Site and Service Schemes – an Overview

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Global Urbanization Context

By 2030 more than 60% of the world's population will live in urban areas. City dwellers have already outnumbered the number of people living in rural areas with urban growth principally taking place in developing countries. This urban trend is proving a critical and urgent challenge that must be threatening gingerly. The World Bank accorded a vested interest to finding a solution to this daunting trend, a solution that would alleviate urban poverty and help the cities to become places offering precondition of grasping opportunities.

Most of the people drifting from rural areas to cities in developing countries can't find proper housing upon their arrival and therefore move into informal settlements. At the time when informal settlements and slums started to grow in the 1950s, self-help housing or squatting had long been regarded as detrimental to sound urban development and orderly planning. The initial response of many developing countries governments was to adopt the shelter « solutions » of developed countries: heavily subsidized blocks of public housing flats with high standards of construction and infrastructure, zoning and building code regulations of construction and infrastructure, and, in many cases, destruction of slum areas and squatter settlements. Of course, this solution was not adapted to the urbanization challenge and in 1970s developing countries raised demand of international help to regulate the demographic growth in cities. This demand led to the apparition of the sites-and-services shelter programme at the World Bank.

The purpose of this brief is to highlight the World Bank's sites-and-services programme in an international aid, urban planning and urban policies perspective, and to understand the reasons for its abandonment.

Sites-and-Services: Definition of the Concept

a. Definition

"Sites-and-Services" schemes are the provision of plots of land, either through the provision of title or through land lease tenure systems, along with a bare minimum of essential infrastructure needed for habitation. The projects are governments-sponsored packages of shelter related services, which range from a minimal level of "surveyed plot" to an intermediate level of "serviced sites" to an upper level of "core housing" complete with utilities and access to community based services. The level of services depends on the ability and willingness of the beneficiary population to afford them.[1]

b. Stakeholders

There are two key actors in sites-and-services projects, who are or who support in the implementation process by supportive organizations.

- **Intended beneficiaries**: lower income families within an urban area, characterized, by informal sector jobs or irregular employment and whom lack the necessary assets to enable them to afford a 'formal' house. Their task is to build the dwelling.
- **Implementing agency**: In most cases, this is a government department or similar body, like the Housing Boards. Operating from goals and objectives on a city-wide scale and for all income groups, such agencies initiate sites-and-services schemes both for the provision of housing of low-income families as well as removing "eyesores" that squatter settlements depict. They have a more complex task such as securing tenancy of land and providing basic utilities and services.
- **Supportive role**: various government agencies responsible for provision of infrastructure, non-governmental or voluntary organizations, etc.

Historical Development of the Concept at the World Bank

a. 'Progressive development': a physical success

Since the 1970s and following the first Habitat conference in Vancouver (1976) and John F.C Turner's "Housing by people", 'participation' and 'self-help' have become the buzzwords of the low-cost housing debate, *Slum upgrading* and *sites-and-services* are the two main approaches that are used to introduce these elements into practical policies. This approach, first developed by the World Bank, was more in harmony with the natural processes of shelter acquisition and introduction of the poor themselves. Proposed public programs capitalize on the untapped energies and resources of the poor through "progressive development" schemes which simply serviced housing sites or provided housing that was affordable by low-to-moderate income households and which could progressively upgrade over time. The key to making such projects work was to bring down the cost of shelter and infrastructure from the high and unaffordable levels prescribed by most governments.

[1] Sites and Services – and subsidies: the Economics of Low-Cost Housing in Developing Countries, 1987

b. 'The city as a whole' (Michael Cohen)

Even if the sites-and services enjoyed some physical success, they were nevertheless facing numerous time-consuming obstacles and institutional problems such as land acquisition, tendering and awarding of construction contracts, inadequate cost recovery and inadequate coordination among public sector agencies. The projects were less successful in institutional terms. Some of their assumptions made little sense when considering the city as a whole. The projects failed the "challenge of replicability"[2] (Cohen, 1983).

