPP) and Tigray Investment Promotion Office). In Kumasi and Tabora, staff from the Millennium Villages Project (MVP) also participated.

The goal was to help the participants understand investor decision-making and to familiarize them with the tools and techniques of effective investment promotion. The training included the use of case studies and hands-on exercises, to demonstrate how to apply the knowledge and

tools in practice, including in developing well-researched and tightly crafted investment profiles. Training topics included:

- Understanding drivers of investment decisions;
- How to conduct a SWOT analysis;
- How to research and develop compelling investment profiles;
- How to develop and implement a strategy for identifying and targeting potential investors;
- How to prepare and organize investment promotion events;
- How to follow up on investor interest and facilitate site visits;
- How to put in place an effective aftercare system for supporting investors;
- How to use electronic means to reach out to potential investors;
- How to initiate and sustain a Public-Private Dialogue mechanism.

A key factor in strengthening local capacity was the systematic and ongoing coaching and mentoring of the City-level teams as they worked on developing investment proposals, following a template developed by MCI. Each profile was based on a market analysis for the particular products, factor costs, existing supply and demand and competitors, if any, in the marketplace. Using email and Skype calls, a weekly review mechanism was put in place to provide substantive written and oral feedback on each sector investment profile under development by each City team. This exercise yielded:

- 7 profiles for Kumasi, for oil palm cultivation, bamboo products, real estate development (multi-story parking, faculty and student housing) and fruit processing;
- 6 profiles for Tabora, for beekeeping and honey processing, tropical fruit processing, edible oil (sunflower and groundnut), meat processing, dairy processing and tourism;
- 4 profiles for Mekelle, for beekeeping and honey processing, pharmaceuticals, animal feed production and essential oils.



A key factor in strengthening local capacity was the systematic and ongoing coaching and mentoring of the City-level teams as they worked on developing investment proposals.



Top: MCI joined local officials in the three Regional Partnership Cities to tour successful private enterprises, such as the Mariam Saba factory in Mekelle, Ethiopia, which makes sanitary pads. *Bottom:* Another successful business in Mekelle, the LemLem Food Complex, produces flour, pasta and biscuits.

MCI's Regional Partnership yielded several investment profiles: 7 for Kumasi, 4 for Mekelle and 6 for Tabora.

In preparation for the investment promotion conferences intended as culminating events for all of the participating Cities, MCI provided guidance and assistance to Kumasi, Mekelle and Tabora in creating attractive promotional brochures to use in their investor targeting efforts, and to Kumasi and Tabora in setting up investment promotion websites, as initial points of contact for companies interested in scoping each City for investment opportunities. The Kumasi website, www.investinkumasi.com, was created by the Kumasi City Investment Promotion Unit (KCIPU), itself a creation of the KMA and MCI. The



MCI Operations Manager Lorian Viola with the Adontenhene of Asante, Adu Gyamfi, at the Kumasi Donor Roundtable.

website for Tabora, www.investintabora.com (no longer active), was created using local contractors who worked closely with the MCI team and the Municipality. Mekelle did not create a website, as the City is already covered on the website of the Tigray Investment Promotion Office.

Each participating City, under the direction of the project team and in cooperation with each country's national investment promotion office, carried out research to identify companies that would be a good match for the investment profiles as well as wider sectoral opportunities. Databases of identified companies (in Europe, the U.S., South Africa and multinationals already active in the Millennium City countries) were compiled, which then served as the target lists for each Mayor to use in inviting these firms and their representatives to his City's investment forums.

MCI assisted in planning these final Investment Promotion Days for the three participating Cities, each held in the national capital, each targeting approximately 300 domestic and international companies. The investment day for Tabora, held in Dar es Salaam, took place on July 19, 2013, and drew approximately 150 attendees; the Mekelle event was held in Addis Ababa, on October 3, 2013, with 67 attendees; the Kumasi investment event was held in Accra, on October 8, 2013, with 104 in attendance. Local and national government officials attended, presented and officiated each program. Kumasi entitled its event the "Kumasi Investment Roadshow," to advertise a follow-on site visit to Kumasi immediately upon the conclusion of the investment conference in Accra. The Regional Partnership sponsor, Finland's MoFA, was represented at the Tabora and Mekelle events by Finnish Embassy officials, and in Ghana, where Finland does not have an Embassy, by members of the MCI team.

To prepare for the close of the Regional Partnership, MCI visited Mekelle and Kumasi, assisting the Mekelle investment desk and Tigray Investment Authority, as well as the KMA and Investment Promotion Unit, in developing their three-year strategic plans and one-year operational plans; the Mayors of Mekelle and Kumasi voiced their sincere thanks to MCI for the work accomplished, and both mayors vowed to continue the effort to attract productive private sector investment to their respective Cities.



MCI launches *Invest in Tabora: Focus Tanzania* at a conference intended to promote investment opportunities in Tabora and the surrounding region.

PROGRAM OUTPUTS AND OUTCOMES

INVESTMENT OPPORTUNITIES

As the time from initial investor interest to the start-up of operations generally takes several years, some of the concrete interest that was expressed in opportunities in the Millennium Cities may take some time to be converted into productive enterprises on the ground. This section outlines both those opportunities that have materialized and those that showed strong potential but that may only be realized in a couple of years. The ultimate outcomes will be the existence of an enterprise that has started operations, hired local staff and begun selling its goods in target markets. The interim outcomes show several concrete investment projects that are either at advanced stages of implementation or in the pipeline.

- As a result of the 2007 Kisumu Investment Day, investors expressed interest in a number of opportunities, and one committed to producing fishing nets, with an initial investment of \$400,000.
- Following the shea butter forum held in Bamako in 2008, further analysis on the production of shea butter led to an initial investment of \$20,000 for the purchase of high quality shea nuts to enable production to begin in 2009.
- MCI's investment specialist for Bamako, Segou and Louga spearheaded an effort that led to a Memorandum of Understanding for the construction by an American firm of a major waste-to-energy power plant in Bamako, with an upgraded waste management system that would contribute to a cleaner environment and the City's supply of electricity; the groundbreaking for this project took place in 2010.
- In Kumasi, as a result of MCI's and the City's work prior to the start of the Regional Partnership, several investment projects were initiated, including a palm oil mill, a student hostel at Kwame Nkrumah University of Science and Technology, the reconstruction of a children's park, an adjacent shopping mall and the production of bamboo bikes.
- The "Kumasi Investment Roadshow" in Accra and Kumasi led to several inquiries on the part of potential investors, with three paying subsequent visits to the City. Two of these have submitted formal expressions of interest, one in a number of proposed real estate projects, including a multi-story car park, university housing and a Do It Yourself (DIY) shop, the second in developing a 5,000-acre oil palm plantation and processing plant. A third investor has expressed interest in building a luxury hotel and mall complex, and is undertaking the due diligence required for the available sites.
- In Mekelle, Ethiopia, by mid-2014 nearly 250 companies had registered with the Mekelle Investment Promotion





MCI's and the City's work in Kumasi led to several investment projects, including the production of bamboo bikes.

Office. Sixteen firms have invested in projects in Mekelle thus far, including Indian and Bangladeshi companies in the garment sector and an Italian company in the shoe industry. In addition, a new marble quarry has already commenced operations, and the City is hopeful that a soft drinks producer will also invest. As a part of the Regional Partnership and as one of its lasting outcomes, Mekelle has also instituted a Public-Private Dialogue convened four times a year by the Mayor, where information affecting the private sector can be shared with local entrepreneurs who also have the chance to provide suggestions to the City on how it can improve business operations and the business and investment climate.

- Following Tabora's investment day, nine companies, a mix of foreign and domestic, requested more information on honey production, edible oil, agriculture, hotel development, real estate and available minerals within and around Tabora. Three groups of potential investors visited Tabora: (i) the Director and Country Representative of China Texmatch Co. Ltd., who have shown interest in investing in cotton processing, public transportation and honey processing; (ii) the Ambassador of China to Tanzania, accompanied by 13 potential investors, interested in establishing a Chinese trading center, tobacco processing, honey processing and edible oil processing; (iii) the Director of Hilux Hotel from the Morogoro region, who is interested in establishing a hotel in Tabora.

INVESTMENT OUTPUTS

Publications

Handbook for Promoting Foreign Direct Investment in Medium-Size, Low-Budget Cities in Emerging Markets:

Funded by the Government of Finland, and with the support of the Government of Kenya and the United Nations Development Programme, the *Handbook* serves as a tool to help municipal administrators in Millennium Cities and other midsized developing country cities in their efforts to target and win foreign direct investment. The *Handbook* has been translated into Chinese, Russian and Spanish and has been distributed worldwide to city and sub-regional investment promotion and development agencies. It is also freely downloadable from MCI at <http://mci.ei.columbia.edu/research-publications/investment-guides-handbook-profiles/>.

MCI's Working Paper Series: MCI produced a series of investment-related working papers, including industrial

infrastructure assessments and analyses of specific sectors and investment opportunities of potential interest to investors. Carried out by KPMG, MCI and teams of graduate students from Columbia University Business School and School of International and Public Affairs, MCI's working papers are available at <http://mci.ei.columbia.edu/research-publications/investment-working-paper-series/>.

KPMG International Investment Reports: As noted above, as part of its partnership with MCI, the global professional services firm KPMG and its in-country affiliates carried out research and fieldwork to prepare six in-depth reports identifying key sectors with potential for commercially viable projects. These reports also evaluate the investment climate and potential challenges facing investors at the time of this research in the following Millennium Cities and their host countries: Akure (Ondo State), Blantyre, Kisumu, Kumasi, Mekelle and Tabora. These reports can be found at: <http://mci.ei.columbia.edu/research-publications/investment-working-paper-series/kpmg-investment-reports-for-the-millennium-cities/>.



Fishing in Lake Victoria, near Kisumu; the Kisumu Investment Day in 2007 led to an investment in the production of fishing nets.



Together with KenInvest, MCI hosted an event to launch its Investment Guide, profiling promising investment sectors in Kisumu.

Comprehensive City Investment Guides: MCI researched and produced these first-ever city investment guides for the Millennium Cities of Blantyre, Kisumu, Kumasi, Mekelle and Tabora; an update abbreviated guide was later produced for Kumasi, as part of the Regional Partnership. The Investment Guides can be found at: <http://mci.ei.columbia.edu/research-publications/investment-guides-handbook-profiles/>.

“Guidance Paper on Evaluating Sustainable Foreign Direct Investment:” Authored by Georgetown University Professor John Kline, the “Guidance Paper” was commissioned by MCI to help guide the Millennium Cities and others in evaluating proposals for investment against a country’s established goals for sustainability. The paper includes a matrix of weighted factors that can assist in quantifying for the user the likely sustainability of any particular foreign direct investment. Professor Kline was able to test his matrix to varying degrees both in Durban, South Africa, and in Kisumu, Kenya, and received positive feedback in both venues. The “Guidance Paper” can be found at: <http://mci.ei.columbia.edu/files/2012/12/Sustainable-FDI-Guidance-Paper-Kline.pdf>.

Electronic Outputs

Training Materials and Resources for Effective Investment Promotion:

All training materials used to enhance the capacity of the Millennium Cities, as well as templates for developing investment profiles and other useful resources for investment promotion, have been made available on the MCI website at: <http://mci.ei.columbia.edu/initiatives/private-sector-development/resources-private-sector-development/>.

Investment Promotion Websites: Under the Regional Partnership, websites were also developed for Kumasi, at: www.investinkumasi.com, and for Tabora, at: www.investintabora.com (no longer active), to serve as the first point of contact for investors seeking information on locations in the regions.

Integration of an Investment Promotion Function within the City Administration

In October 2013, to mark the close of the project, MCI hosted a Capstone Seminar in New York, where the participating Cities and MCI presented the project’s outcomes and findings to representatives of the Government of Finland’s Ministry of Foreign Affairs and to the Regional Partnership Advisory Group. The seminar offered the opportunity for the Regional Partnership City Mayors and investment teams to share their experiences and feedback with MCI. At the fervent request of the Cities, and with some (minimal) remaining funds in the grant, the Government of Finland agreed at that time to extend the project closing until June 30, 2014, to ensure a smooth integration of the investment promotion activities into the existing City structures (i.e., the KMA, in the case of Kumasi, the Mekelle Investment Process and the Municipality of Tabora).

