Towards a National Community Infrastructure Upgrading Program for Ghana

Building on 15 years of efforts to improve the living conditions of the poor in Ghana's cities

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In a period of 15 years, upgrading projects in Ghana improved the living conditions of almost half a million poor people, living in approximately 800 hectares. The provision of low income settlements with basic infrastructure and services contributed to a healthier environment and the development of small businesses. The successful implementation of these projects was possible through the joint effort and commitment of governments, local consultants and contractors, and with the involvement of low income communities themselves. The positive results have led the Government of Ghana and the World Bank to continue the process of scaling up community infrastructure upgrading projects to a city-wide and possibly a national program.

Ghana Upgrading: Features and Results

Improving the living conditions of under-serviced communities (upgrading) in Ghana's cities involves the provision and/or improvement of basic municipal infrastructure and services that are: (i) planned and designed to functional least cost standards; (ii) constructed by local contractors; and (iii) funded by central government with some assistance of the respective local governments. Once completed, the upgraded infrastructure is taken over by the responsible authorities for operations and maintenance. The projects have been kept as simple as possible for ease of design and implementation. Consequently, they have been completed close to planned time schedules, within estimated costs, and to good standards of workmanship.

Evolution of Upgrading in Ghana Until 1995

In 1985, the World Bank began to support Ghana's efforts to address the needs of the urban poor with a pilot infrastructure upgrading project in East Maamobi under the Accra District Rehabilitation Project (ADRP). This first exercise was to test an integrated multi-element approach to infrastructure improvements in Ghana's poor urban communities. The pilot improved the living conditions of over 19,000 people in an area of 30 hectares at a (relatively high) cost of US$75 per capita.

GHANA PROFILE

Area
239,000 km²

Population
18 million

Urban Population
6.7 million (37%)

Population living below poverty line
5.6 million (3%)

Population of capital city, Accra
2.2 million (est. in 2000)

Local governments
110 Assemblies

Number of cities
5

Number of towns
36

Number of designated urban areas
185

Population without safe drinking water & sanitation
Approx. 40%

GNP per capita
$400
(approximately US$47,500 per hectare). By providing basic infrastructure such as roads, footpaths and drainage, the residents had better access to and from other parts of the city, and the incidence of flooding was dramatically reduced. New water supply points and communal ventilated pit latrines improved the sanitation conditions and contributed to healthier environment in the communities. The pilot demonstrated that it was possible to implement upgrading quickly and that it could improve conditions in severely neglected areas in Accra. Importantly, it showed that the provision of the most basic infrastructure is the first step in transforming the lives of the urban poor.

Another set of upgrading schemes were carried out between 1985 and 1996 under the Priority Works Project and the Urban II Project. These two projects benefited approximately 160,000 people covering almost 264 hectares in communities in Accra, Tema, Tamale and Kumasi. The content of these projects was similar to the ADRP project—providing access to basic infrastructure and services in low-income residential neighborhoods. In Kumasi, an upgrading innovation in Suame Magazine also improved an informal commercial area occupied largely by motor fitters and mechanics. To implement these projects, several types of infrastructure works within one community (roads, drains, water supply, street lights, etc.) were bundled together in one works contract. This approach has the advantage of reducing costs and avoiding coordination problems of building the various networks. Other benefits are speed of construction and minimizing disruption for the community. Like the ADRP, the projects had an immediate and visible impact. Families started to invest more effort and funds to improve their houses. In addition, small trading establishments, shops and kiosks developed along the main streets.

**Evolving Upgrading Approaches**

In 1996, a new generation of upgrading projects in Ghana was launched. The Urban Environmental Sanitation Project (UESP) covered various investment needs, from drainage and waste management to city-wide sanitation issues. An important component of the project, however, was community infrastructure upgrading. The community upgrading component under UESP sought to extend and improve the earlier upgrading projects. First, it introduced the concept of cost-per-hectare limits and promoted the use of functional standards to keep a check on costs while still providing an adequate level of services. Second, the project embraced more current practice with regard to community participation. Third, for the first time in a World Bank-supported project in Ghana, the central ministry in charge of project implementation (the Ministry of Local Government and Rural Development) gave the local governments the
Employment generation through upgrading

The primary objective of the Priority Works Project was to mitigate the effects of structural adjustment by creating employment. Employment was generated not only through rehabilitation and maintenance of general municipal infrastructure, but also by expanding the upgrading project started in West Nima and Ashaiman under the ADRP. The upgrading component was specifically designed to be built with labor intensive, small scale contracts. By using local consultants and contractors, and by keeping the upgrading simple and easy to implement, this showed that upgrading projects could also generate significant local employment in a relatively short time.