Following the first evaluations, there was a clear sense that financing sites-and-services and slum upgrading was not sufficient to meet the broader agenda of issues facing cities. The range of components to be integrated into projects now included transport, education, health services, nutrition and, most importantly in the minds of some, employment generation.

During the 1990s, the World Bank's attention shifted from a focus on projects, and even public policies, towards understanding the performance of the housing sector and, in particular, the housing market. This shift represented a long overdue recognition that individual projects would not, by themselves, "solve" the urban housing problem. Individual projects were "projectizing the city"[3], introducing a new set of artificial differences in housing quality, density, infrastructure standards and social services between neighbourhoods and areas within cities.

Basic Urban Planning Principles

a. Sites: a plot of land

Most sites-and-services schemes are located on the fringe of the city where land costs are not very high. They are identified by the public authority for a specific project intended to embody the physical objectives of the master plan of the city in built urban forms, whether housing, infrastructure, or social services. These sites were narrowly circumscribed and often ignored what was on the perimeter and/or periphery of the site.

A French observer of World Bank practice in Dakar once noted that the World Bank was interested in "sites" but not "land", an important distinction. This included the dynamic pressures of the land market: who was able to have access to land and at what price, and how sites contributed to the broader urban form of cities. Overall, the projects were often lacking sufficient attention to the wider geographical, environmental, and institutional contexts.

[2] Cohen M., 1976 article, "The Challenge of Replicability"
[3] Cohen M., *From Master Plans to Stimulus Packages: Reflections on Urban Assistance to Rich and Poor countries*, The New School, New York, 2009

Regarding the design of the sites, it varied from one project to another. Nevertheless, the size of the grid was often 400 by 400 and the plots size between 10 to 20 meters (according to estimations made on Google map).

b. Services

There are a wide variety of sites-and-services schemes, ranging from the subdivided plot only, to a serviced plot of land with a "core" house built on it.

Utility wall: A "utility" wall is built on the plot and contains the connections for water, drainage, sewerage and electricity. The beneficiaries have to build the house around this wall, and utilize the connections from it. Some projects provided this utility wall in the form of a sanitary core consisting of a bathroom/toilet, and/or a kitchen.

Latrine: Due to the critical waste disposal problem, many projects provided a basic latrine (bathroom and/or toilet) for each plot.

Roof frame/shell house, core house: The roof is the costliest component of a house and requires skilled labour to build. Therefore, some projects provide the roof structure on posts, and the beneficiaries have to build the walls according to their requirements. Conversely, a plinth is sometimes built by the implementing agency, which forms a base over which the beneficiaries can build their house. Other variations to this are the shell house (which is an incomplete house consisting of a roof and two side walls, but without front or rear walls) and a core house (consisting of one complete room).

Shortcomings and Assets of the Program

a. A partial success: Empowerment of the poor.

Sites-and-services schemes have a lot of positive aspects.

- First of all, the recognition, in the early 1970s, of the ability of people to house themselves was pioneer. The role of the government changed from that of a "provider" to an "enabler". It also enabled governments to save scarce resources by "sharing" the responsibility of housing with the intended beneficiaries.
- Secondly, it enabled the poorest households to own a house, with a greater affordability and a low initial investment by making best use of existing/potential resources, both at the household level as well as at the community level.
- Though sites-and-services, relocation became an effective strategy, when service degradation exceeds the cost of relocation of the families to another site with better facilities or when slums are located on high-risk or environmentally dangerous areas.
- Finally, it contributed to the development of a community involvement: Direct relationship between the degree of beneficiary participation and the sense of ownership and prospect for on-going sustainability.

b. …but remaining issues

A lot of literature has been published on the negative aspects and the difficulties of sites-and-services. Some of the constraints have been:

- *Location*: The location of the projects far away from the city centre caused two kinds of problems: i) the large distance between the site and existing delivery networks, off-site and on-site provision of infrastructure was high and construction was often delayed. ii) The extra distances that the beneficiaries have to travel (and the consequent extra costs) to the employment centres discouraged many beneficiaries to take advantage of such schemes.
- *Bureaucratic Procedures*: Selection procedures that were designed to ascertain whether or not applicants met eligibility criteria tended to be cumbersome, time-consuming and full of bureaucratic pitfalls and provided opportunities for corruption. Besides, for many low-income families, the eligibility criteria was impossible to meet due to informal sector jobs or low/irregular incomes.
- *Delay in provision of services*: Due to a lack of coordination between the various implementation agencies and a "spread" of responsibility of providing the infrastructure and services, there was often considerable delay in the final provision of the services, even after the land had been allocated to the beneficiaries.
- *Standards*: High standards of construction and building quality were set by the implementing agencies, sometimes making such schemes unaffordable to the target beneficiaries. Some sites-and-services schemes, for example, prohibited income generating activities on residential plots, including rental of rooms they, thereby, limited the opportunities of residents to earn an (additional) income to pay for their plot and their house. Thus, some projects didn't reach the target population, poorest households, and only the middle class could afford it.
- *Cost Recovery*: Most sites-and-services schemes were plagued by poor cost recovery. One reason was the high costs that beneficiaries had to bear shortly after moving into the scheme. They had to pay for the plot as well as construction of the house, while they were facing loss of income due to their move to the new area. Transport, water and electricity costs added to the burden, which they might not have had before. But some of the main reasons for poor recovery have been delay in provision of services, inadequate collection methods, lack of sanctions for non-payment and absence of political will to enforce payment.

c. The need for an evaluation

Michael Cohen, who had a distinguished carrier at the World Bank, insists on the necessity for the Bank to process the evaluations thirty-five years after the first implementation of sites-and-services project.
Indeed, by 1981, STAFF at the World Bank decided to undertake a retrospective evaluation of its first ten years of urban assistance: the results are compiled in the 'Learning by doing' report. Nevertheless, this evaluation might have been to short-sighted and too focused on outputs without enough attention to outcomes. Little is known about their actual effectiveness. A lot of questions remain unsolved, such as: How much housing resulted? Were the services supplied, and did the families respond by building or improving their homes? How efficient were the projects, and which components (water, sanitation, roads, and paths, credit) made the greatest contributions? Were there discernible increases in employment and incomes? Did families sacrifice expenditures on other basic needs to improve their housing? What

is the level of occupancy of the plots today? Are the sites better related to the city (improvement of transportation)?

Case Studies

The summary of these case studies was made in contribution to the completion reports and evaluation from the 1980s. |t is difficult to find more recent information.

1. Senegal, 1974

The Senegal Sites and Services Project was the Bank's first project in the urban sector and the first in the Western Africa region. Senegal in the 1960's was already one of the most urbanized countries in Africa, with 23% of its residents living in urban areas.

The objectives of this project, appraised in 1971, were to:

(a) Demonstrate an affordable and acceptable alternative to conventional housing solutions; (b) Mobilize private savings for the production of shelter; (c) Develop an institutional capacity to plan and develop similar projects for other urban areas.

This project included the following components:

(i) 400 ha of sites and services including community facilities in the capital of Dakar, providing 14,000 plots for 140,000 people and 60 ha of serviced sites in the secondary center of Thies, providing 1,200 plots for 12,000 people;
(ii) Technical assistance to assist in planning for urban growth over the longer term, in preparing detailed design, and in project execution;
(iii) A study to determine criteria for upgrading of squatter neighbourhoods and funds for a pilot upgrading scheme.

In December 1981, over 20,000 people were in residence in 2,000 plots and over 4,500 plots were under construction. However, Sites and Services schemes have not been entirely successful because the housing sites were often too far from the resident's place of work and therefore transportation was unavailable or too expensive. The low level of occupation of the sites has long held up a number of community services, such as schools or post-offices or other kinds of recreational facilities.