MCI prepared a template to guide each City in developing its own three-year strategy, a one-year detailed operational plan and an Excel template to assist each City administration with budget preparation. In conjunction with these tools, MCI offered counsel and feedback as the Cities developed their respective strategies. These resources, including links to the *Handbook on Investment Promotion* and the World Bank Group’s Investment Generation Toolkit, are readily accessible, both by those Cities participating in the Regional Partnership, and by other cities and interested parties at: <http://mci.ei.columbia.edu/initiatives/private-sector-development/overview-of-investment-promotion/>.

SUMMARY

It is clear that increased numbers of productive local enterprises can play an important role in creating jobs, bringing new technologies and accessing new markets. In addition, these enterprises also contribute to the revenue base of the city and increase disposable income of workers, thus helping to spur increased local demand for goods and services. However, a concerted and organized effort is required on the part of City administrations, in the Millennium Cities and beyond, to play an active role in fostering local economic development through energetic investment promotion and by providing advice and ongoing assistance to entrepreneurs to clear the path to business formation and operation.

MCI's experience with the Millennium Cities demonstrates that providing advice, training, mentoring and coaching where there is interest and commitment at the top levels of a City administration can yield results well beyond increased awareness. The levels of participation in the investment promotion events is testament to this, and, indeed, the fact that there were site visits following the investment days by several attendees is further evidence of the efficacy of this approach.

The national investment promotion agencies (IPAs) have established satellite functions in several of the Millennium Cities as a result of MCI's involvement. This action on the part of the IPAs leads the national IPA to include these areas in their international marketing efforts, highlighting them as potential locations for investors, thus increasing the potential for firms to locate outside of the national capital.

The fact, however, that municipalities such as the Millennium Cities have limited budgets and high demands on their meager resources suggests that external co-financing is extremely important, at least in the initial stages of undertaking investment promotion and for a period of some years. Each of the Millennium Cities that participated in the Regional Partnership, for instance, committed to expending funds from its own resources, amounting to approximately 15 percent of the external funding, to co-finance the project. These resources were not transferred to MCI, but covered local expenses, such as

MCI's experience with the Millennium Cities demonstrates that providing advice, training, mentoring and coaching where there is interest and commitment at the top levels of a City administration can yield results well beyond increased awareness.

office space and supplies, travel for local staff to the capital, including for the investment promotion events.

As part of the end of the project handover of the activities, each of the Regional Partnership Cities, as mentioned above, was assisted with developing a strategy and provided with templates for budgeting and planning. Each City administration has informed MCI that it has dedicated some staff and resources to ongoing investment promotion and investor servicing. Given the limited budgets of these administrations, though, it is unlikely that the level of intensity will be as great as it was during the life of the project. It is hoped, however, that several of the projects in the pipeline will come to fruition, thus demonstrating the value of maintaining an integrated investment promotion unit in the City administration. The benefits of this approach have already manifested themselves in concrete investments resulting from earlier private sector activities carried out by MCI prior to the Regional Partnership, in the form of shea butter production in Segou, a waste-to-energy power plant in Bamako, the construction of fishnets in Kisumu and a palm oil mill, student hostel and full-scale bamboo bike factory in Kumasi.

³All MCI tools and training materials utilized in the Regional Partnership are available on the MCI website under, "Tools, Techniques and Resources for Investment Promotion," including the training materials utilized in the Regional Partnership.





MCI's Regional Partnership team and participants in Mekelle's Investment Day - Addis Ababa, October 2013.

SPOTLIGHT ON: BAMBOO BIKES

Objective

To design and build a bike suitable for use in sub-Saharan Africa built with native bamboo, and to establish a production facility capable of meeting local needs and stimulating economic growth.

Research and Response

Scientists at The Earth Institute's Lamont-Doherty Earth Observatory (LDEO) at Columbia University designed and developed a bamboo bicycle, aware that bamboo thrives in a number of sub-Saharan regions and is lighter and stronger than steel-framed bikes. The manufacture of bamboo frames, they understood, would require neither

costly infrastructure nor reliable electricity and could be readily modified to transport produce or other market goods, passengers or medicines. LDEO approached MCI for help in promoting the bicycles as an investment opportunity that would appeal to sub-Saharan markets. At MCI's request, KPMG carried out a feasibility study of the bikes' marketability in Kumasi, which revealed that the bikes could be produced for under \$50 and sold for significantly less than bikes imported from Asia. Moreover, the payback period for investors producing 20,000 bikes per year would be less than two years. Given the demand for affordable bikes in sub-Saharan Africa, MCI knew this was indeed a viable investment opportunity, with the potential to have a significant impact on Kumasi's economy and the lives of ordinary workers and students.



MCI supported Kumasi in its efforts to promote the use of its native bamboo, which led to the establishment of a factory to build bamboo bikes.



Implementation

The results of the feasibility study were presented at the Kumasi Investment Day in New York in April 2008, where it caught the attention of an Accra-based investor originally from Kumasi, Mr. Kwame Sarpong, a financial consultant and Columbia Business School graduate who went on to establish Bamboo Bikes Limited (BBL) in Kumasi as Africa's first large-scale bamboo bike production company (www.bamboobikeslimited.com). Mr. Sarpong set up a factory in a partly residential, partly industrial part of town in a secured compound with plenty of space for storing bamboo and bike supplies. His plan was to create 10 bikes at a time, with room to expand to be able to build as many as 20 simultaneously.

Columbia University's Bamboo Bike Project – an offshoot of the original LDEO team – facilitated the shipment of tools and bike components, to enable bicycle production at scale. The Project also sent a team to Kumasi, including Columbia University Professors John Mutter and Marty Odlin, co-founder of the Bamboo Bike Studio, a partner in the initiative, to train employees in selecting and cutting bamboo, smoothing bike joints and building bicycle wheels. The employees, many of whom travel for more than an hour to get to the factory, were enthusiastic about acquiring these new skills.

Near-Term Outcomes

MCI has helped secure additional funding for the operational aspects of this project, including a donation from the UK Charities Trust. With support and training from MCI and Columbia's Bamboo Bike Project, BBL has built several thousand bikes in Kumasi to-date, including an initial order of 750 bikes distributed to NGOs across Ghana. BBL has also expanded its production to toothpicks, which make use of discarded bamboo that would otherwise be wasted. The factory employs more than 30 workers, contributing to the local economy.

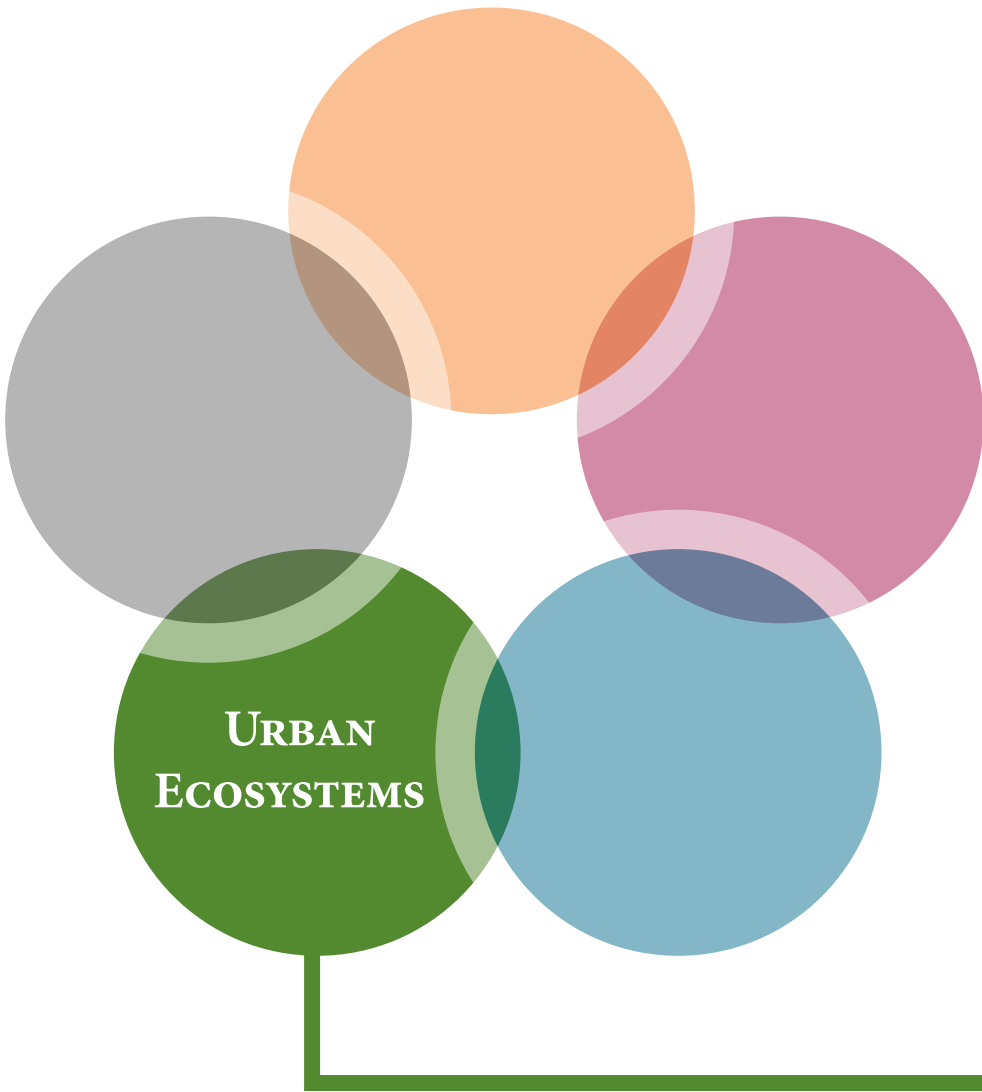
Long-Term Impact

BBL is now working to attract partners and potential buyers, including groups that support healthcare workers, students and farmers. Large-scale production will ultimately help deliver a sustainable and affordable form of transportation, addressing some of the region's significant transportation issues, while continuing to create local employment opportunities.



Bamboo bicycles are lighter and stronger than steel-framed bikes and cheaper to produce and maintain.

Bamboo Bikes Limited
– brought to life with
MCI's support – employs
30 workers and has built
several thousand bikes.



**URBAN
ECOSYSTEMS**

CONTEXT:

Sub-Saharan cities have undergone tremendous growth in recent years, largely due to in-migration from other areas of the country or surrounding countries to escape conflict, disease, economic hardship and, increasingly, the ravaging effects of climate change. Yet most sub-Saharan cities are ill-equipped to provide adequately for the influx. As a result, many migrants wind up in informal settlements without reliable access to such essential public services as clean water, sanitation, health clinics and schools.

Keenly aware of these deficits in service provision, local governments are actively seeking quality, research-based recommendations to help address their urgent urban planning and design challenges.



