

AGUASAN WORKSHOP 95

STRATEGIC SANITATION PLANNING AND MANAGEMENT "THE KUMASI EXPERIENCE"

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Abstract

Urban sanitation and waste management constitute one of the most problematic issues confronting city authorities. Poor service coverage and inadequate management and institutional support services have become permanent features of the urban landscape in most cities in the developing world. The use of conventional approaches to the planning and development of urban sanitation has resulted in ambitious sewerage schemes which are un-implementable. In most cities the conventional approach has left in its trail a very serious public health problem for the numerous poor sections of society. The Strategic Sanitation Planning (SSP) Approach was born out of this dilemma and was designed as a pilot endeavour to evolve a practical and comprehensive approach to meeting the challenges of urban sanitation in Kumasi (a city of 700,000 people where about 75% lack adequate and appropriate sanitation services) which, if successful, could be replicated in other secondary cities in Ghana as well as contribute to the global search for sustainable solutions to urban sanitation and wastes management. This summary case study takes the reader through a five year attempt by the city of Kumasi to apply the principles of the SSP Approach in meeting its sanitation situation, the achievements recorded, the problems encountered and the lessons and challenges for city planners faced with similar urban sanitation problems and who will want to adopt the SSP Approach.

PART 1: BACKGROUND

History

The SSP Approach concept was developed by the UNDP-World Bank Water and Sanitation Division of the World Bank, and pioneered under a UNDP financed and World Bank executed project initiated in Kumasi, Ghana in 1989. The sanitation situation in Kumasi in 1989 was very bleak. About 75 percent of Kumasi's population had no access to improved domestic sanitation facilities (40 percent use public latrines, another 25 percent use the unhygienic bucket latrines, 5 percent use traditional pit latrines and about 5 percent use the bush), while only 25 percent had access to household water closets, many of which discharge into street drains. Human waste management was inadequate as about 90 percent of the waste removed from the public and domestic facilities ended up in nearby streams or in vacant lots within the city limits, creating substantial health and environmental risks.

The Kumasi Metropolitan Assembly (KMA) had over a four year period preceding 1989 attempted various strategies to resolve the problem. These efforts included community clean-up campaigns, construction of additional public latrines and periodic medical screening of sanitary labourers who were daily exposed to raw excreta. These efforts were largely ad-hoc but nevertheless began to stretch the city's resources. KMA therefore applied through the government to UNDP for technical assistance. With the support of the UNDP-World Bank Water and Sanitation Programme office in Abidjan, the project was formulated for implementation by KMA.

Objectives and Beneficiaries

What became known as the "Kumasi Sanitation Project" was designed to support one of the basic development objectives of the Government of Ghana aimed at improving the health and standard of living of the people through the establishment of a sustainable framework for the provision and management of affordable and cost-effective sanitation services. The immediate objectives of the project were however (i) to develop and implement a pilot human waste management project in Kumasi city; (ii) to ensure replication of the pilot project results, through the preparation of a follow-up sanitation investment programme in Kumasi and identification of resources to implement it; and (iii) to strengthen local capacity to plan, design and implement urban sanitation projects. About 200 households were targeted to benefit directly from improved sanitation services within the project time frame.

PART 2: THE STRATEGIC SANITATION PLANNING APPROACH

Attributes of the SSP Approach

The Strategic Sanitation Planning Approach was adopted for the implementation of the project by KMA. After about a year of start-up, a complete profile of sanitation in Kumasi including a situation analysis, review of technical solutions, institutional/financial arrangements and the implementation strategy for providing full sanitation coverage for Kumasi was prepared. The central departure of the SSP approach from previous sanitation master plans in Kumasi is that it ;

- tailors recommended technical options to each broad type of housing area in the city
- considers user preferences and willingness-to-pay
- uses a relatively short planning horizon (10-15 years), emphasising actions that can be taken now
- breaks the overall plan into projects that can be implemented separately but incrementally providing total coverage.

These underlying assumptions for the SSP-Kumasi emerged from a large scale pioneering contingent evaluation survey on Willingness to Pay for improved sanitation carried out with the support of consultants fielded by the UNDP-World Bank Water and Sanitation Programme headquarters. Components of the SSP-Kumasi are as follows;

Service Standards and Coverage Plan: The overall service goal is the provision of sanitation facilities in all homes and the elimination of untreated human waste from the environment in Kumasi. Service standards in the coverage plan aims at (i) improving convenience and privacy, (ii) containing excreta safely, thereby improving both public health and aesthetics in the city, and (iii) eliminating the handling of raw excreta by conservancy labourers. For the purpose of SSP-Kumasi, four sanitation planning areas were identified on the basis of their housing characteristics and geographical homogeneity; tenement, indigenous, new government and high cost housing areas.

