URBAN MANAGEMENT SERIES FOR SOUTHERN SUDAN

Tools for Strengthening Leadership and Governance

Volume 1:

Urban Management Guidelines

UN HABITAT

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Urban Management Series for Southern Sudan

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P.O. Box 30030, 00100 Nairobi GPO KENYA

Tel: 254-020-7623120 (Central Office)

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Acknowledgements

Principal authors: XXXX
Contributors: Tom Carter, Solomon
Editors: XXXX
Design and layout: XXXX
Printing: XXXX

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Joan Clos
Executive Director, UN-HABITAT

PREFACE

Welcome to the Urban Management Series for Southern Sudan. The Series is intended to give direction and guidance on a wide range of urban management topics, but without saying exactly what to do – so it is not a manual. It aims to point Urban Managers in the right direction, by describing the factors and issues that need to be considered, and suggesting possible solutions in line with basic principles.
In this manner it provides a consistent background for all Urban Managers to approach their work. But it is fundamental that the each reader decides what initiatives and actions are appropriate given the local circumstances and conditions, rather than just following a set formula.

How to use the Series

This is not a document that needs to be read from start to finish – it is to be used like a reference book or encyclopaedia. It is fine to dip into it to read sections that are of interest. As the reader becomes more familiar with the structure and content, s/he will discover new topics of interest. And as topics arise in work, s/he can search out the relevant sections, and discover new areas of interest.

It is a document that is to be kept close at hand, on the desk or an open shelf in the office -not locked away in a drawer or cupboard. Copies should also be distributed widely among professional and technical staff, and not restricted only to senior staff.

Regular Updating

These volumes have been prepared in 2011 – but the situation in Southern Sudan is constantly changing. It follows that they will need to be reviewed regularly, and updated to reflect actual current urban management priorities as well as changing political, institutional and social circumstances.

Overview of the Urban Management Series

This volume is one of a three-volume series produced by UNHABITAT for use by urban managers in Southern Sudan.

Current titles of this series, at the time of publication, include:

Volume 1: Urban Management Guidelines

Volume 2: Leadership for Urban Management

Volume 3: Enhancing Training in Land, Housing and Town Planning

CONTENTS

Chapter 1: Introduction

These Urban Management Guidelines have been prepared as a tool to help urban managers perform their routine work.

The aim is to provide a document that will help them to:

- fully understand the meaning of the term urban management.
- execute their day-to-day jobs in a more efficient and effective manner.
- stimulate exploration of areas of work which they might not have thought relevant.
- improve collaboration with colleagues within the State Ministries of Physical Infrastructure (MPI) and in other branches of Government.
- encourage MPI engagement with the community and the private sector.
- understand the extent and limitations of their responsibilities.

In brief, they are intended to increase the professional and technical quality of urban managers' working practice.

What is Urban Management?

The term urban management (UM) is used to describe the numerous activities that are the broad responsibility of the Government of Southern Sudan (GoSS) Ministry of Housing, Physical Planning and Environment (MHPPE) and the State Ministries of Physical Infrastructure (MPIs). This is a broader term than the commonly-used term town planning. It includes topics such as public utilities, social infrastructure, funding and budgeting, land management, community participation, sustainability etc. It involves different professional/technical disciplines working together towards common objectives – so collaborative team work is essential. The Urban Management programme has been developed since 2005 (before the creation of GoSS) in response to concerns that the degraded towns would constrain:

- the establishment of effective government operations;
- the ability to cope with large numbers of IDPs/refugees
- the development of a vibrant urban economy.

Town planning on the other hand is mostly used to describe activities relating to the planning, use and development of land: master plans, district plans, individual site layout plans and development, land surveying and the control of development. Urban management has a much wider meaning. It includes town planning activities but also covers:

- Planning and delivery of public utilities (water supply, sanitation, power supply etc);
- Planning and delivery of social infrastructure (government offices, schools, clinics etc);
- Budgeting and prioritisation of investment;
- Financing of service delivery (funding and cost recovery);
- Land management (including mechanisms for plot allocation);
- Sustainability issues (environmental, financial and institutional);
- Public works programmes (including labour-intensive projects);

Chapter 2: Understanding Urban Management

2.1 Range of disciplines

UM involves a wide range of professional, technical and administrative disciplines. They may come from different backgrounds such as:

- town planning
- civil engineering
- architecture
- surveying
- economics
- social development

Though no one person can be an expert in all these disciplines, a good professional will have strong knowledge of one or two topics, and a general understanding of all the rest.