URBAN ECOSYSTEMS

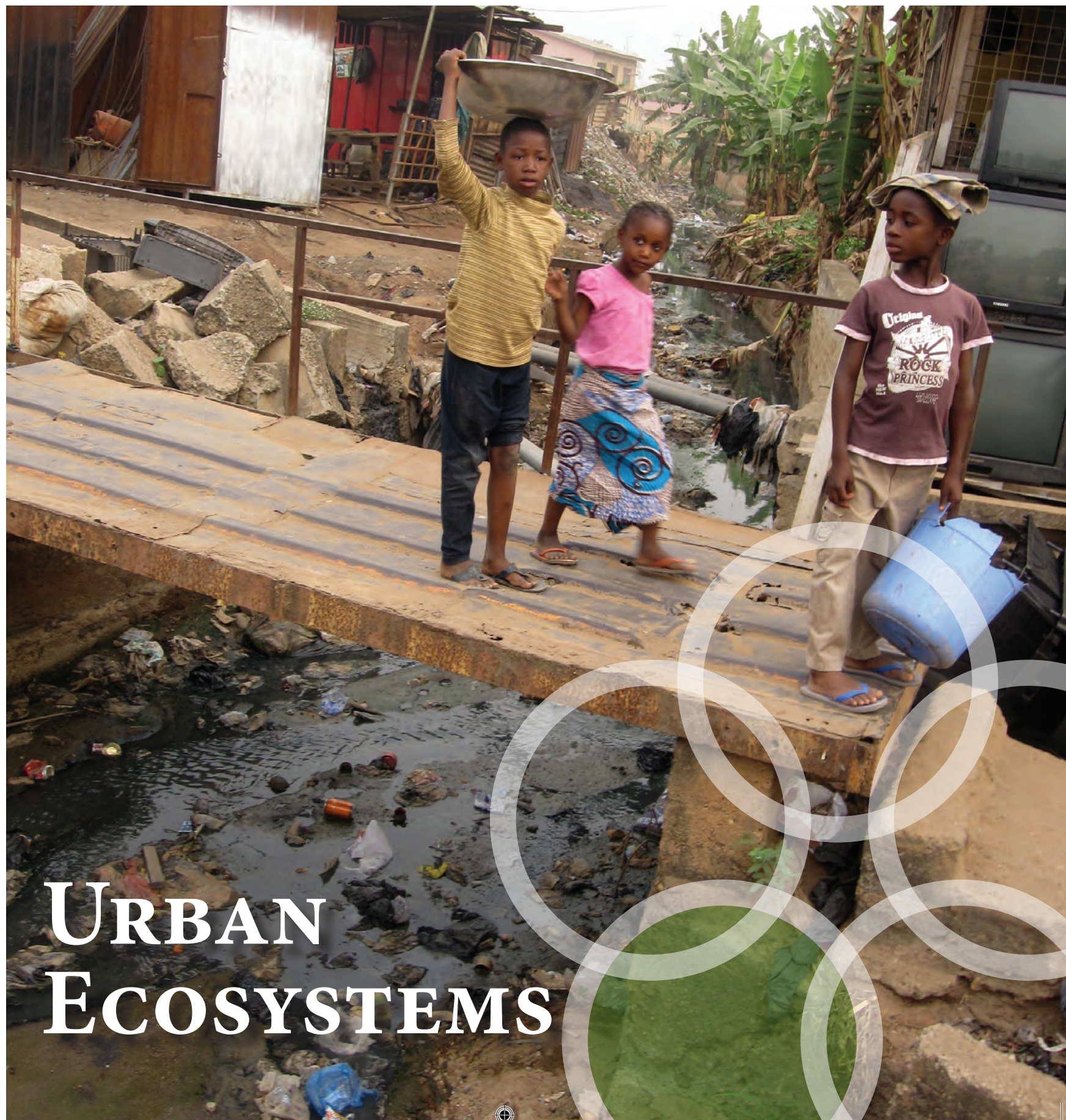
RESPONSE:

MCI's efforts to strengthen urban ecosystems have focused on understanding the top priorities of those communities most in need and devising solutions to address those priorities; among these, clean water, sanitation, public health, safe housing, safe transport and economic development are paramount among nearly all the Millennium Cities.

MCI began by carrying out Water/Sanitation Needs Assessments in six Millennium Cities, to understand better how far off track each City was in attaining the Target 7C of the MDGs: what would it take, in other words, in terms of prescribed interventions and the resources for their implementation, for the number of people without sustainable access to water and sanitation to be reduced by half?

MCI then zeroed in on impoverished communities in three of the Millennium Cities – Accra, Kumasi and Kisumu – where, in concert with local government, ordinary residents, community leaders and other partners, we undertook detailed urban planning and design studies focused on understanding and devising solutions to address the specific needs of each community. In all cases, safe water, transport, sanitation, housing, economic development and health figured most prominently, albeit in different configurations and with different priorities expressed by residents of each neighborhood. Descriptions of some of our research, design work and targeted interventions follow.

Children in Accra, Ghana's capital, cross a bridge over a polluted stream.



URBAN ECOSYSTEMS

RESEARCH IN WATER AND SANITATION

Our MDG-based Water/Sanitation Needs Assessments tool, developed by the UN Millennium Project, made use of population data, coverage targets and unit costs to estimate the financing required to achieve water and sanitation targets at the municipal level. Our findings, together with our findings across education, gender, health and private sector development, were presented to key City stakeholders at workshops organized to help each City prioritize its needs. A number of our discoveries led to further research and to specific interventions carried out by MCI and our partners. Much of this work was concentrated in some of the poorest communities in Accra, Kumasi and Kisumu, where we strove, in tandem with local government, other international partners and local civil society organizations, to examine and devise solutions to address critical urban planning and design challenges.

Water/Sanitation Needs Assessments were conducted in:

- Blantyre, Malawi
- Kisumu, Kenya
- Kumasi, Ghana
- Louga, Senegal
- Mekelle, Ethiopia
- Segou, Mali

KEY FINDINGS ACROSS THE SECTOR

Water Supply

A crucial challenge in every Millennium City is its growing population and the elevated demand that its existing water supply system is increasingly strained to meet. Unsustainable growth rates of 5.4 percent, 4 percent and 3.34 percent in Mekelle, Blantyre and Kumasi, respectively, have increased pressure dramatically on the antiquated water systems servicing each City.

Despite Malawi's large network of surface water bodies, its economic capital, Blantyre, relies on just two extraction and treatment plants that had been designed for a much smaller population than the City's 2012 count of 783,296 people. The same paradox holds for Kisumu, which,



The Mayor of Mekelle, Ethiopia, and the Israeli Ambassador to Ethiopia inaugurated girls latrines and washing facilities in Mekelle schools, built with support from the Israeli government in 2009.

situated on the shores of Lake Victoria, the second largest fresh water lake in the world, nevertheless endures chronic water shortages. Fortunately, many of the Millennium Cities have recognized these shortages and have instituted plans to address them; to increase water supply in Mekelle, for example, the City administration planned to build 20 additional boreholes by 2012, which would have more than doubled the 17 boreholes existing in 2009, at the time of MCI's research. But the remedies are inadequate to meet Mekelle's ever-growing demand, as the City tries to industrialize and as people have continued to move in, due to the unyielding dryness and drought pervading the surrounding countryside.

Water Delivery Systems

Water delivery systems in every Millennium City require refurbishing and renovation and are worsened by operational inefficiencies, dilapidated infrastructure and malfunctioning electrical and mechanical equipment, all of which contribute to wasted water and revenue.

The annual reports of the Blantyre Water Board indicate that nearly half of the produced water is lost due to leakages, illegal connections and vandalism.¹ Electricity-related challenges also lead to malfunctioning water pumps there. In Kumasi, too, water production is negatively impacted by low electrical power voltage; water loss from leakages in Kumasi, though, is declining, thanks to sustained efforts from the Ghana Water Company Limited.

Water losses in Mekelle's distribution system, both "real" and "apparent," amount to 4,456 cubic meters per day. "Real"

Water delivery systems
in every Millennium City
require refurbishing
and renovation.

losses – leakages from reservoir walls, reservoir overflows, pipes, joints and fittings – may go undetected for months, while "apparent" losses – illegal connections, meter error or accounting errors – are also a significant concern, particularly since, if addressed, a significant supply of treated water can be restored for public use. In Segou, many of the issues stem from inadequate and dilapidated distribution and water purification equipment.

A typical street in one of Accra's informal settlements, where MCI and its partners proposed upgrades that would benefit residents while staying true to the local culture.



¹The Blantyre Water Board is a quasi-governmental organization established under the Malawi Water Works Act No. 17 of 1995 to supply water to Blantyre City and the surrounding areas of Chileka Village, Chiradzulu (part), Lumbira Estate, Lunzu and Nkula Falls.

Improved Water Sources

According to the definition proposed by WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation, households in urban areas are considered to have “access to an improved water source” if they are



Children in Kisumu's Manyatta neighborhood refill water jugs from a polluted stream.

located within half a kilometer of such sources as piped water, public taps, boreholes and protected wells/springs. Since it is difficult to measure distance to such water sources, an alternative working definition is given: “A household is considered to have access to improved water supply if it has sufficient amount of water for family use, at an affordable price, available to household members without being subject to extreme effort, especially to women and children.”²

Although Segou is located on the Niger River, Africa's third largest, more than half the local population lacks access to an improved water source. In Louga, access to drinking water in the City has improved in recent years, but access to water in the surrounding low-income communities remains a challenge. Across the continent, in 1994 only 31 percent of the Mekelle population enjoyed access to an improved water source, with many residents relying on the public fountains (also known as standpipes, or “Bono”) commonly found in high-density, low-income areas. The situation has improved since then, with communal standpipes now operated by the municipal administration.

For some Millennium Cities, the situation is more encouraging. In Kisumu, access to improved water sources increased from 62.5 percent in 2002 to 65 percent in 2007, where projections indicate that by 2015, about 83 percent of the population should have sustainable access to an improved water source. In Kumasi, access to piped water increased from 66.2 percent in 2000 to 80 percent in 2008.

WHO/UNICEF JMP's DEFINITION OF IMPROVED AND UNIMPROVED WATER SOURCE

Improved water supply source

- Individual household connection
- Piped water from a yard tap
- Piped water obtained from a neighbor
- Protected well/spring
- Rainwater harvesting

Unimproved water supply source

- Tanker truck-provided water
- Vendor-provided water
- Unprotected well/spring
- Bottled water

Low-income Communities

Residents in informal and peri-urban settlements are often the hardest hit by poor water conditions and are forced to turn toward unimproved water sources. According to a 2008 study by World Water Corps, while the average Blantyre resident needed to travel a mean distance of 88 meters to an improved water source, the average distance for those residing in the City's low-income areas was 800 meters.³ Moreover, rates charged by water vendors supplying piped water were typically 50 percent higher than those charged by the water utility. Such obstacles led residents to rely on shallow wells, streams and drainage ditches, a situation that has ushered in numerous ongoing health and safety risks.