- **Domestic Services:** Matching technologies to housing types, income levels and user preference, the SSP-Kumasi recommends that sewers be used in the tenement area, latrines in the indigenous area, and WC/septic tank systems in the high cost and new government areas. However, homeowners are encouraged to use the technology of their preference, provided it meets the city's guidelines for the construction of sanitation facilities.
- **Institutional Services:** There are many government offices, schools and private institutions in Kumasi that require improved sanitation facilities and so as part of their normal operational costs, all government offices and private institutions are expected to provide proper sanitation facilities. However, financing will be sought for improving the sanitation facilities in the city's primary and junior secondary schools whilst KMA mounts a promotional campaign to encourage Parent-teacher Associations in individual schools to participate in the programme, and will introduce a complementary hygiene/user education programme in participating schools.
- **Public services:** KMA will finance the construction of new public latrines only in areas that are well frequented by the general public (markets, lorry parks, the central business district and light industrial areas). All such facilities are to be put under private sector management franchises. Neighbourhood latrines will continue to play an important role in meeting the sanitation needs of Kumasi, and Sub-metropolitan District Councils will have the responsibility of their management but could exercise the option to use private management operators.

Institutional Arrangements: The Kumasi Metropolitan Assembly, as a matter of policy, will move away from direct provision of sanitation services, and instead will promote active involvement of both communities and the private sector in their delivery. To effect this change KMA will establish a Waste Management Department, staffed by management and engineering professionals, who will be responsible for guiding the implementation of the SSP. Private contractors will be used to design, construct, operate and maintain facilities and communities will be called upon to play an active role in planning, constructing and maintaining their facilities as well as ensuring that individuals pay their sewer fees and meet the on-site sanitation cost sharing arrangements.

Financing of SSP: The investment cost of the full sanitation plan is US\$28 million over a ten year period. This includes US\$15 million for home latrines (10% financed by users), US\$9 million for sewers (no financing by users), US\$3.0 million each for school and public facilities, and US\$1 million for support to the Waste Management Department. SSP-Kumasi recommends that financing for the city-wide programme in Kumasi be aggressively solicited. However, if only partial financing is secured, investments should be weighted toward the home latrine programme in the indigenous area but with work continuing on the school and public latrine programmes. In all cases it shall be the policy of KMA to fully recover operation costs and a part of the construction costs from users.

PART 3: FIRST STAGE (PILOT) IMPLEMENTATION

Key Achievements

After five years of project execution, incorporating an extensive evaluation which led to a two year extension of the project, the foundations have been laid within the Kumasi Metropolitan Assembly (KMA) for an accelerated urban sanitation development beyond the project horizon. The significant achievements of the project could be listed as follows;

- (i) The preparation of a Strategic Sanitation Plan (1991-2000) for comprehensive sanitation services to all sections of Kumasi.
- (ii) Establishment of an appropriate institutional framework within KMA (the Waste Management Department, a number of private sector waste management and sanitation services operators) and trained staff for overall management of sanitation services in the city.
- (iii) Implementation of the first phase of the SSP which involves the testing of technical, financial and institutional aspects of the main components of the SSP and includes; a home latrine programme (250 units built - covering about 6,000 people in three pilot communities), a pilot simplified sewerage system for the Asafo community to cover about 20,000 people, and the rehabilitation of public latrines in the Central Business District as well as the introduction of private management franchise for public latrine management in the city of Kumasi.
- (iv) Catalytic support for the preparation and execution of complementary solid waste management and health education projects with financing from ODA-UK.
- (v) Modest replication of the SSP Approach and pilot project(s) lessons in a number of major cities in Ghana, orientation and dissemination of project experiences to urban sanitation managers in all 11 major cities of Ghana and other West African cities (Ouagadougou, Conakry and Cotonou).

Core Implementation Issues

Institutional Set Up: The project was implemented within KMA by KMA staff under the direction of a project co-ordinator from the UNDP-World Bank Water and Sanitation programme and utilised local consultants as and when needed. In all 5 professional staff (2 engineers, 1 planner, 1 community development officer and 1 health specialist) from KMA were engaged on the project. Following the institutional development work carried out under the project, the project staff are now managers of the newly created waste management department for the city.

Financing: The total UNDP input into the project over the 5 year period (1989-1993) is estimated at about US\$1.1 million out of which about 50% went into the three pilot projects; the simplified sewerage scheme, the home latrine and the public latrine programmes. The KMA and the central government financed in additional a total of about 40% of all construction cost on top of all staff cost, office space and operation expenses on vehicles. The home latrine programme operated on a revolving loan basis (20% down payment and the rest spread over 2-3 years at 10% interest); all households in the sewered area financed their internal plumbing and house connection and paid the operation and maintenance cost on the water tariff; full cost recovery through user charges were also introduced on the public latrines rehabilitated or built in the city centre.

Technical features: One of the key components of the SSP Approach is the adoption of a range of feasible technical solutions/options. As a result of the review of technical options, the demand survey and the follow-up consensus process, technologies were selected for the various housing areas and tested through the pilot project.