Guided by experiences of the early projects, key design principles were used in the planning and design process (see box below). Seven communities in three cities were upgraded under the UESP. Approximately 265,000 people residing in about 530 hectares benefited. The program included the following elements:

- Provision of paved main roads and lined storm drains
- Provision of a basic water reticulation system (each standpipe serving 5 hectares) and some house connections which required payment of a standard fee to the water authority
- Rehabilitation of existing public toilet facilities
- Provision of communal solid waste containers (compatible with city-wide systems) and hard-standings
- Provision of basic street lighting
- Preparation of a resettlement plan for involuntary resettlement and replacement of demolished structures and/or compensation (to be paid before the works commenced)

Land tenure regularization was not addressed directly under the UESP because of complex land ownership issues (ambiguity over private land versus traditional land versus public land) and the existence of a high number of renters. An Urban Land Administration study was carried out under the project that recommended comprehensive changes to the land registration and titling systems which can only be implemented over a long period of time. Postponing action on land issues was a strategic decision that enabled the project to move forward. The positive impacts of the project gave enough of a sense of security to residents to move ahead with home improvements without the fear of eviction.

Key Design Principles of Community Infrastructure Upgrading under UESP

1. Communities selected on the basis of infrastructure deficiency.
2. Improvements according to functional standards with maximum cost limits based on “per hectare” targets.
3. Improvements based on a “menu” of basic infrastructure and services, which were packaged according to an integrated community plan.
4. Program balanced for impact and high visibility.
5. Communities and local governments agree and commit to fund operations and maintenance by way of a Facilities and Management Plan.
6. Respective local authorities (Assemblies) required to contribute 10% of capital costs.
7. Essential trunk infrastructure provided in complementary programs.
8. An “environmental infrastructure fund” introduced for additional tertiary infrastructure, accessible only if the communities match the funds.
New Institutional Arrangements

Under UESP, upgrading became institutionalized through the formation of community level Joint Management Committees, under the auspices of a decentralized government structure. Members of the committee included representatives of formal government departments as well as community groups (e.g. youth groups, women’s groups and religious associations). The Ministry of Local Government and Rural Development hired local engineering consultants to design the infrastructure with community participation. Following the design phase, the three local governments of Accra, Kumasi and Sekondi-Takoradi became responsible for project implementation, including procurement and supervision. Each participating city set up a Project Support Team, consisting of a Coordinator, a Sanitary Engineer and an Accounting Officer, who helped to coordinate and manage the different sites. Support was also available from the Ministry of Local Government and Rural Development.

Infrastructure planning and costs

Infrastructure provided in upgrading schemes is predominantly "network" infrastructure and thus "area sensitive" rather than "population or density sensitive". In Ghana, experience has shown that planning to "per hectare cost limits" is more meaningful than planning to "per capita limits". Therefore, per hectare cost limits were a guiding principle in the UESP. The planning figure developed for upgrading in the UESP was US$25,000 per hectare which included the upgrading of 37 km of road, 59 km of drains, 39 km of water pipes and providing for over 400 standpipes, 20 public toilet facilities, 3000 streetlights and 130 solid waste containers with hard-standings.

Implementation Arrangements

Local contractors were engaged to carry out the main works. The use of local contractors was an important factor in getting greater involvement of communities in the implementation process as local contractors had a better understanding of the community’s needs and circumstances. One large contract package for the “network” infrastructure in each community was decided upon for efficiency and works management reasons. For minor “stand alone” works (e.g. hard standings for solid waste containers), additional small contracts were advertised and bid for. Each local government, or Assembly, was responsible for procurement and management of the component, supported by local consultants. Generally, the performance of Assembly Support Teams, consultants and contractors alike was encouraging.
The Planning and Design Process

- **The Initial Survey Stage** involved the identification of focus groups in each community, household surveys, preparation of a database, and group/stakeholder discussions leading to agreement on general principles and scope of the program.