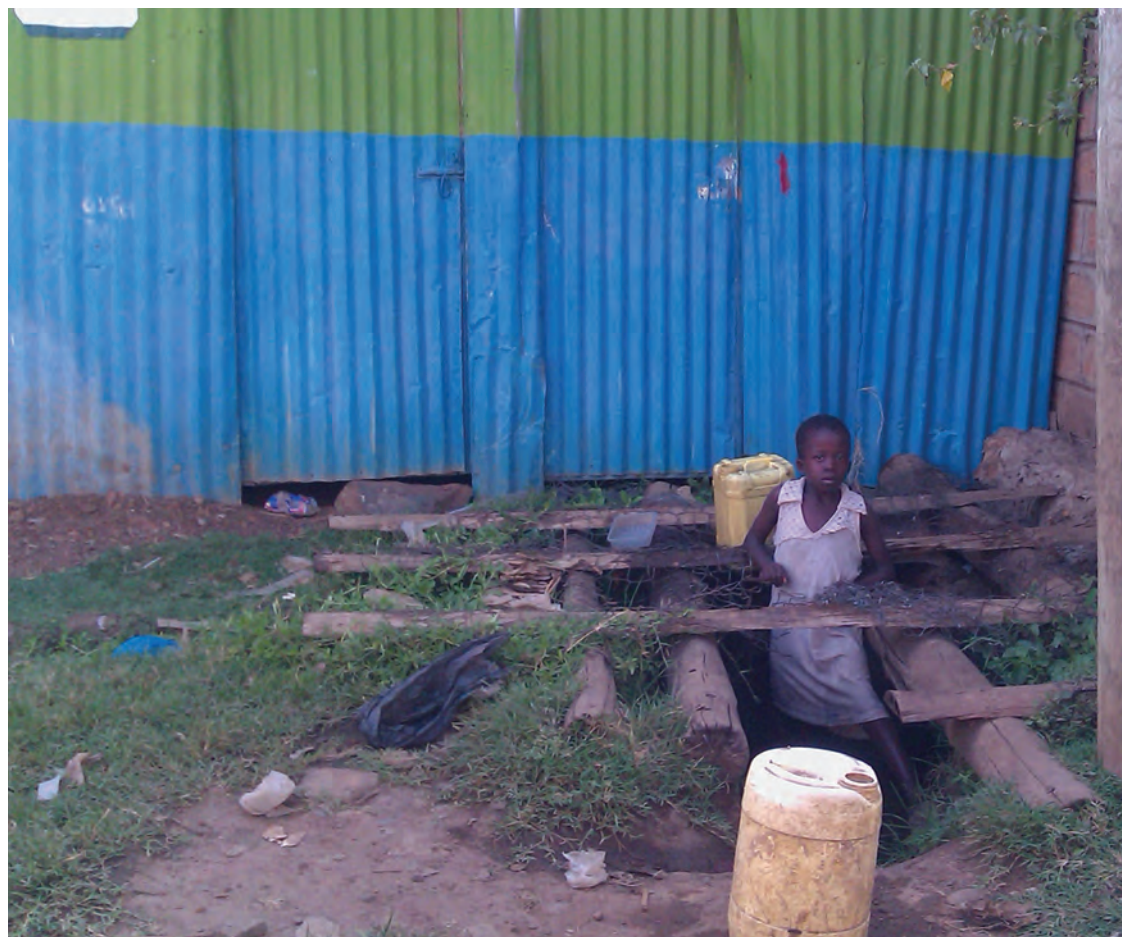
This challenge is, of course, not unique to Blantyre. Most residents in Kisumu's informal settlements rely on water kiosks and handcart vendors, regularly falling victim to predatory pricing. In response, many residents turn to such poor quality water sources as shallow wells and boreholes. Many of the Millennium Cities' lower-income communities desperately need access to improved water sources, whether by extending Cities' pipelines, increasing the number of water kiosks or looking at such alternative sources as rainwater harvesting.

²World Health Organization [WHO]/ UNICEF Joint Monitoring Programme for Water Supply and Sanitation.(n.d.). *Improved and unimproved water and sanitation facilities* [Definitions and Methods Factsheet]. Retrieved from <http://www.wssinfo.org/definitions-methods/watsan-categories/>.

³Ng'ong'ola, D.H., Wiyo, K.A., Jumbe, C.B.L. & Kalowekamo, F. (2011). Urban Water Use Survey for Lilongwe and Blantyre Cities. A consultancy report submitted to the Ministry of Water and Irrigation for the Second National Water Development Program.

Residents in informal and peri-urban settlements are often the hardest hit by poor water conditions and are forced to turn to unimproved water sources.

Many Millennium City residents in poor communities, like this one in Kisumu, rely on unimproved water sources.



Sanitation

According to the WHO/UNICEF JMP definition, a household is considered to have adequate access to sanitation if it has either a flush toilet connected to a public sewer or septic tank; a ventilated improved pit latrine (VIP); or a pit latrine.⁴ Unfortunately, many Millennium City residents lack access to improved sanitation.

MCI estimated that in 2009 nearly 64 percent of Blantyre's residents had access to improved sanitation; however, a large number of residents, particularly those living in informal settlements, still use shallow pit latrines for human waste disposal, which are not considered 'improved' and which can serve as breeding grounds for mosquitoes that transmit malaria and intestinal worms. Mekelle still did not have a piped sewerage system in 2007 (with the exception of Ayder Referral Hospital); open defecation is also common there and in other Millennium Cities, even in places where there are well-kept public toilet facilities, partly because public toilets are often poorly maintained and considered unclean.

In Kumasi, MCI estimated that in 2008 only 43 percent of residents had access to improved sanitation. Many residents rely on public and shared toilets, which are not considered improved sanitation. But the Kumasi Metropolitan Assembly Waste Management Department has made some



Many Millennium City residents in poor communities, like this one in Kisumu, rely on improvised strategies for human waste disposal.



Latrines such as these can be considered improved sanitation sources with proper ventilation.

significant progress in improving sanitation in Kumasi, by rehabilitating public toilets and introducing both new "pay-as-you-dump" and house-to-house refuse collection schemes.

The Millennium Cities' solid waste management systems generally do not provide sufficient coverage, especially in informal settlements and peri-urban areas. At the time of our research, the Kisumu City Council only had four trucks for collecting waste, all in poor condition. As a result, some residents resorted to burning or burying their waste, or using so-called dumping grounds, both unsanitary and unhealthy methods contributing to outbreaks of waterborne disease.

⁴World Health Organization [WHO]/UNICEF Joint Monitoring Programme for Water Supply and Sanitation.(n.d.). *Improved and unimproved water and sanitation facilities* [Definitions and Methods Factsheet]. Retrieved from <http://www.wssinfo.org/definitions-methods/watsan-categories/>.

Hygiene Education

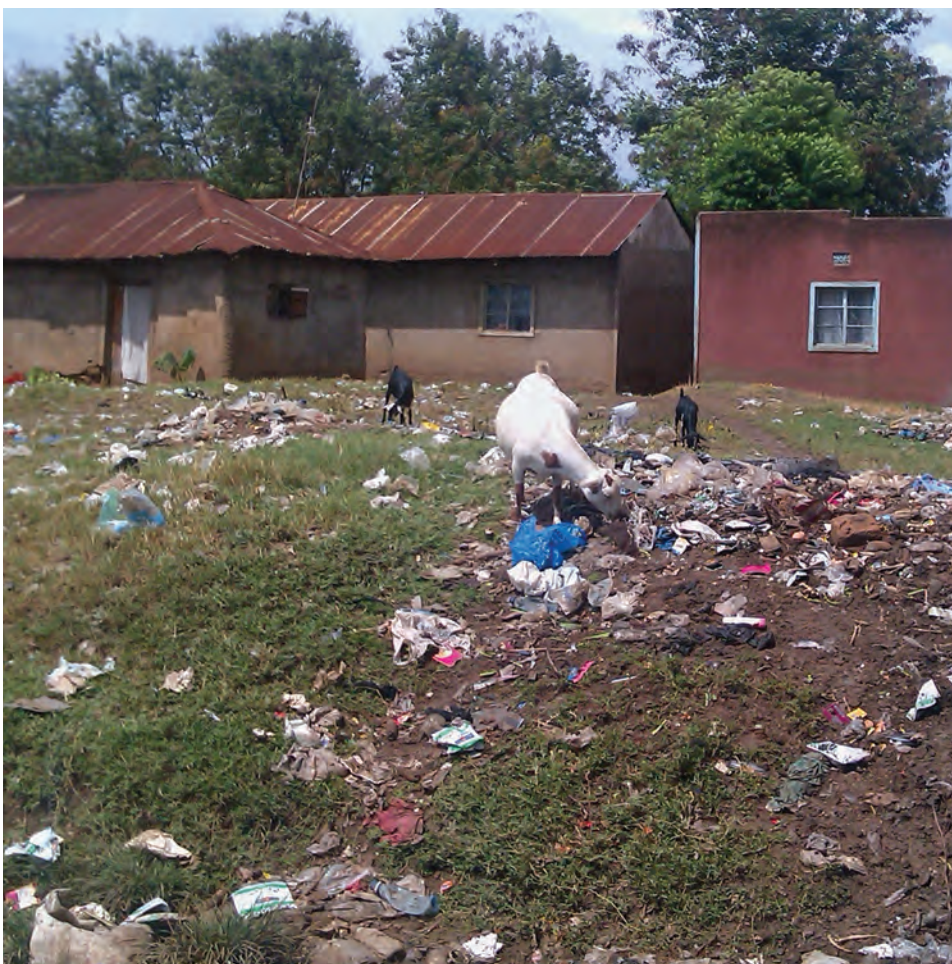
Hygiene education – including teaching residents about the importance of hand-washing – is crucial in preventing water- and sanitation-related diseases such as cholera, dysentery and typhoid.

Kisumu has benefitted from a number of hygiene campaigns, including a “Hand Washing With Soap” program sponsored by the Government of Kenya, the World Bank and UN agencies to promote the practice as an effective way to reduce childhood morbidity and mortality, and “Sustaining and Scaling School Water, Sanitation, and Hygiene Plus Community Impact (SWASH+),” a program to improve access to safe water, sponsored by the Government of Kenya and CARE, with support from the Bill and Melinda Gates Foundation and the Global Water Challenge.

The Kumasi’s Metropolitan Assembly Environmental Health and Sanitation Department engages in a wide range of hygiene education and health-related activities, including speaking with school children about hygiene and ensuring dumpsites are sprayed with chemicals, to reduce mosquito-related diseases.

The collection of waste, especially in informal settlements, can be improved in a number of Millennium Cities.

The Millennium Cities’ solid waste management systems generally do not provide sufficient coverage, especially in informal settlements and peri-urban areas.



WHO/UNICEF JMP’s DEFINITION OF IMPROVED AND UNIMPROVED SANITATION

Improved sanitation

- Connection to a public sewer
- Connection to a septic tank
- Pour-flush toilet
- Simple pit latrine
- Ventilation improved pit latrine (VIP)

Unimproved sanitation

- Bucket latrine
- Public or shared latrine
- Latrines with open pit
- Flying toilet

RECOMMENDATIONS FROM MCI'S WATER/SANITATION NEEDS ASSESSMENTS

MCI's Water and Sanitation Needs Assessments include recommendations intended to help the Millennium Cities attain the water and sanitation MDGs, which have been derived from UN Millennium Project Task Force recommendations and applied here at the municipal level. These include: considering low-cost water consumption options such as harvesting rainwater, conserving water and re-using and recycling water; building wells and water towers; rehabilitating treatment plants and pumps to increase water production and operational efficiency; establishing a monitoring system to reduce illegal connections and enhance revenue collection; creating waste management systems, incorporating recycling and composting; and raising awareness of the importance of improved sanitation among citizens.

MCI's water and sanitation reports incorporate estimated costs for each City to carry out the suggested improvements; in water and sanitation, the average recommended annual per capita investment at the time of the studies was \$18.

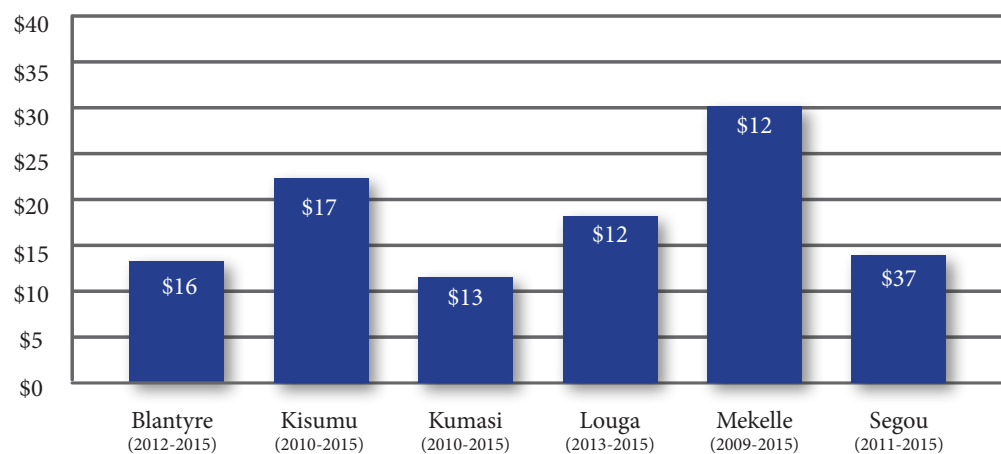


A little boy sits in front of his home in the historic neighborhood of Ga Mashie, in Accra, Ghana, where MCI and its partners studied the area's cultural, physical and economic history.

\$18

the average recommended annual investment per capita to achieve the water- and sanitation-related MDG targets in the Millennium Cities.