2.2 Teamwork is imperative

Good UM is a result of good teamwork, involving collaboration between people with different skills from different professional and technical backgrounds. Staff should:

- Be realistic in assessing their knowledge and capability to deal with a matter themselves;
- Acknowledge when they need to call on the specific different skills of a colleague;Show respect to colleagues from different professional and technical disciplines.

2.3 UM Programme Objectives

The programme is designed to address one of the crucial areas for State administrations: delivery of improved services for all urban residents in an efficient and cost-effective manner, leading to real improvement in the quality of urban livelihoods.

State level urban management operations generally reflect an institutional lack of confidence that results from a combination of limited professional staff and little experience of how to deal with the type and scale of problems currently faced. An additional factor is the inevitable politically-driven direction, which often promotes well-intentioned development schemes, but which does not necessarily represent best technical practice.

The specific objectives of the UM Programme are therefore:

- To promote good urban management practice and help embed it in day-to-day Ministry activities. These Guidelines are an important tool for this.
- To complement the major urban infrastructure investment programme initiated by SPLM prior to the formation of GoSS and implemented by GoSS; partly implemented under the SETIDP (Sudan Emergency Transport and Infrastructure Project), with funding support from the Multi-Donor

Trust Fund and USAID. $ 2B – GoSS Urban Infrastructure Development Programme

- To provide support for initiatives that involve little or no capital investment but will result in significant improvement in the urban conditions, e.g.:
  - new plot layouts
  - regularising land tenure
  - improving records on land tenure and planning permission
  - labour-intensive public works
- To encourage the UM institutions to address directly the needs and aspirations of low-income urban households, which make up the vast majority of the urban population.
- To synthesise town planning with decisions on urban investment and financial management. Current practice tends to be disjointed, with decisions on infrastructure investment often taken with no reference to the impact on the broader pattern of physical development. And insufficient consideration is given to the financial implications, such as the cost of providing services to extravagantly large plot layouts; or of the potential revenue that can be generated through plot and service charges.
- To build on technical assistance and capacity building carried out by:
  - Creative Associates: training in participatory town planning;
  - Gibb-Kwezi V3: advisory services to GoSS and States on emergency infrastructure development investment;
  - JICA team: infrastructure master plan for Juba.

2.4 Roles of Agencies

Reaching low-income households

Many individuals working in UM share real concerns about the poor living conditions experienced by so many urban households (no security of land tenure, poor water supply and sanitation, poor electricity etc) – some because they experience these poor conditions themselves. But this concern is rarely transformed into a coherent institutional response that addresses the needs of the majority of urban households.

Policy issues and initiatives are usually filtered through the concerns of the relatively prosperous political and administrative elite. Politicians and senior officials not surprisingly tend to interpret their professional work through their own, relatively privileged situation, thus ignoring the very basic conditions experienced by the vast majority of the urban population.

This has not been helped by recent investment decisions. Some components of the SETIDP infrastructure works for example - especially water supply and sanitation – are planned to a standard more appropriate to wealthier countries. These may turn out to be unaffordable to many households when cost-covering charges are levied.

2.5 Public Utilities

International agencies such as UN-Habitat, the World Bank and USAID have encouraged MHPPE and MPIs to consider the needs of lower-income urban households. Some funding has been made conditional on this approach; and some funding has been withheld when the benefits were perceived to be targeted towards more wealthy households.

It is fundamental that urban management should embrace a pro-poor approach, and focus on the basic needs of the vast majority of urban households, rather than aiming at an idealised vision of modern urban development. This message needs much more consistent application – and MPI staff who are at the front line have an obligation for promoting these interests.

2.6 Urban Management Principles.

Transition phase:

Limited institutional and staff resources mean that implementing the full scope of UM will not be possible for some time. So it will be important to prioritise effort and financial resources on initiatives that deliver the greatest benefit to the largest number of households.

Focus initiatives on three critical areas:

- Public health (especially water supply and sanitation);
- Release of housing land to match demand;
- Facilitation of local economic development and government operations.