- **The Planning and Preliminary Engineering Design Stage** included base mapping, the development and costing of functional standards, an assessment of trunk infrastructure needs, extrapolation of unit costs to arrive at a cost estimation, as well as the assessment of the potential for community involvement during the implementation process.

- During the Planning and Preliminary Engineering Design Stage, preliminary proposals and cost estimates for operation and maintenance were developed, responsibility for operation and maintenance of the infrastructure provided were brought into the discussion and their agreement obtained on standards and layouts. Community infrastructure proposals, costs and O&M responsibilities were set out in a Facilities and Management Plan which was agreed upon and signed by the various stakeholders.

- **The Detailed Engineering Stage** included discussing and seeking the agreement of communities and stakeholders to the program content, and the implementation modalities incorporating reasonable modifications to preliminary proposals. Detailed engineering plans, bid documents and final cost estimates were also prepared.

Costs and Financing

Following detailed household, topographic and soil surveys, and detailed engineering, the actual costs ranged from US$16,400 (in Sekondi-Takoradi) to US$27,600 per hectare (in Kumasi) or US$34 per capita (Sekondi-Takoradi) to US$45 per capita (Kumasi) with densities varying from 380 to 715 persons per hectare. The final costs, at US$14 million including design and supervision costs, proved to be close to the estimated costs. Local Governments contributed 10% of the costs, the central government provided about 15% and the World Bank covered 75%. This was the first upgrading project in Ghana where local governments made financial contributions.

<table>
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<th>Project</th>
<th>Population</th>
<th>Hectares</th>
<th>Total Cost*</th>
<th>Cost/cap</th>
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* including 10% for design and supervision
The Impact of Upgrading Projects in Ghana

The upgrading schemes in Ghana have resulted in a dramatic improvement in the environmental and sanitation conditions in the communities. Improved solid waste collection has reduced the accumulation of garbage in areas where children play, and household chores are carried out. Improved drainage has led to reduced flooding in most areas, thereby slowing the spread of waterborne diseases. Although no systematic effort has been made to measure the impact of this on health in these areas, significant health benefits are thought to have accrued.

Paved streets and improved access to communities have resulted in a proliferation of small businesses and kiosks along roads in places that previously used to be repositories of trash and human waste. Upgrading has motivated individual households to invest more in improving their shelter structures, and to do more to maintain their improved environments. The introduction of street lighting in some areas has reduced the incidence of crime. In all the upgraded areas, communities appear more buoyant and economic activity has been stimulated. The benefits of upgrading extend beyond the specific areas upgraded. For example, people from the areas around Maamobi use the communal toilets, waste containers and running water facilities in the upgraded area. Project staff believe that the number of people from outside the project area that also benefit from the project’s impact amounts to about 10%.

The impact of the upgrading in Kumasi has been of a different nature. Suame Magazine, the “Mechanicsville” of Ghana, is a densely populated area where informal mechanics and motor fitters set up shop. The winding streets were dusty and filled with holes, there was no running water or proper sanitation facilities, and flooding was a regular problem. Yet, this area housed about 60,000 workers who worked in difficult conditions providing much needed automotive services to Kumasi and surrounding areas. The upgrading of Suame Magazine has improved tremendously the sanitary conditions of the workers, and given a huge boost to business as any car or truck can now navigate the paved roads and the mechanics can now rely on electricity to operate heavy-duty equipment. As a result of the upgrading, the area draws workers from other parts of the country in search of work or seeking to learn an automotive trade.

The impact of the upgrading schemes in Ghana has been such that they have generated and fostered political support, with residents praising them to local politicians but also asking why more could not be done! The government, in turn, has recognized that the upgrading approach is a vital element in addressing the many problems of Ghana’s poor urban communities in a cost effective manner within a reasonable timeframe.
An upgraded community--and a community earmarked for upgrading in the future.