ANNUAL COST PER CAPITA TO IMPROVE WATER/SANITATION



The data in this chart were compiled based on MCI's Water/Sanitation Needs Assessments conducted in the Millennium Cities between 2009-2013.



A Kisumu boy transports water jugs back to his community.



COMMUNITY PLANNING, COMMUNITY UPGRADING AND URBAN DESIGN IN THE MILLENNIUM CITY OF ACCRA

OVERVIEW

MCI's urban planning efforts began with the Millennium City of Accra, Ghana's sprawling coastal capital comprising a population of 1.8 million, within what is known as the Greater Accra Metropolitan Area (GAMA), comprised of more than four million.⁷ At the request of the Honorable Mayor and CEO of the Accra Metropolitan Authority (AMA), over a five-year period MCI conducted both general background research, to establish a knowledge base for further engagement and action, as well as site-specific settlement upgrading in the neighborhoods of Nima and Maamobi (both located in the Ayawaso East sub-Metro); New Town (between Ayawaso East and North sub-Metros); James Town and Ussher Town (both in Ga Mashie, or Old Accra, within the Ashiedu Keteke sub-Metro); Korle Gonno and Chorkor (both in Ablekuma South sub-Metro).

This research and the follow-on interventions, which took place in conjunction with the AMA technical leadership, community Assemblymen, the University of Ghana – Legon (Accra) and Columbia University's Center for Sustainable Development, School for Engineering and Applied Sciences, Urban Design Lab and Urban Design Programme, of the Graduate School for Architecture, Preservation and Planning, included community mapping and profiling, household and business surveys, interviews with a wide array of scholars and City stakeholders, and action research. In every case, MCI's recommendations and interventions were predicated on extensive consultations with residents, community-based organizations, government officials and other stakeholders and were carried out and evaluated in close partnership with members of the communities served.

MCI has made use of GIS technologies and meticulous “ground-truthing” to “map” informal and underserved

settlements, on the basis of which, MCI planners and designers have proposed upgrades for housing and markets. Our findings have taken us much deeper, leading our team to undertake specific analyses of basic urban services, including solid waste streams, groundwater samples, taking inventory of sanitation facilities and traffic and transport conditions, in order to make evidence-based recommendations for improving access to safe transport, clean water and environmental health.

To accomplish this broad spectrum of activities, in the course of our five years in Accra MCI has also partnered with such international organizations as the World Bank, Cities Alliance, UN-HABITAT, Global Communities (formerly CHF International); local non-governmental organizations, including Housing the Masses, the Institute of Local Government Studies, SWITCH, the Nima youth organization Voice in Community Empowerment (VOiCE); and Ghanaian ministries.

The descriptions of our work below attempt to follow the flow of the work, both in each geographic area, and along each thematic thread, as MCI moved in each case from background study, including literature reviews and graduate student research projects, to on-the-ground immersion, investigations, actual interventions and reality checks.



A common structure in one of Accra's under-resourced communities.



BACKGROUND RESEARCH

Economic Base of Accra

Goals:

- Analyzing Accra's spiraling growth in the context of fast rates of in-migration and urbanization;
- Analyzing Accra's recent economic performance.

Focus:

- Analyzing the financial base of local government (AMA's revenues and expenditures);
 - Identifying and recommending specific, low-cost, low-risk improvements.
-

Land Use Regulations and Urban Planning in Accra

Goal:

- A literature review of land use regulations and urban planning in Accra.

Focus:

- With some confusion and serious inefficiencies resulting from the obligation of anyone wishing to purchase or rent land to operate under the dual structures of both state and traditional authorities, this literature review was intended to examine existing policies and regulations and to identify areas where regulatory reform and coordination might improve land administration and the experience of current and prospective landholders.
-

Accra Pilot Bus Rapid Transit Project: Transport and Land Use Research Study

Goal:

- To provide better transport services to customers and to promote local economic development within the Kaneshie Market Terminal area.

Focus:

- Exploring how land use planning might be more successfully integrated with the planned Kaneshie Market Bus Rapid Transit terminal site.



A Columbia University Urban Design student helps map one of Accra's informal settlements in an effort to help the City better plan for upgrades.

Municipal Services Study

Goal:

- To conduct a survey of the conditions of planning support systems and operational capacity for all 16 Metropolitan, Municipal and District Assemblies in the Greater Accra Metropolitan Area.

Focus:

- Within the Greater Accra Metropolitan Area, surveying each metropolitan, municipal and District Assembly's capacity by interviewing local officials; this proved informative, but the study did not take sufficiently into account the perspectives of local residents and businesses served, limiting its usefulness as a diagnostic or prescriptive tool. The survey, which included inventorying these local jurisdictions' current mapping of land uses and economic activities, their data needs, perceived roles within the regional economy, needed improvements in basic municipal services (water, sanitation, waste management, transport services, health, education, etc.) and staff capacity, was intended to serve as a main reference point for a revised regional profile. However, the profiling and additional projects did not come to fruition due to the failure to mobilize sufficient financing for their implementation.

Healthcare and Health Infrastructure in Accra

Goal:

- Improving health infrastructure to reduce child and maternal mortality and the incidence of HIV/AIDS, malaria and other infectious diseases.

Focus:

- Examining the healthcare system, public health needs, challenges and goals.

MCI's findings led us to...

- Partner with the Accra Metropolitan Health Directorate, the American Academy of Pediatrics, Johnson & Johnson and AmeriCares to train health workers at all sub-Metro facilities to perform neonatal resuscitation, using the AAP's proven protocol, Helping Babies Breathe,TM to improve neonatal survival;
- Conduct solid waste composition analyses in New Town and groundwater sample analyses in Korle Gonno, to better understand the problems and pilot possible solutions (see below);
- Assist the Accra Metropolitan Health Directorate in renovating and opening a new CHPS Zone clinic in Kwao Tsuru, New Town, as part of Ghana's Community-based Health Planning and Service Initiative, to provide such essential services as pre- and post-natal care, blood pressure screening, treatment of malaria, etc., and to sensitize the communities to the importance of preventive care (see page 114, for more on this).
- Assist the Nima-based youth organization, VOiCE, in holding a community forum in which health issues were raised, including the safety of food purchased from street vendors, which led, in turn, to:
 - Training in hygiene for Nima-Maamobi street vendors;
 - A joint forum with the Greater Accra Region Midwives' Association, to promote midwifery as a career option for young ladies in Nima-Maamobi (where there is a shortage of midwives), as well as to promote reproductive health and family planning.



At the request of the Honorable Mayor and CEO of the Accra Metropolitan Authority (AMA), over a five-year period MCI conducted both general background research, to establish a knowledge base for further engagement, action and site-specific settlement upgrading.



Top: Rooftops in Ga Mashie, where Columbia's architects proposed roofs that can breathe and harvest both rainwater and solar energy; Bottom: Dirt roadways and sewage-filled streams predominate in Accra's poorest communities.

SITE-SPECIFIC RESEARCH AND INTERVENTIONS

Re-Invigorating Old Accra, Phase I: Understanding What Makes Ga Mashie Tick

Goals:

- Preserving carefully the unique Ga cultural heritage and character, while
- Revitalizing the area's local economy, tourism and entrepreneurship.

Focus:

- Studying and documenting the neighborhood's cultural, physical and economic history, including synthesizing previous materials, such as those carried out under UNESCO, so that all available knowledge could be gathered and accessed from one place;
- Mapping and inventorying infrastructure assets and gaps;
- Identifying active groups and individuals in the community, as well as actual and potential private sector and government partners.

MCI's findings fed into...

- The thoughtful design strategies created in 2011 for Ga Mashie by the international group of architects participating in Columbia's Masters' of Science in Architecture and Urban Design (MSAUD) and Urban Design Lab (UDL). Building on the studies described above, working with AMA and the local community preservation organization, Ga Mashie Development Association, MSAUD and UDL students and faculty immersed themselves in Ga Mashie, and met with local fishermen, market vendors, religious support groups and the Ga Chief and associates, to better understand the community's needs, gaps in service provision, complaints and long-term objectives. These interactions contributed to the MSAUD, UDL and MCI proposals for re-envisioning that community, its housing, its historic markets, its diminishing number of vital public spaces and its need to be more closely linked with Accra's nearby Central Business District. This far-sighted and sophisticated design work for Ga Mashie was further expanded and published by UDL and MCI in *Urban Development in Accra, Ghana: An Implementation Toolkit* (2011), accessible at <http://www.lulu.com/shop/>

urban-design-lab-gsapp/urban-development-in-accra-ghana/paperback/product-21676082.html;

- The work of UDL in Ga Mashie was also taken forward by the internationally renowned architectural firm Kohn Pederson Fox LLP, which, working in a pro bono capacity, made use of some of the proposals developed by MSAUD and UDL in further re-designing Ga Mashie's housing and waterfront, with mixed-use, mixed-income structures intended to revitalize the area and its economic base. Aspects of this project are now being built, under KPF's guidance;
- MCI's mapping of the neighboring Korle Gonno neighborhood, conducted at the request of the AMA, given the similarity in challenges facing both these historic, now-degraded fishing communities;
- Further community profiling by MCI, also at the request of the AMA, of the adjacent Chorkor neighborhood.

Community Profile: Korle Gonno

Goal:

- Profiling this impoverished coastal community to gather actionable data, including on how best to leverage two existing economic assets for further economic development: the Korle Bu Hospital "healthcare node" and beach tourism.

Focus:

- Conducting a household survey, to better understand the needs and potentials in what had actually been a planned community, with a spatial layout, access roads, old but detached houses and proximity to one of Ghana's premiere hospitals.

MCI's findings led to...

- The local Assemblyman mobilizing the AMA to do more about water and waste, providing a set of tools to help address the issue; however, these efforts proved ultimately unsuccessful, as groundwater leakages continue;
- Broader awareness among local, regional and national government officials of the critical and ongoing need for improved waste management, re-investment and job creation in Korle Gonno, where education, skills training and improvements in sanitation are the most crucial.

Community Profile: Chorkor

Goal:

- To conduct a composite vulnerability assessment and resilience strategy encompassing environmental health, urban services and local economic drivers and livelihoods.

Focus:

- Identifying environmental health hazards resulting from waste pollution along the Chemu Lagoon and beach environs;
- Documenting the adverse impacts on the livelihoods of fishermen due to new fishing practices by foreign and domestic commercial fishing trawlers;
- Documenting the differences in access to urban services between the seaside settlements and the better-served Chorkor Estates;
- Proposing a composite analysis to reduce the stresses on the Chorkor population from waste pollution, poor water and sanitation services, poor drainage and harmful contemporary industrial fishing practices.

MCI's findings resulted in...

- MCI conducting, in partnership with the University of Ghana – Legon, a 700-household survey to capture income levels, household assets and expenditures, access to utilities and other urban services, housing conditions and perceptions of civil society involvement in the community;
- MCI conducting interviews with the Chief Fishermen in each sub-zone of Chorkor, as well as with fishmongers and sellers, to capture the challenges they face from new fishing companies using massive industrial trawling methods that deplete the fish stock and disrupt local fishermen's livelihoods;
- MCI conducting focus groups with youth to document their perceptions of life in Chorkor and the hardships they face in the economic and environmental climate, to inform possible interventions with the potential to improve their wellbeing and livelihood prospects.

Daily life in Chorkor, an Accra slum where MCI conducted a vulnerability assessment.

Community Mapping: Nima

Goal:

- In collaboration with Global Communities (formerly CHF International) and University of Ghana – Legon, identifying where municipal services were being delivered and where they were most needed, in order to serve this densely populated informal settlement, one of West Africa's largest.

Focus:

- Identifying and recommending priority upgrades to improve access to emergency care and response, clean water and viable economic opportunity.
- Examples of issues and concerns uncovered:
 - The limited number of fire hydrants (for example, in 2010 there was only one hydrant for all of Nima East);
 - Many more public and private toilets needed;
 - Water pipe infrastructure reveals tremendous wastage, estimated at 50 percent;
 - The importance of balancing residential and business needs, particularly in close quarters.