Long-term:

- Strengthened UM capability at State MPI and municipal levels will enable implementation of a more comprehensive UM agenda.
- Devolution of routine UM to municipal and town council levels will bring UM closer to the local population, in terms of :
  - Formulation of policies;
  - Implementation of infrastructure investment;
  - Community participation in local planning and development.

2.7 Land Management Study

The 2005 Urban Appraisal Study highlighted the policy vacuum that exists in many areas affecting urban management. It is proposed to carry out a practical policy study in one of the key areas identified in the Appraisal: urban land management.

There is expected to be a significant transitional period – maybe 10 years – before institutional and legal instruments are in place for comprehensive, independent municipal government: strong local government institutions; full technical and administrative staffing; financial management systems; and a comprehensive legal framework. In the meantime, current land management operations need to be progressively modified and strengthened as appropriate, so as to provide an improved service consistent with the long-term objectives.

The proposed study will specifically address the transitional period – they will not prejudge the longer-term decisions, but will offer recommendations for consideration by GoSS and States for interim procedures that can be easily implemented, will improve the equitable

delivery of urban services, and meet accepted standards of administrative efficiency and transparency. This will build on the preparatory work for the Urban Management Conference held January 2006.

A basic principle is that the interim procedures should reflect the actual conditions and needs of each State – this may mean that different procedures are recommended for different States; although in the longer-term it will be desirable to harmonise them into a comprehensive, standardised procedures for all States. Work will be harmonized with the parallel work on land law being directed by the Southern Sudan Land

2.8 GoSS Urban Infrastructure Development Programme

GoSS launched a major initiative to rehabilitate and upgrade the condition of urban infrastructure throughout the country. This initiative started before the formation of GoSS. The interim administration, created following the CPA, was aware of the degraded conditions in the major towns, which were seen as a major constraint on the development of strong and effective administration.

It recognised the need to launch immediate programmes to upgrade infrastructure in all the State capitals with two specific objectives:

- To help the towns become effective and functional centres for the delivery of Government services.
- To increase the technical and institutional ability of the towns to absorb the anticipated inflow of returnees and IDPs following the period of conflict.

Chapter 3: Urban Population and Planning

3.1 Basic Principles of Urban Management

The practice of urban management should incorporate the following basic principles:

- **Fairness:** UM must address the interest of all stakeholders in a fair or equitable manner, to ensure that all needs and aspirations are catered for. It is especially important to address the interests of the poor and disadvantaged, who make up the vast majority of the urban population but who are usually excluded from the political process that makes the key development decisions.
- **A continuous process:** Town planning should be seen as a continuous process, rather than the production of a single master plan – a map showing the future land use pattern of the town. The master plan is important to represent the long-term vision; but is only becomes meaningful when the continuous planning activities are carried out in the interim that move development progressively towards the long-term vision.
- **Building on what is there:** An important objective of town planning is trying to create a better place; and this involves a vision of change and improvement. However, the vision must build on what is there, concentrating on improving the existing conditions rather than trying to create a completely new 'modern' town.
- **Incremental development:** This will be achieved most effectively through incremental development, implementing relatively small yet significant initiatives, which move in the general direction of the vision but which are based on people's current needs and the availability of resources.
- **Minimise displacement:** The reorganisation of land use associated with town development will inevitably result in displacement of some existing uses. But this should be kept to an absolute minimum – the default position should be to leave uses where they are, unless there is a very strong case for removal. And displacement should be accompanied by compensation, either financial or with provision of an alternative site.
- **Cost-effective development:** It is important to develop land and infrastructure in a manner that is cost-effective. At present, there is no systematic land tax that relates to the area of land occupied and services consumed - but this will come in

Summary:
UM practice and activities should be based on a set of agreed common principles.

These principles should be agreed by politicians and professionals as representing the best interests of the whole community.

These combine technical principles (relating to technical work issues) with ethical principles (relating to moral standards and behaviour).

Understanding and applying these principles will increase the likelihood of achieving good urban management in due course. In the meantime, town planning should adopt technical standards that will ensure low cost of infrastructure development.

Realistic standards: Allied with this approach, planning should be based on realistic standards that are appropriate to current needs and aspirations, and to available resources. There is no benefit in aiming for very ambitious standards or high technology solutions – and it may in fact frustrate achievement of more modest development objectives.