Significant Steps/Phases: The process involved a number of key steps; staff mobilization and project set-up, planning studies/preparation of SSP-Kumasi, consensus building and development of pilot projects, implementation of pilot projects, review of SSP-Kumasi and preparation for scaling up.

PART 4: LESSONS LEARNT, CHALLENGES AND FOOD FOR THOUGHT

Key Lessons

- People are prepared to invest substantially into provision of improved sanitation facilities if the price is right and the financing mechanism meets their willingness to pay threshold and also when the technology is right and meets their socio-cultural environment and image. The home latrine programme proved successful in this light. However, to accelerate coverage and provide a more rational means of home latrine delivery, there will be the need to adopt a straight forward grant programme as against the revolving loan scheme. Experience from the willingness to pay survey and subsequent experience at cost recovery suggest that beneficiaries who are able to provide upfront 60% of the total cost (either in cash or kind) of a facility should qualify for an outright grant for the remaining 40%. This strategy is based on lessons from project execution; the recovery rate of around 60% and by-pass the numerous problems associated with the cost recovery process which are bound to increase as the city scales up implementation.
- Private sector participation in sanitation services delivery is possible and feasible. The largely successful pilot of management franchises for public latrine in the central business district and cleansing services and the subsequent expansion into neighbourhood facilities and emptying services confirms the above assumption. The city was able to shed off over 400 personnel in the process. Privatization has been pursued cautiously but with encouraging results; KMA-WMD staff have acquired expertise in service contracts management covering the whole cycle of contract preparation, tendering and evaluation procedures, awards and monitoring.

- Implementing a menu of technical options and including simplified sewerage schemes is feasible and cost effective but require time to plan and execute effectively. The delays in planning hinges on adequate mobilization of the appropriate levels of funding and the participatory character of the consultation process between, donors, city authorities, consultants and contractors all interfacing with the communities and households.

Challenges

A pioneering process of this nature is not without problems. Local political and administrative changes, overall government policy reforms and budgetary constraints have tended to slow down project activities and caused occasional adjustment in implementation strategy. Annual budgetary "jolts", internal cash flow problems within KMA since 1992 and inherent bureaucracy had to be encountered. Living with these constraints, finding alternative ways round the problems and keeping the dialogue going has been a worthwhile real life experience for project management, KMA staff and the beneficiaries. It is thus appropriate to pause and enumerate a couple of these challenges.

1. The heart of the Approach is the assessment/measurement of demand and the subsequent matching of demand with preferred technology. This step introduces considerable complexities into the planning process. There is the need to continue the search for better and simpler methodologies of carrying out multi-dimensional demand studies especially when one applies the tool to integrated sanitation planning and management.
2. The complexity of the planning process also introduces the need for permanent high levels of multi-disciplinary professional expertise which is not readily available in most city level administrations. To by-pass this constraint, ministerial level personnel have been used in some cases as a substitute. This does not however create a sustainable professional organisational core at the city level. When this situation does happen, the challenge is always how to break-up the stranglehold of government ministries and put in place a core planning and implementation team at the city level.
3. Most city level waste management practitioners belong to two old schools; health inspectors or public health engineering. Even though the nature of the business has changed considerably, with the ever growing population and the magnitude of the waste management problem, the institutions have changed only in numbers of the same types of staff but not the character of the institutions or its professional mix. Changing the orientation and character of such sector institutions to respond to facilitating role and partnership building with the private sector and the community at large is an uphill task.
4. Employing the planning approach to integrate all aspects of environmental sanitation requires on the down-side effective implementation approaches for multi-dimensional improvements, strategic phasing of activities and programmed resource management. . The practical implementation difficulties are real.
5. There is also the need for appropriate methodologies and indicators for lessons capturing and to put in place a more or less perpetual state mechanism for feeding back lessons into the strategic plan.

Conclusion

In many respects the project has contributed substantially to the development of the sanitation sub-sector in Ghana as well as providing the laboratory for the generation of useful lessons on strategic sanitation planning concept in West Africa. The adoption of the SSP Approach has been worthwhile and has proven to be a credible tool for dealing with urban sanitation problem. Some experience has been gained but much more needs to be done to expand the concept to cover comprehensively all environmental sanitation and waste management issues in urban areas. The most significant benefit of this real-time application has been the human resources development of a cream of professionals and institutions in Kumasi and Ghana as a whole which will in no doubt outlive the project and will be available to replicate the SSP Approach across the country. Nonetheless it is noteworthy to watch the following principles in programme/project development;

- Work at the urban (decentralised) decision making level
- Need to work with country team preferably from the city for the sake of continuity, institutional memory and opportunities for hands-on human resource development
- Institutional arrangements should articulate the shared management concept with clear definition of roles and responsibilities and partnership arrangements between public institutions, private sector and beneficiaries
- Go at the speed of the beneficiary institution(s)
- Implementation should respond to capacity and demand of users
- Demand orientation should be the basis of investment selection

For optimal results, planning for sanitation improvements should always be within the context of overall urban development and management strategy.