[4] http://documents.worldbank.org/curated/en/1983/10/1560198/senegal-sites-services-project

From this aerial view from the neighborhood of Pikine, Dakar, Senegal, density is low. The plots measure between 11 and 12 meters * approximately 20 meters and the houses don't seem to exceed one or two levels.

Nevertheless, ten years after the implementation of the project, healthy signs also started to appear, such as the presence of a drug dispensary, a nutrition and health program (American Peace Corps) or a new police station built in the area. According to the project completion report published in 1983, there were serious misunderstandings and misperceptions about project objectives and disagreements over design standards. The failure to pin down agreements on standards during project appraisal was a fundamental error.

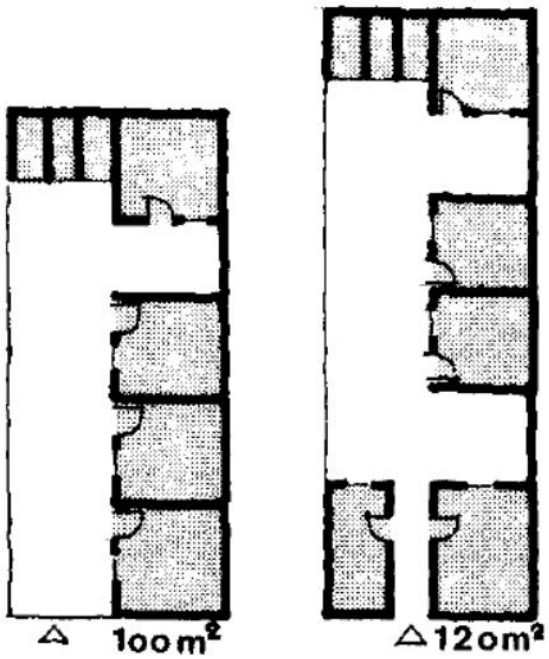
2. Kenya, 1974

DANDORA, a World Bank project, was designed in 1974 and construction of houses started in 1976. Dandora was intended to cater for 5 per cent of Nairobi's total growth, all in the 20th to the 40th percentile income group.

The technical project preparation and design was done by in-house staff working in a new Nairobi City Council (NCC) department in consultation with the World Bank. The department conceived a master plan for 6000 plots on government land. The project was to be subdivided into five areas, situated on both sides of a central spine of community facilities. Implementation of area one began in 1975 but was stopped

following severe criticism concerning standards and by-law. Soon after, Mutiso Menezes International (MMI) was commissioned to undertake design and technical elaboration of the remaining four areas. Implementation restarted in 1976 and construction of area five was completed in 1981[5]. The 6,000-plot in Dandora Sites and services targeted the gradual settlement of more than 72,000 urban dwellers (Andreasen, 1987). Each plot would benefit from full services (road access, piped water and waterborne sewerage, electricity and street lighting, refuse collection). In addition, 6 primary schools, two health centers, two community centers, a sport complex and several markets were in the pipeline.

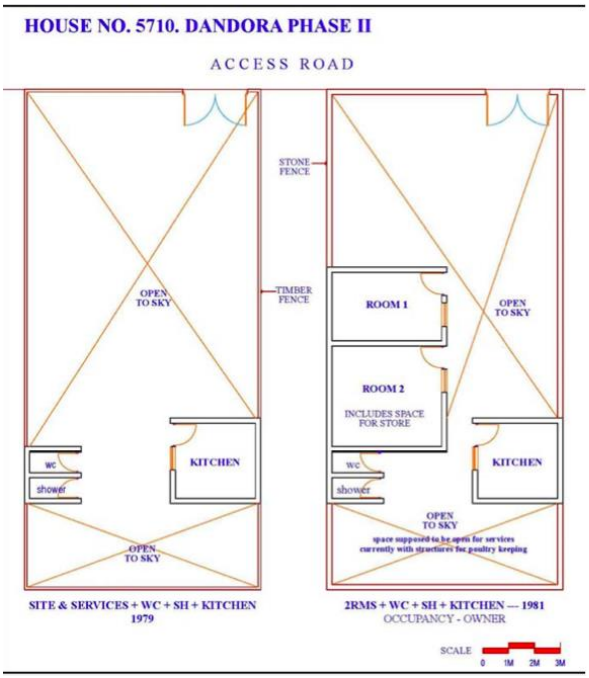
Plots were unusually small to prevent large-scale subletting, to minimize the cost of infrastructure per plot and to obtain units which, if sublet at the outset, could one day be converted into family units:

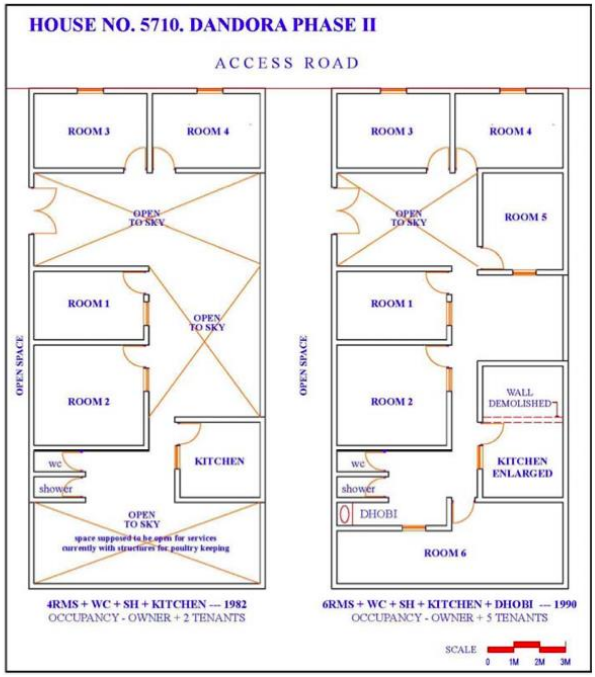


Plan 9. Type Plans, Dandora, Case Study of sites and services in Kenya, Lessons learned in Dandora and Thika

Over time, the structure of the plots has evolved and the number of rooms has increased, as it visible on these schemes:

[5] Loeckx A., Githua B., *Sites-and-services in Nairobi (1973-1987) in Human settlements*, formulations and (re)Calibrations), UFO 02, Amsterdam 2000





The involvement of prestigious design and consultancy firms injected high-level professionalism and design skills in the human settlements field in general and in the Sites and Services practice in particular. This table highlights the positive and negative aspects of the project:

Positive	Negative
• Rapidity of development • Accommodation of large numbers of relatively low-income dwellers, • Initial quality of individual dwellings • Avoidance of slums and speculative urban extension	• Uncompromising functionalism and absence of design use-value contributed to modes of appropriation that are at odds with neighborhood and plot layout. • The perpetual construction of rooms for rent results in a radical over-densification of the residential area and the destruction of the original typology. • Residential plots began to be used for all kinds of commercial and productive activities • Public spaces fail to stimulate care and urbanity

3. Peru, 1975

In 1975, the leftist military regime of Velazco Alvarado decided to do something about the booming informal settlements in and around Lima. South of the city, dwellers had already built Villa El Salvador, which housed some 4,000 families in a well-designed settlement with clusters of blocks organized around recreational and service areas. The design was reached through discussions between an ad hoc government agency and the incipient community. Building upon this experience and armed with a metropolitan development plan, SINAMOS (National Social Mobilization System) identified a vast area northwest of the city, where plots were surveyed and where thousands of families were relocated from squatter settlements that occupied hazardous areas or areas destined for other uses[6].

The community provided most of the labor, laying out the plots and then building the homes. In addition to providing legal land for the program, the government provided transportation for households, brought in water with tankers, and established a military field hospital. A generation later, the area is an integral part of metropolitan Lima, with a series of low-to-middle-income neighborhoods that have paved streets, piped water, and street lighting.