Transition phase:
- Understanding and applying the principles will be crucial to give the correct technical and ethical focus to UM practice.
- This is important to ensure that limited financial resources and poor institutional development capacity are used in the most effective manner possible.
- Strong political and technical leadership will be required to ensure that these principles are rigorously applied.

Long-term:
- The principles will remain central to UM practice.
- A stronger institutional capacity (greater skills and experience, increased number of staff) will ensure stronger and more consistent application of the principles.

3.2 THE CASE FOR INVESTMENT IN URBAN AREAS

Why invest in urban areas?
Prior to the formation of GoSS in 2006, the SPLM leadership made specific policy commitment to the rural areas, since the vast majority of the population lives in rural areas and, according to virtually all criteria, these are the most disadvantaged groups in terms of income, access to services and life choices. This commitment has subsequently been reinforced by GoSS. So why is it important to invest in urban areas?

There is universal recognition that towns are the engines of national and regional development, even in predominantly agricultural economies with large rural populations. Towns are the centres of government at national, state and county levels. They are the principal source of economic services – markets, trade and commerce; banking, insurance and credit; communications; technical support and agricultural and rural extension services.

They are the centres of national and regional social infrastructure – hospitals and other health referral facilities; secondary and higher education, and technical/vocational training establishments and their extension to the hinterland; welfare facilities for disabled, infirm and aged.

They are also the source of cultural change, modernisation and social development – and thus the source of political development. If the towns do not function efficiently, the rural areas that they support and that support them will not develop effectively. This fundamental understanding is particularly relevant to the new state capitals and other urban centres in Southern Sudan. Especially as returning refugees and IDPs represent an important resource of trained and skilled personnel, with high expectations and aspirations for their quality of life.

Summary:
The vast majority (>90%) of the population lives in rural areas; and GoSS has given a strong commitment to the rural areas - so why is it importantto invest in towns?
- Towns are the principal engines of national and regional development –economic, social and political.
- There are important complementary social and economic linkages between towns and their rural hinterlands.
- Creating efficient and attractive towns will be crucial for attracting educated and talented persons in the diaspora back to Southern Sudan.

The towns must provide an attractive and efficient environment to encourage both public and private sectors:
- Government operations and services must enjoy conditions that enable them to be delivered efficiently; and that will encourage good administrators to work in the civil service.
- Entrepreneurial activity must be stimulated so as to generate trade, create jobs and provide cash incomes, and creates the potential to retain the educated and innovative young – the human capital that will be crucial to long-term development.

In addition, there are many thousands of qualified and experienced Southern Sudanese living and working in the diaspora who can be attracted back by the prospect of peace and development. This group has skills that are most applicable to the institutions and economies of urban areas; and they will expect the quality of life that developed towns can offer. It is unrealistic to expect these returnees to move back to the rural areas from which they or their parents originated, a point well recognised by GoSS.

Transition phase:
- It is a GoSS priority to invest in basic urban facilities so as to create effective and efficient State capitals.
- It is important to create conditions in State capitals that will:

- improve basic living conditions for urban households
- facilitate the establishment of government operations
- stimulate local economic development
- encourage returnees from the diaspora

- Government will remain the largest employer and the principal driver of the local economy.

Long-term:

- There will be significant private sector growth as the local economy develops and becomes better established.
- There will be an increased role for the private sector in the delivery of housing and public utilities.

3.3 Urban Population

Population estimates of State capitals

The table below gives the indicative 2008 population for the 10 State capitals. They are derived from estimates made by the Gibb Africa consultant team in 2005/06, with adjustment made for subsequent inward migration.

1.	Central Equatoria Juba	300,000
2.	Eastern Equatoria Torit *	50,000
3.	Western Equatoria Yambio	50,000
4.	Western Bahr el Ghazal Wau	200,000
5.	Northern Bahr el Ghazal Aweil	10,000
6.	Lakes Rumbek	50,000
7.	Warrap Kwajok @ --	
8.	Upper Nile Malakal	150,000
9.	Jonglei Bor	20,000
10.	Unity Bentiu	70,000
	Total	**950,000**

* Torit is the current headquarters of Equatoria State administration – relocation to Kapoeta is a possibility in the longer term.

@ New capital site selected based on village – no significant urban population.