MCI's findings led to...

- Offered a scientific basis and explanation for recommended interventions;
- And recommendations were well received by the Honorable Mayor and the AMA and garnered significant and fairly broad interest; yet most recommendations, which fed directly into the follow-on work undertaken by the Urban Design Lab (see below and on pages 109 and 118), have not been acted upon by AMA.





Mariam Salifu, head of the Women's Association in Accra's Nima-Maamobi area, looks out over "the gutter," where children play.

Urban Design and Planning in Nima

With the knowledge and tools gained through our Community Mapping, at the request of the Accra Metropolitan Assembly and the Honorable Mayor of Accra, MCI invited to Accra the faculty and post-professional graduate students of Columbia University's Urban Design Programme (MSAUD) and Urban Design Lab (UDL) who, again at the Honorable Mayor's request, worked on the redesign of the Nima Market, a key outdoor market in downtown Accra. MSAUD and UDL developed proposals to help rationalize the market's layout, improve customer and supplier access, sanitation, electrification and cold storage capability and to better accommodate the needs of market women and shoppers alike, for safe latrines, daycare, parking, etc. (See pages 109-110 and 118 for more on UDL's work in Accra, which can be accessed at: <http://www.lulu.com/shop/urban-design-lab-gsapp/urban-development-in-accra-ghana/paperback/product-21676082.html>.)

Nima – Maamobi Drain Cover Project

At the request of the AMA Urban Roads Department, MCI conducted an analysis of the Nima East "gutter," which was being prepared for drainage lining works. Rights-of-way

for roads on both sides of the drain were being planned, and the Urban Roads Department requested design proposals from MCI that would integrate water and sanitation upgrades both along the roads and for mixed commercial and residential uses. MCI submitted proposals for 7-meter, 10-meter, 15-meter and 20-meter right-of-way scenarios for the AMA and Nima East communities to consider. The designs were referenced by a Brazilian contractor, Contracta, which is slated to begin the upgrading of the drain area in 2015.

Community Development: MCI Partnership with Voice in Community Empowerment (VOiCE)

Goal:

- Supporting this youth-led non-governmental organization in Accra's Nima-Maamobi sub-Metro, to help empower young people in the physical, social and economic development of their communities.

Focus:

- MCI's productive partnership with VOiCE led to an entire series of community-based research and interventions, including community fora, community upgrading, targeted workshops and advocacy campaigns. The renovation and opening of both a new Ayawaso Community Youth Center and the scoping, design and construction of the Nima Kanda Walkway are perhaps the most ambitious of these undertakings, but the participatory exercises are no less important. These have included VOiCE's leadership and facilitation in organizing community-led environmental sanitation programs, including clean-up exercises and a Pre-Ramadan Community Clean-up; MCI donated the cleaning tools and materials, so that future such exercises can take place under community leadership.

Outcomes:

- **Ayawaso Community Youth Center:** MCI partnered with VOiCE to find a venue where youth might create and participate in activities that meet and advance their own developmental needs and recreational interests. After an impressive, youth-led renovation of a neighborhood building, the Ayawaso Community Youth Center opened its doors on in mid-July as the

area's only official venue for youth. The Center, which lies on land with secure tenure and land title, will be managed by VOiCE. It contains a hall for forums and other activities, a small conference room and two modest office spaces that will serve as VOiCE's headquarters. Revenues collected in exchange for use of the facility will pay for its maintenance, with all activities benefiting youth development and empowerment held at no cost;

- **Nima-Kanda Walkway:** With no access road bridging Nima Highway, the economic heart of Accra's most densely populated neighborhood, with Kanda Highway, a major thoroughfare, MCI staff observed that residents could make use of a series of connecting, 1.5-2m alleyways that could readily be paved as one main walkway. VOiCE members discussed the possibility and confirmed with the local Assemblyman and other community leaders that the walkway would have a positive impact. MCI commissioned the project, and a team of Nima artisans and young laborers carried out the paving. The new walkway affords access from the main roads into the residential areas, has attracted small businesses and has spurred residents in other parts of the neighborhood to organize the paving of nearby alleyways, reflecting local enthusiasm for more urban upgrading projects in Nima;
- **Community Meetings, Community Change:** With MCI support, VOiCE organized numerous fora, including a Community Youth Forum, a Greater Accra Midwives' Association Forum, a Community Development Forum and a "Ladies' Forum," which led to a VOiCE Women Empowerment Week and to the installation by young women and men of community street lights, enabling women of all ages to feel safe on foot in the community after dark;
- **Workshops to Strengthen Community Life:** VOiCE also organized workshops on volunteerism for community members, and a highly successful one for food vendors on improving the safety of their offerings; all vendors were given certificates at the close, by the Kanda Career Training Institute, which co-sponsored the training.



MCI and VOiCE hosted the first-ever Ladies' Forum in Accra's Nima-Maamobi neighborhood, during which 72 attendees discussed education, sanitation and hygiene, safety and community planning.



Top: MCI has supported Voice in Community Empowerment (VOiCE), a youth-led community organization, in creating positive change in Nima-Maamobi; Bottom: VOiCE members organize and participate in a community-led clean-up.





MCI and VOiCE facilitated a forum for young ladies in Nima-Maamobi, presenting an opportunity for the women to share their concerns.

Promoting Community Participation in Improving Environmental Sanitation

Accra recently faced a waste management crisis when two of its landfills closed (when the AMA stopped paying for operations), leaving only one landfill to dispose of waste in the City. The crisis was especially acute given the imminent rainy season, with solid waste choking drains and increasing the risk of floods. Such risk is typically magnified in such low-income, high-density settlements as Chorkor, Nima and New Town, where, on a regular basis, community leaders and youth-led community-based organizations (CBOs) organize waste-clearing exercises to improve stormwater drainage and reduce environmental health risks from the stagnant waste. These exercises, although insufficient alone to address the real challenge, have become essential adaptation strategies as City authorities continue to struggle to provide lasting improvements in waste management. MCI began receiving requests by youth CBOs in Chorkor, Korle Gonno and Nima to provide them with tools such as wheelbarrows, shovels, brooms, facemasks and gloves, so they could arrange more waste-clearing exercises, as the sub-Metro offices did not have enough tools for them to borrow. MCI provided the tools and helped secure other logistics, such as dump truck rentals, to coordinate large-scale waste-clearing and clean-up exercises. The youth CBOs will now keep the tools and will ensure that they are well-maintained, while community leaders raise funds through other sources (e.g., through a municipal facility known as “the district common fund”), to coordinate more frequent clearing exercises.

A Columbia University graduate student surveys a contaminated area while conducting research in Accra.



A New Community-Based Health Planning & Services Clinic in Kwao Tsuru (New Town)

In partnership with longtime NGO partner Global Communities (formerly CHF), MCI helped renovate and open a Community-based Health Planning and Services (CHPS) clinic in Kwao Tsuru, a low-income, high-density settlement in Accra's New Town. CHPS Health Zones typically provide select pre-natal care, treat minor ailments and screen for infectious diseases such as malaria and cholera, referring patients to a hospital for more urgent care. Health Zone nurses also make the rounds of the neighborhood, reaching out to educate individual households regarding basic hygiene and other disease prevention methods. The new Health Zone is the first of its kind in Kwao Tsuru, with medical staff assigned by the Ghana Health Service. Global Communities provided a grant for building the structure, and MCI provided the furnishings and medical equipment. We anticipate that residents will now have improved access both to basic healthcare services and to useful information that can help them reduce the number of everyday hazards that continue to put the community's health at risk.



SUMMARY

MCI's main objectives in its community-development work in Accra were: a) to substantively expand the base of local knowledge regarding those settlements that produce many benefits for the City yet remain vulnerable, due to severe lack of investment in basic municipal and social services; and b) through knowledge and experimentation, to identify potential interventions that could gradually lead to improved intercourse with the broader urban economy, reduced exposure to various daily hazards and increased prosperity within the settlements. We have summarized our achievements and lessons learned below.

The Nima-Kanda walkway project, carried out in partnership with VOiCE, demonstrates that small, incremental upgrades managed by local artisans can generate added value in the settlement when residents take advantage of the artisans' work, either by recruiting them to carry out long-awaited improvements on the residents' own property or to perform these upgrades themselves. Both outcomes are more likely to happen when such simple measures of support as the purchase of "sand trips" (that is, sand reserves used to mix with concrete) can be made available, which can reduce input costs. If the Metro Development Planning Unit has a deep enough presence in the communities to negotiate such arrangements, local government's replicating this sort of low-cost intervention can ease significantly the cost to local government of needed settlement upgrading projects, as Cities Alliance has also reported.⁸ It is important to mention that an assessment needs to be conducted, to identify potential new risks that might arise from the upgrading project.⁹

Our community profiling research has demonstrated that each neighborhood or settlement can be identified by unique demographic, social, economic and spatial traits that warrant individualized community upgrading profiles.

MCI's work with VOiCE demonstrates that youth in the so-called Zongo communities of East, North and Central Ayawaso sub-Metros have exceptional in-depth knowledge both of the multifaceted issues facing their environs and of what can be done to promote adaptive capacity. It also shows that these young people's knowledge can yield important benefits for their communities, if the youth are supported in organizing themselves into a collective, CBO or NGO, through which they can materialize their envisioned actions. We found that insufficient opportunities existed for VOiCE and other youth groups to find sufficient support, even from local NGOs, to enable them to become more active in community development activities, unless youth employment was bundled with another, better-funded intervention, such as in improving water or sanitation.

To the best of our knowledge, our collaboration with VOiCE was the first of its kind in the neighborhood that invested in the inception of a youth collective, including its mission, organizational structure, goals-setting, action plan and its suite of interventions. The leadership and staff of VOiCE were encouraged to use their knowledge and creativity to design well-conceived interventions, for which MCI would later provide technical and financial support. "Technical support" here includes advising as to coordinating logistics, conducting research and using budget funding effectively. We also found that when VOiCE staff struggled in their operations, they welcomed and requested 'coaching' from MCI staff on designing interventions and drafting an annual program budget, reflecting the group's maturity about the complicated nature of development projects. What VOiCE accomplished with the small financial and technical support provided by MCI speaks for itself and demonstrates that youth collectives can facilitate important and tangible benefits for their communities, in large measure because their initiatives are targeted with considerably more precision than the pre-determined projects regularly brought in and implemented by NGOs. The key here, of course, is to have and to spend the requisite amount

⁸See <http://www.citiesalliance.org/arua-community-projects>

⁹For example, alley paving may increase flood risk if there are no drains to convey storm water – especially given the low plinth levels that are common in homes in Nima's settlements. (This risk was taken into consideration during project planning, at which time it was determined by MCI staff and local engineers that the walkway posed no such risk.)

of time developing relationships and learning which youth have the necessarily high level of resolve and commitment to not only imagine but also to see through community development initiatives to their successful completion.

Our community profiling research has demonstrated that each neighborhood or settlement can be identified by unique demographic, social, economic and spatial traits that warrant individualized community upgrading profiles. Priority areas within each neighborhood – even adjoining ones – can be altogether different. This may seem obvious; yet there is still a tendency to focus entirely on one type of service provision, when a neighborhood may in fact need improvement of another type or in specific order with another intervention. For example, improving the roads in Korle Gonno would not be the best use of settlement upgrading funding; rather, investing in a cash transfer program for education, or improving waste management at the Tuesday Market, would have a more significant impact. In another example, spending funding on electrification in Nima would not have as much of an impact as would the completion of the “gutter” infrastructure works.

If robust, neighborhood-specific information is available for communities within a particular sub-Metro, it can augment the information available to the AMA in its community diagnostic workshop briefings, which serve as the basis for the identification of priority project spending for each community, in the City’s annual Medium Term Development Plan. Other Accra-based researchers (see Owusu, 2009) have advocated for this, but consensus-building on this fact across national, local government and other development partners (particularly international ones), as opposed to the perpetuation of more uniform “slum upgrading” programmes, is still needed.