The design of the area is a large-scale grid of adjoining neighborhoods of 400 * 400 meters. At the heart, an area was reserved for community facilities. The World Bank provided underground electrical system. These communities are now the target of a Bank-supported land registration and titling program.
40 years later, Villa El Salvador has become the second largest city in Peru, now merged with Lima at the southern end of the extended urban region. Shanties have evolved into one to three story, brick and mortar dwellings, often with small business on the ground floor.

[6] The World Bank, *Thirty Years if World Bank Shelter Lending, What have we learned?* Directions in development – infrastructure, Washington DC, 2006

The site is now relatively dense, with buildings on several levels, as it appears on this aerial view of the sector I, Grupo 25A of Villa el Salvador. The plots are approximately 9 meters large and 38 meters long.

4. Burkina Faso, 1980s

Under the Sankara regime in the 1980s, the Government launched a large-scale surveyed plot program following a master plan that had been developed with the assistance of the Dutch cooperation. Lower income families from the countryside were directed to the future residential neighborhoods, where they were given a plot of land by the Revolutionary Defense Committee.

The project, officially started in 1979, sought to assist the Government with the part of its development policy aiming to provide low cost services to low income households in urban areas. 8.2 million USD were provided for squatter upgrading, sites and services, water supply distribution construction loans, social services and community facilities and technical assistance to municipalities and the central government. The upgrading programme and sites and services were estimated to reach 7,000 families in Ouagadougou and 4,000 families in Bobo-Dioulasso, about 25 per cent of these cities' respective populations.

According to the project completion report published in 1987[7], the physical components partially met their objectives. The balance for the Sites and Services and squatter upgrading components was positive. The total number of units for both components was 25% greater than estimated at appraisal, going from a projected 8.096 to 11.831 units actually built. On the other hand, the social services and community facilities were only partially completed: 60 schools and 17 dispensaries rehabilitated in both cities but the neighbourhood community centres and markets were not built. Water supply distribution and home improvement loans were dropped from the project.

Nevertheless, during the implementation phase of the project, design standards were an issue that led to disagreements between IDA (International Development Association) and the government. The compromise that was arrived after lengthy negotiation included: residential land use coefficients of 51 (low) to 64 (reasonable) compared to the average 68 proposed at appraisal, but also fewer and wider roads of up to 20m and 25m sections. This involved excessive demolition of existing dwellings, which were easily enough rebuilt, but also the destruction of over one hundred large trees, which were not in abundance. Land use coefficient for all the subprojects plot sizes average about 375m2, as opposed to 300m2 envisaged at appraisal.

	Residential	Roads	Community Facilities	Total
Ouagadougou	62.7%	31.1%	6.2%	100%
Bobo-Dioulasso	61.5%	33.8%	4.7%	100%

Table 3.2, Land-use coefficient, The World Bank, Project Completion Report, Burkina Faso, Urban Development project, Western Africa Region, Urban Projects Department, Report No. 7032, 1987

Finally, an important innovation can be highlighted in this project: street addresses were also provided, which allowed the Government to collect a very small tax to maintain the street addressing system. This was useful for the installation of electricity and municipal services (road maintenance, garbage collection, water system, voter registration…) afterwards.

Outstanding Questions

1. Did the World Bank decided to reevaluate the sites and services programmes thirty years later?
2. Are the sites better related to the city today?
3. Which service provided made the greatest contribution?
4. How much housing was produced?

On physical components

5. Can you recommend a specific plot size to improve density in this context (developing countries, self-help housing)?
6. What is the level occupancy of the plots today?
7. How was the layout of the streets and public spaces conceived?

[7] The World Bank, Project Completion Report, Burkina Faso, Urban Development project, Western Africa Region, Urban Projects Department, Report No. 7032, 1987

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