SUMMARY:

- The population of the main towns is estimated at about 1 million, or 6- 12% of the total population of Southern Sudan.
- Urban population data should focus on the functional urban area.
- Population growth is made up of two components: natural increase and migration.
- The movement of returnees/IDPs has a significant effect on population changes – but it is thought that the volume of movement since 2005 has been less than was forecast.
- It is more important to have a good sense of the scale of population and rate of change, than trying to establish very precise population data – and beware the tendency for exaggeration.

UPDATE NOTE

This section was written before publication of the definitive results of the 2008 Population Census – it will need to be updated to take these into account.

Centre for Census, Statistics and Evaluation

The total population of the 10 State capitals plus Yei1 is in the order of one million. It is expected that reliable data will be available on publication of the final results of the national census carried out in 2008. If the total population of the Southern Sudan is somewhere between 8 to 16 million, then the urban population represents 6-12% of the total population.

Defining the functional urban area

The functional urban area is the contiguous built-up area, that extends out from the town centre and whose inhabitants function as part of the town's socio-economic system. The functional urban area is important for urban management because it represents the extent of settlement that is:

- to be covered by town planning and the delivery of urban services;
- to be incorporated within the statutory town boundary.

There is no scientific method for defining the functional urban area – it is always subjective, and depends on a judgement of where the urban settlement ends. This may coincide with the statutory town boundary but in many cases it does not, due to urban growth on the periphery of the town which lies outside the statutory town boundary – this is sometimes referred to as peri-urban settlement.

Urban population estimates used in urban management should be based on the functional urban area. Some estimates use the population of County in which the town is located – but this typically covers a large rural area that does not fall within the functional urban area, and has a far greater population than the town itself.

Population growth

Population growth is made up of two components:

- natural increase – the excess of births over deaths;
- migration – the excess of in-migration over out-migration.

The general assumption is that these two components will result population increase, i.e. that they will generate excess. And this is borne out by the experience of most towns. But it must be recognised that in certain circumstances – especially in times of conflict and insecurity – they can result in population decrease. For example the population of Abyei town decreased dramatically due to local conflict in 2007-09.

Migration: Movement of returnees/IDPs

In typical cases, migration is stimulated by economic and social opportunity – towns that offer opportunities for work, housing, schools, health facilities etc, attract population to move to the towns. This

applies to some extent in Southern Sudan – but a much more important factor is the movement of returnees and IDPs.

GoSS concern about the impact of returnees/IDPs on the main towns provided the justification for rapid investment in urban infrastructure. But there are indications that the actual number of returnees has been lower than expected over the period since 2005. This is thought to be due to the limited economic and social opportunities (principally employment and housing) available in the South, compared with the number of households who wish to return. So while people express a desire to return, they may hesitate to do so, judging that the actual opportunities will be less attractive than those they experience in their current location.

Yei is usually included in the list of major towns. Its 2005 population was given as 32,000 (UNDP Urban Appraisal Study) and it has grown significantly in the period since then, due to its strategic location on the trade route from Uganda.

There is little evidence of towns having been 'swamped' with returnees/IDPs, which was a real fear after the CPA. In Juba, for example, much of the development activity and expansion has been prompted by other factors, and not by returnees:

- Development of plots on the periphery of the town that were laid out in the late 1990s but never developed because of the security threat – so effectively releasing internal demand that was suppressed during the period of conflict.
- Development linked to the GoSS administration and the influx of international development agencies.
- Stimulus provided by the infrastructure investment programme part-funded bythe Multi-Donor-Trust Fund (MDTF).

Nevertheless, it is recognised that the absorption capacity of towns (their ability to provide land for housing and access to public utilities, school places, health facilities etc.) has been strained by even relatively small numbers of returning households.

But this says more about the capability and resources of the town administrations to deal with the problem than about the actual numbers.

Annual growth rate (AGR)

The urban population fluctuated significantly during the decades of conflict, through a mix of inward and outward migration. Given the uncertainty about former and current population data, it is not possible to calculate reliable AGRs for all towns.