Our profiling work has also demonstrated that better information on current conditions in “poverty pocket” communities is needed to more accurately capture spatial manifestations of the challenges faced in accessing urban infrastructure services. MCI’s community upgrading profiles are not the first such profiles, but the Accra Metropolitan Assembly reported that previous ones were not sufficiently in-depth and relied too much on Government of Ghana Census data and anecdotes. No

profile is going to be perfect, but integrated development and settlement upgrading initiatives require “fresher” community-level data that can supplement census data, such as current-year household survey data.

Our GIS maps have helped establish an awareness both of the need for greater detail in visualizing spatial inequalities in access to housing, infrastructure and livelihood opportunities, and of the ways in which greater information can be visualized using GPS way-pointing. Previous mapping exercises used Census data and poverty indicators by community to map access to municipal services, but there was little or no detail within communities. For example, there was no previous indication that there was only one fire hydrant available for all of Nima East, or that access to sanitation was worse in Korle Gonno’s Zone 1 than in the rest of that community.

Finally, in 2014, as MCI began to wrap up its work project-wide, we looked toward identifying ways to promote continuity in work that overlapped with the themes that we and our partners had worked on over the past five years. The Rockefeller Foundation announced calls for applications to its “100 Resilient Cities” Campaign, which aims to enable cities to develop plans to reduce their vulnerability and increase their resilience to environmental, economic and social disasters and hazards. Indeed, several of the themes and objectives of this campaign overlap with those of the Accra Millennium City Initiative. Recognizing an opportunity to build upon MCI’s and the local NGO, civil society and universities’ knowledge base regarding vulnerable settlements in Accra and to extend this knowledge into a citywide resilience plan, MCI and AMA submitted an application on the City’s behalf. The proposal centered around everyday environmental health hazards arising from poor sanitation and waste management, and how these hazards – from polluted waterways, waste-choked drains, waterborne contamination and overcrowded housing to insufficient access to in-house and public toilet facilities – almost inevitably result in disastrous cholera outbreaks and floods during the rainy season, and how the development culture needs to transition from a reactive to a proactive one, with integrated development planning at its core.



The articulation of both Accra's potential and its resilience constraints – and crucially, the substantial assets the City possesses to engage them, given its capable planners, architects, NGOs, civil society, savings federations, youth and women's groups – was compelling enough for it to be selected as a "Resilient City." As part of this award, the AMA will receive grant funding to hire a "Chief Resilience Officer," as well as access to capacity-building services, private sector partnership opportunities and knowledge-sharing with other participating cities. As its final project with the AMA, MCI submitted a briefing to the Metropolitan Assembly and related partners articulating how to integrate both MCI's findings and the best local knowledge into the resilience planning process under this exciting and hopeful new programme.

A young girl places trash in an overflowing Accra dumpster, typical in a number of Millennium Cities where waste collection is not sufficient.



DESIGNING WAYS OUT OF EXTREME URBAN POVERTY: URBAN DESIGN IN THREE MILLENNIUM CITIES

OVERVIEW

To extend MCI's range of action from overseeing effective MDG-based and community-led interventions to jumpstarting durable urban transformations, MCI reached out, as mentioned above, to the Urban Design Lab (UDL), a research unit of Columbia's Earth Institute and Graduate School of Architecture, Preservation and Planning that specializes in design strategies for problematic areas in developed and developing cities, and the Masters' Program in Architecture and Urban Design (MSAUD) program at the Graduate School of Architecture, Preservation and Planning. For the last four years, UDL and MCI have worked in close partnership in impoverished communities in the Millennium Cities of Accra and Kumasi, Ghana's two largest metropolises, and in Kisumu, Kenya's third largest. MCI provided the inputs, including our own prior research and connections with local partners; participated in the fact-finding; and followed the progress of work through to its publication. The MSAUD program committed groups of talented young professionals and faculty who immersed themselves wholeheartedly in the life and rhythms of each site and developed innovative, ecologically sound urban strategies aimed at furthering social and economic development and delivering essential services. In each case,

The design strategies proposed are intended as provocations to further work, affirming that lasting change is achievable.

MCI, MSAUD and UDL partnered with a local university, whose students carried out some community mapping and/or profiling in advance of the arrival of the Columbia contingent and with whom they consulted closely, both in the field and once they had returned to Columbia. Feedback from the partnering students and faculty, the communities themselves, local government officials and other partner organizations has been key to ensuring that the ideas and propositions developed by UDL and MCI remained in tune with the communities' near-term objectives and longer-term aspirations. The design strategies proposed are intended to serve as provocations to further work, inspiration that lasting change is achievable and as anchors with which these Millennium Cities and communities might attract further public and private sector investment.

Urban Development in Accra, Ghana: An Implementation Toolkit (2011)

In Accra this collaboration focused on the market neighborhood of Nima and the historic but severely deteriorated seaside community of Ga Mashie, where MCI's previous research findings were leveraged by MSAUD and UDL to develop "tools" of action, which they then recombined in multiple, scalable ways. The Accra Metropolitan Assembly, University of Ghana-Legon, Ga Mashie Development Association and local community associations each played key roles in this effort. (See above, pages 109-112, for more; the publication can be accessed at <http://www.lulu.com/shop/urban-design-lab-gsap/urban-development-in-accra-ghana/paperback/product-21676082.html>.)

Re-Cultivating the Garden City of Kumasi (2012)

In 2012 MCI, MSAUD and UDL shifted their focus to Kumasi, Ghana's second city and the capital of the Ashanti region, where we worked together with the Kumasi Metropolitan Assembly (KMA) and the Architecture and Planning Departments of Kwame Nkrumah University of Science and Technology (KNUST). Here, at the request of the KMA Metropolitan Planning Department, the team focused primarily on three impoverished and long-neglected communities then constituting the Kumasi sub-metro of Asawase, where, more than the rest of the city, basic services, infrastructure and formal planning are lacking.

A key underlying assumption of the MSAUD and UDL's work in these three communities, Akorem, Adukrom and Sawaba, and in all the so-called informal settlements where UDL and MCI have worked together, is that, in the words of MSAUD and UDL Co-Director Richard Plunz, "The 'informal' is an extremely effective system that must be understood and respected." The KNUST and MSAUD students and faculty embarked anew on a mission involving extensive consultations with residents and close observation of daily life within these three settlements, all of which led to the development of seven "urban provocations," which included proposals for recycling human waste, mitigating urban sprawl, revitalizing the decayed railway infrastructure, water system, local



Planners and architects from Kwame Nkrumah University of Science and Technology share maps developed from their own research on Kumasi's underserved communities.

market and much-needed job opportunities. Land issues are key, both to the failure to attend to these neighborhoods, and to the inertia seemingly greeting even the best upgrading proposals, due, at least in part, to Ghana's dual system of tenure, whereby all land is understood to be held by the traditional authorities while also being subject to competing claims by state authorities and the private sector.

Akorem, Adukrom and Sawaba are now all part of a new municipality carved out of Kumasi named Asokore Mampong, where the new Metropolitan Assembly and civic leaders have embraced many of the proposals put forward by UDL, KNUST and MCI and have integrated them into their own municipal planning.

That same year, MSAUD and UDL also produced a set of beautiful architectural and landscape designs for a comprehensive Women's and Girls' Resource Center to be situated not far from Asawase, in the bustling downtown Bantama neighborhood, at the urging and with the tremendous support of the Bantama sub-Metro administration. MCI and the UDL delegation met with Bantama's industrious

and savvy market women and neighborhood schoolgirls to understand their needs and wishes. Using local materials, the MSAUD and UDL team created a richly functional, safe and aesthetically pleasing compound where women and girls would be free to take literacy or financial literacy classes; join savings groups; have a venue for cultural and recreational activities; and access sexual and reproductive health services and counseling. Although these plans have not been realized due to cost and land issues, many of the desired activities intended to take place within the Women's and Girls' Resource Center are well underway, in and adjacent to a small women's clinic MCI set up in the middle of the Bantama Market, where women's comprehensive health screenings (for hypertension, heart disease, breast cancer, cervical cancer, family planning, etc.) qualify them to participate in savings groups and a "Social Capital Credits" exchange, wherein "credits" earned by performing community-focused services can be traded for desired goods (see pages 49-51 for more). *Re-Cultivating the Garden City of Kumasi* can be accessed at <http://www.lulu.com/us/en/shop/urban-design-lab-gsapp/re-cultivating-the-garden-city-of-kumasi/ebook/product-21676271.html>.

Re-Envisioning Health in Kumasi (2013)

The following year MCI, MSAUD, UDL and KNUST returned to Asokore Mampon, now a newly independent municipality, and expanded the sites in Kumasi to include three new areas: Fante New Town, a major food production area located at the heart of Kumasi's informal business sector, near to both Kumasi's financial district and Kejetia Central Market, West Africa's largest; Subin, a hub for the public mini-bus or *tro-tro* business; and Juaben, a developing town on Kumasi's periphery, where UDL designed a new 250-bed "green" specialty hospital for the West African Health Foundation (WAHF), a New York-based organization of physicians originally from the region.

Architects and planners investigated these sites and, in general, approached their work starting with a far broader definition of "health" and "health systems" to include not only such clear determinants as the access to potable water, effective waste disposal, safe housing, appropriate health care and an healthy natural environment, but also such factors as transport, energy, economic vitality and employment, all of which, directly or indirectly, have immense impacts on individual and public health.

Several of the proposed MSAUD and UDL projects zero in on protecting and sustaining endangered neighborhoods and livelihoods. For Fante New Town, they propose an innovative system of public-private partnerships and business incubators to help fortify current inhabitants and entrepreneurs against growing pressure from real estate developers to sell and move out. A proposal for Subin reimagines the City's currently gridlocked transport system that proposes a rapid *tro-tro* infrastructure to maximize efficiency and affordability.

The management and recycling of waste, a chronic problem in and around Kumasi, play a key role in the City's health and in a number of the projects. In the Subin area, residents could bring and exchange their waste for Social Capital Credits (see

p. 49), through which they can purchase phone minutes, mini-bus or *tro-tro* fares, fresh water or groceries. Another proposal reconceives the co-composting of human and household waste as a profitable job and business opportunity that also fills a key gap in public service provision. Recognizing the prohibitive cost for any city today, developed or developing, of installing new sewage and/or rainwater treatment systems, UDL and partners developed a set of "bottom-up" strategies for the newly incorporated municipality Asokore Mampong, whereby local residents and private developers would be required to solve their own sewage and water supply problems in ways that could ultimately become "nodes" or links in an incrementally achieved citywide system. Another Asokore-based proposal focuses on reclaiming the region's green heritage through co-composting, wet-bottom ponds and terraced bioswales that can slow and clean the rainwater runoff, thereby helping to remediate the now-polluted soil and water. This, in turn, could lead to the cooperative production, harvesting and sales of traditional medicinal herbs, which will both signal and boost the return to health of the City's critical waterways. *Re-Envisioning Health in Kumasi* can be accessed at <http://www.lulu.com/shop/urban-design-lab/re-envisioning-health-in-kumasi/ebook/product-21647021.html>

Kumasi's bustling Bantama Market, where UDL architects proposed solutions that would improve the market women's health.





Housing in Manyatta, one of Kisumu's poorest communities, where MCI joined Columbia University's Urban Design Lab to consider potential residential, commercial and infrastructural upgrades.

Spatial Strategies in Manyatta: Designing for Growth (2014)

In 2014 MSAUD and UDL traveled further east, across the continent to Kisumu, Kenya, where MCI and UDL worked with the City Council of Kisumu, the Dutch organization Catholic Organisation for Relief and Development Aid (CORDAID), and the School of Planning and Architecture at Maseno University – Kisumu Campus, to look at residential, commercial and infrastructural upgrades in the community of Manyatta, the largest of Kisumu's six informal settlements where MCI and CORDAID had been working for a number of years.