Looking to the Future

According to the 1998 Ghana Living Standards Survey, at least 2 million urban dwellers in Ghana can be classified as poor. Of these, almost 1 million live in Ghana’s three main cities residing in communities covering some 3000 hectares that are currently unimproved. It is further estimated that upgrading basic infrastructure in these areas would require an investment of approximately US$75 million at today’s costs. The investment required would equate to about US$25,000 per hectare (or US$80 per capita of current population). Statistics on other cities and towns in Ghana require updating, but, if the remaining 500,000 live in infrastructure deficient communities covering an additional 1000 hectares, a further investment in the order of US$25 million would be necessary. Thus, US$100 million at today’s costs could substantially address basic infrastructure requirements in the majority of poor urban communities of Ghana. Taking account of implementation capacity considerations, this could be achieved within 15-20 years. However, in planning for upgrading, it would be important to keep in mind the need to provide for off-site primary infrastructure requirements to serve existing communities as well as to keep in mind the growth of the urban population.

Given the success of the upgrading projects to date, another urban project is currently being prepared by the government with the assistance of the World Bank, which will include, as a major component, infrastructure upgrading in the majority of infrastructure-deficient poor communities of the Greater Accra area (three Assemblies) together with the necessary associated primary infrastructure. This new project could lead the way to a national upgrading program that would eventually cover all cities and towns in Ghana.
Drawing on Lessons to Design a Large Scale Upgrading Program in Ghana

Any large scale upgrading program in Ghana should take into account the lessons learned and build on the experiences of the past efforts. The following are some key elements that should be kept in mind in the design of a future upscaled program:

- A “first wave” approach of providing **minimum basic infrastructure** will allow the program to quickly reach large numbers of the population. In this way, the community can experience the benefits and can better organize to participate in subsequent stages. With **incremental follow-up**, other infrastructure and social services, such as health and education facilities and income generation activities, can be built on this foundation. This staged process calls for advanced planning in the design of infrastructure to insure easy “add-on” of expanded services.

- The **lowest cost** options should be actively sought to allow greater coverage with limited resources. This can be achieved through utilizing appropriate **functional standards** for infrastructure; developing **reasonable resettlement packages** (not overgenerous ones that can stimulate people’s desire to be resettled); and not compromising on **cost targets**.

- Large scale programs cannot be carried out without the **active involvement and fiscal commitment** of local authorities. Greater efforts to increase local government revenues and recover the costs of upgrading should be built into the program.

- Enhanced **cost recovery** efforts should include, in the medium term, a plan to address **land security/ownership** (including registration and titling), as this would allow the government to recoup at least part of the cost of upgrading. Property valuation rolls should be kept up to date and property tax collection efficiency improved, possibly by use of the private sector. **Betterment taxes** could also be considered, but within a context of equity and ability-to-pay of residents.

- Realistic programs for improving city-wide **operations and maintenance** by local governments will need to be developed. Ad-hoc maintenance programs, driven and funded by the communities themselves cannot support a scaled-up program. In the long term, the bodies legally charged with the task should be responsible for O&M. Financing of the start up costs of a revitalized O&M program could be considered as a component of the program.

- A large scale upgrading program will invariably put great pressures on the city-wide primary infrastructure and services networks. Planning for the **expansion of the primary networks in conjunction with the upgrading** of smaller communities will be critical to ensuring a functioning infrastructure delivery system.

- The use of **experienced local consultants and contractors** has already proved successful as this has minimized implementation complexities for local government and communities. Previous projects have had efficiency gains in the management of the construction process by hiring established contractors who become an important interface with the communities during implementation and who often sub-contract small scale contractors or community groups. In scaling up, it might be necessary to build the capacities, particularly of smaller contractors in the more remote areas.

- Any large scale program should establish a robust mechanism for **monitoring progress and measuring the impact** of its interventions. Greater efforts (i) to determine baseline data on access to services (both infrastructure and social services such as health and education), on employment, on incomes, etc.; and (ii) to establish schemes to monitor the impact of upgrading schemes, particularly the social impact, would give a clearer picture of the true value of upgrading.