Gibb Africa estimated in 2005 that the population of Juba doubled between 1980 and 2005: from 120,000 to 250,000 – this equates to an AGR of 3%. No similar figures are available for the other towns. Note that this is compound annual percentage increase - the average percentage by which the population increases from one year to the next (so Year 2 population = Year 1 population x 103%, and so on). This is not the same as the total percentage increase (130,000 ÷ 120,000 = 108%) divided by 25 years (108 ÷ 25 = 4.3%).

Household size

In many cases, household data will be more useful than total population data, because many urban services relate to the aggregate needs of households rather than individuals, e.g. housing plots, water supply and sanitation etc. A 'rule of thumb' figure of 7-8 persons per household is commonly used – but it is important to use a figure that accurately reflects local circumstances.

Precise population figures are not essential

Although it is important to have an accurate feel for population data, it is not necessary to spend a lot of time and effort in seeking precision. This is because:

- the population is continually changing;
- precise data are not necessary for most urban management activities – they are only required for interventions dealing with the very localised level.

It is usually sufficient to have a good sense of the scale of the population and the rate of change – this will help determine the scale of UM interventions required to meet the needs of the existing population and, equally important, to anticipate the needs the future increased population.

Also beware the tendency for exaggeration: for example, it is common for people to talk of Juba having a population of over one million. The most reliable estimates suggest that this is wildly inaccurate – the 2009 population is unlikely to exceed 500,000 and is probably significantly lower.

3.4 A MODEL FOR EFFECTIVE URBAN MANAGEMENT

SUMMARY:

The UM model aims to help understanding of the structure and shape of routine MHLPU and MPI activities.

The model identifies 3 components:

1. Drivers of urban development – economic activity, administration/ Government and the urban population;
2. Demand generated by the drivers - for land and infrastructure;
   - Mechanisms used to meet the demand – upgrading of existing areas plus development of new or expansion areas.
   - UM seeks to create conditions that support and facilitate economic activity and Government operations, while simultaneously responding to the needs of the entire urban population.
   - The bulk of UM work concerns the planning and implementation of land for development and of delivery of infrastructure (roads, water supply, sanitation, electricity etc).
   - Different types of plan are used to match the specific needs of a particular planning exercise.
   - Particular attention must be given to improving conditions in the existing town since the numbers of households living in sub-standard conditions in these areas far exceeds the number of households in expansion areas.
   - Upgrading of existing areas

will deal with under-serviced formal developed areas, as well as informal or unplanned settlements.

- Local communities should be fully involved in settlement upgrading, from conceptual planning through to implementation.
- Planning of expansion areas should proceed even where there is no master plan – the demand generated by population growth will not wait for the preparation and approval of a master plan.
- Public utilities should be planned for progressive delivery – starting with a basic level of supply and increased over time in line with budget resources and the ability of households to pay for the services.

The Urban Management process

Figure XXX is an illustration of the UM process. It is a model which presents in simplified form the relationship between the various elements in the process. It provides an understanding of the overall shape of process, within which routine urban management (or town planning) activities are carried out.

It aims to give UM staff a better understanding of:

- the context (or framework) within which they carry out their day-to-day work;
- the range of activities involved;
- their specific roles within the whole exercise.

The model identifies three main components:

i. Drivers: These are the elements that drive urban development and are the reason why UM is needed: if none of the drivers existed, there would be no town, and therefore no need for UM.

ii. Demand: The drivers generate demand for a multitude of urban services, which are presented in simple terms as land and infrastructure.

iii. Planning methods: The initiatives to improve the urban environment involve two planning methods: the upgrading (or improvement) of existing developed areas and the development of new areas – otherwise known as expansion areas or town expansion.

Different plan types are used in the UM process, matched to the specific needs of the planning exercise.

Driver #1 - Economic activity

Economic activity is central to the existence of all towns and to the prosperity of residents. Most towns have their origins as small trading centres that have expanded over the years as economic activity has grown. The local economy:

- distributes goods (markets, shops etc)
- provides manufacturing and service industries (factories, workshops, construction and building etc)
- provides financial services (banking, insurance etc)
- creates jobs

Good UM seeks to provide economic activities with the conditions and services that allow them to prosper:

- Physical facilities – sites, infrastructure and services;
- Legislative framework – sufficiently relaxed to encourage initiative and enterprise, but with sufficient control to protect the public interest.

Driver #2 - Administration/Government

The delivery of public sector services is a very important driver, given the relatively undeveloped state of the private sector in Southern Sudan (in more developed countries, the role is a secondary one of supporting private sector activity).