The community-based approach of the organizations involved made for important common ground, also with the leaders of Manyatta – the area chief, Neighborhood Association, women entrepreneurs, underemployed

youth and former fishermen and farmers put out of work by the polluted marshlands and invasive water hyacinth of Lake Victoria's Winam Gulf. The team addressed a plethora of local issues, including the regularly flooded, chronically waste-clogged Auji River, the area's onetime drainage channel which, together with the runoff from residences and businesses, has contaminated the nearby fields and forested areas. Extensive consultations with all stakeholders – including Kisumu's civic and business leaders – grounded the collective thinking and planning by MSAUD, UDL, MCI, CORDAID and Maseno University team members, ensuring that the design work would be responsive to Manyatta residents' needs.

Like Kumasi's Ayawase sub-Metro, now Asokore Mampong, Manyatta had never enjoyed the benefit of formal planning, despite its proximity to the downtown area. In 2012-13, *L'agence française de développement*, the French aid agency, financed an "Integrated Sustainable Urban Development" planning exercise to help steer Kisumu's future growth. For the first time Manyatta and Kisumu's other large slum areas, constituting "the slum belt" that encircles roughly three-quarters of the City, would be fully integrated into a citywide plan. Yet given Manyatta's overcrowding, inadequate housing and infrastructure and the economic exigencies of the City, County and of Kenya as a whole, it seemed unlikely that this well-conceived master planning exercise would result in the reconstruction of the neighborhood anytime soon, and not in a way that would be likely to preserve the rich social and cultural capital that the community had created, decade by decade, in Manyatta.

With the community's guidance, therefore, and so that Manyatta residents might witness some shorter-term, tangible results from their valuable input, MSAUD and UDL selected six closely interwoven thematic elements – Gender, Land, Public Space, Waste, Infrastructure, Economy – out of which six pilot projects were proposed. One project, described as "women-centric development," connects women vendors to roads, shared space, proper lighting, toilets, daycare, training, cellphones, credit and each other. Another links neighborhoods, schools and churches to the challenges of improving water and waste management and reversing erosion and pollution in the Auji River by positioning pressurized bore-wells, bio-digesters and, eventually, by enlisting the community in extensive replanting along the water's edge. Still another proposal would pilot a new Water Community District to share and protect this precious resource, while binding the community and schools together and educating all residents regarding the fundamentals of ecology, environmental health and appropriate stewardship.

At the time of this publication, Kisumu as a whole was undergoing massive development, with a new Chinese- and Israeli-built highway under construction that will help position the City not only as a key way station, but also

as a tourist destination in its own right. The nuanced yet potentially transformational proposals of UDL and our partners in Kisumu will ensure that Manyatta is included in this regeneration of the economic life of this uniquely charming Millennium City, with new jobs and educational opportunities made available to Manyatta's hard-working, perseverant residents.

Spatial Strategies in Manyatta: Designing for Growth can be accessed at <http://www.lulu.com/shop/urban-design-lab/spatial-strategies-for-manyatta/ebook/product-21957054.html>.



Together with experts from Maseno University, the Dutch NGO CORDAID, Manyatta leaders and the Kisumu City Council, the UDL proposed solutions to be carried out by Manyatta's residents.



CONCLUSION

Dr. Susan M. Blaustein, *MCI Director*

KEY CONSIDERATIONS

Given MCI's experience over nearly a decade, those undertaking similar urban development efforts might keep three points in mind. The first, and probably the most critical component of success, is to adopt a truly consultative approach – one that involves listening first, listening well and then seeking consensus. Regarding densification, for example, as MCI has embarked on market and community upgrading projects, it has recognized that although the project's aim is always to enable local organic development that builds on the strengths and assets of a given community, frequently the vision of a powerful local official may be quite different, even including the notion of razing entire communities and building up. Where possible, we've attempted to dialogue and to elucidate the importance of recognizing and preserving valuable community assets, enabling incremental, community-driven upgrades and respecting human rights and international norms. But the essential foreignness, guest status and ultimate dispensability of MCI (as of many other well-intentioned bilateral or international projects) are essential to keep in mind: at the end of the day, the future shape, look and destiny of each venue where MCI has worked belong to those who call it home.¹

A second consideration is the importance of sustainability. Strategies, at the end of the day, are just paper documents and require significant investment if they are to effect sustainable change – without donors and private sector investors doing their part, even the most foresighted and brilliantly-conceived plan will not come to life. Local

¹A telling instance of the distinct and irreversible “otherness” of technical partners such as MCI became apparent when we proposed the densification of certain overcrowded, informal “Ga” settlements in Accra by building up, without appreciating that the Ga people bury their ancestors in the center of their courtyards expressly so that these ancestors have unimpeded access to the stars overhead. So our modernist, Western notion – of going vertical, with commercial establishments on the ground floor, residential quarters above, gardens and sleeping sites on breezy roof terraces – would have been received as heretical. By first proffering what turned out to be ignorant, distinctly 20th-century solutions, the MCI team was reminded of the importance of learning from our clients, in this case, those Ga slum dwellers who knew precisely what they needed but who simply lacked the resources and technical expertise to realize their aims.

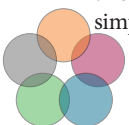


An Accra mother and toddler; MCI is hopeful that our efforts in the Millennium Cities help empower women, children and whole communities.

capacity-building is also key to sustainability, in order to be able to manage the process, the adaptations, the change and the follow-up phases. Finally, each City needs a separate, detailed plan for ensuring environmental sustainability in the face of anticipated, much-needed yet uncontrolled growth, an issue addressed below.

The third consideration, also broached earlier, is the importance of a serious monitoring and evaluation component (M&E), to ascertain whether one's methodology is actually working. In MCI's case, the ultimate test is seeing a City get firmly on track to achieving the MDGs, making all the more imperative the training of city officials, so that they can carry out regular needs assessments and surveys to update each city's progress.

M&E is not only critical for any one project's replicability and scalability, but also for the entirety of MCI, to know whether the project's methodology merits repeating elsewhere. Even without the infusion of resources previously committed by the traditional development partners, a given Millennium City and its residents still need to be able to believe in the promise of executing their vision in manageable steps that can each make a tangible difference. Otherwise, the risk remains that the entire engagement will be perceived locally as yet another hyped but ultimately demoralizing waste of time, energy and good will.



WAYS FORWARD

As we look toward the coming decades of heightened urbanization across sub-Saharan Africa and much of the developing world, five areas emerge as the most promising and critical avenues worth pursuing.

First, the new mobile technologies, if harnessed and targeted appropriately, have tremendous potential to transform the lives of the poor. The ability of an Urban Community Health Worker, for instance – a trained, paid community member – to text to a tertiary care center a photo or description of symptoms suffered by a sick child or elderly patient trapped in a slum (whether for lack of finances, mobility or childcare) and to receive a diagnosis by return text will clearly speed access to appropriate care and save countless lives. GIS mapping now readily available through open-source technologies makes it possible for any resident with a cellphone to report flooded or congested streets as well as sewerage line or water pipe breaks to local officials, who can then be held accountable because they, too, will see these phenomena on their desktop monitors. And smart metering, also using mobile devices, can enable people to prepay their utility usage beyond a certain allotted amount (30 liters of water per person per day, for instance, or a certain amount of energy, for which they might get credits or a voucher), thereby cutting down on excessive waste, hoarding and payments to middlemen.

Second, investment in sub-Saharan Africa will come – as we keep hearing, this is the last frontier! But will this investment stimulate sustainable private sector growth, and will it galvanize the kind of local economic development that can help the poor? This is an area where good corporate citizenship and the enforcement of the appropriate treaties can help, as well as peer pressure and increased transparency among the multinational and sovereign investors, including those currently grabbing up massive land parcels and erecting skyscrapers that may or may not suit the local terrain or culture, but that will inevitably displace many and irrevocably alter their way of life; or those promoting attractive deals including significant infrastructure upgrades, often leaving their prospective hosts and partners bedazzled and less able to soberly evaluate the long-term impact on sustainability, job-generation and land use planning.

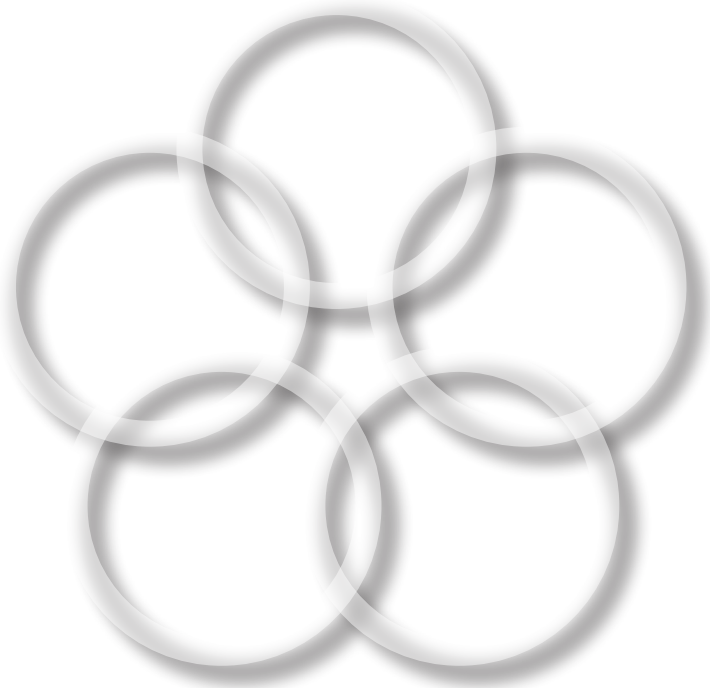
Everything that can be done to give women the agency, authority, education and technical resources they need will come back to help sustain their children, families and communities, and to help build their cities and nations.

A third and increasingly urgent area of focus must be on the physical environment. The pressures of in-migration and the consequent unplanned densification, overcrowding and damage to natural resources and public services are already creating catastrophic impacts, most notably on productivity, commerce, tourism and public health, especially that of women and children. Local policymakers need to appreciate that this influx into urban areas is not going to abate, whether the farms fail or thrive. They should be encouraged to initiate the collection of adequate demographic data, as well as information regarding the sufficiency of physical infrastructure and social service delivery (as MCI has striven to do), on which they can then base realistic projections and systematic planning for the city's immediate future, as well as for the near- and longer terms.

It is easier to be optimistic regarding the fourth area of focus, the specific arena of women, girls and human rights. Everything that can be done to give women the agency, authority, education and technical resources they need will come back to help sustain their children, families and communities, and to help build their cities and nations in ways that trigger healthful growth, a lively, humane productive sector, a flowering of educational opportunities and the fruitful tranquility that comes with prolonged periods of assured peace. As countless projects have demonstrated in small and large ways across the developing world, given the resources and opportunities described above, women can and will actually become the delivery system for attaining not only the MDGs, but also their successor Sustainable Development Goals and whatever comes next.

Implicit in empowering women is the importance of trusting local knowledge and resourcefulness, the fifth area of focus and our final plea. In nearly every case, the most robust entrepreneurial spirit, the best ideas and the most breathtaking powers of invention and resiliency are found in the very poorest communities. International urban development is tough, with few resounding, replicable successes to-date. The real specialists are those living in these high-density, under-resourced communities, the so-called beneficiaries – and we are only at the very beginning of recognizing their authority and wisdom as to what is most needed, and when.

Where we as development partners are able to understand that these deeply vested stakeholders, with their tremendous untapped capacity, really do know best what is best for them; where we are able to strengthen these communities by helping residents join in developing a thoughtfully targeted agenda and speaking persuasively to their own policymakers of their needs and aspirations; and where we are able to support public officials in seeking out, listening well and being accountable to these residents and communities – then we are truly operating as a fully empowered global community, with few limits to what we can accomplish, together.

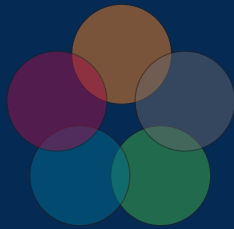




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