Good UM seeks to create conditions that facilitate the establishment of effective and efficient Government operations. Government is by far the largest employment sector, and is the major developer engaged in the construction of:

- infrastructure (roads, public utilities)
- government offices and housing
- schools and colleges
- hospitals, clinics etc.

Note that Government development needs to be subject to systematic local government scrutiny, to ensure that it is consistent with general development objectives. This will sometimes mean that a GoSS ministry or department may be required to submit its development proposal to a State or Municipal authority for approval.

Different plan types

Driver #3 - Population

The urban population is the principal stakeholder in the UM process: the fundamental aim of good UM practice is to create good conditions for all the residents of the town. The population is engaged with the other two drivers as workers or as users (or clients) of economic activities and administration/ Government services.

The residential population generates the demand for residential or housing land, the largest single land use in any town. It is useful to think of the population in terms of households - many urban services relate to the aggregate needs of households rather than individuals, e.g. housing plots, water supply and sanitation etc.

The growth in population over time is the main determinant of the pace and scale (or speed and size) of urban expansion. So analysing changes in demography (e.g. household size, birth and death rates) and forecasting population growth is an important exercise in planning long-term urban development.

Demand generated by the drivers

The three drivers collectively generate demand for:

- Land – plots or sites on which to carry out activities: houses, markets, shops, offices, government buildings, workshops etc.
- Infrastructure – roads, water supply, sanitation, electricity, schools, health facilities etc, that enable those activities to function effectively.

There will be demand for new services where none exist (new plots, water supply,

roads etc); and there will be demand for improvement or upgrading of existing services which are either degraded or very basic (re-surfacing a road, improving water supply, sanitation etc).

Some demand reflects directly the needs and aspirations of individuals or communities, expressed either directly (e.g. a request submitted to the MPI) or through CBOs and political representatives – in this case the individuals and communities are the primary stakeholders. Other demand relates to meeting the needs of future population growth, derived from forecasts prepared as part of routine long-term planning – in this case there are no primary stakeholders, since the population does not yet exist.

The bulk of routine UM work concerns the planning and implementation, in one form or another, of projects related to land and infrastructure. These involve a combination of:

- upgrading existing developed areas
- planning new development areas, typically as urban expansion on the edge of the town

Current town planning practice tends to focus on new development areas; but equal emphasis should be given to improving conditions in the existing town, since there are many more households living in these areas under poor conditions than in new expansion areas.

Upgrading existing areas

The term upgrading means improvement – so the upgrading of an existing area refers to the improvement of conditions, facilities and services for the benefit of local households. The aggregate effect of upgrading these areas makes an important contribution to the overall improvement of the whole town.

There are two types of area covered by upgrading:

- Formal or planned areas, laid out according to an approved layout, with some security of land tenure, but with degraded or unimproved services;
- Informal or unplanned areas (e.g. squatters or IDPs) with few or no services, with little or no security of land tenure.

In formal areas, the main focus will be on improving infrastructure and regularising the development layout. Priorities will vary according to the area, depending on the conditions and the wishes of the local community. In informal areas, the focus will be on providing or improving infrastructure and regularising the development layout, with special attention to land tenure. Because it is informal development, it is likely that residents have no formal security of tenure – providing security of tenure is a critical component of successful upgrading.

Infrastructure will be provided at different service levels in different areas according to the ability and willingness of local households to pay for the services. It will sensible to plan for progressive improvement of infrastructure over time, in line with budget resources and household affordability, rather than aiming for a high standard from the outset.

An important principle of upgrading is that informal settlements should not be displaced simply because they are informal or unplanned. The default assumption is that an informal settlement remains and is upgraded unless there are pressing grounds for its removal. The local community needs to be fully involved in the upgrading exercise – from conceptual planning to implementation – to ensure that:

- the local community buys in to the upgrading process;
- proposals reflect accurately local needs and aspirations;
- proposals are matched to the ability and willingness of local households to pay for upgraded services.

Upgrading existing areas

Planning new development areas

The main function of new development areas is to cope with physical expansion of the town – so they are referred to below as expansion areas. The basic aim of expansion areas is to meet the increase in demand for plots generated by forecast growth in the three drivers (economic activity, Government and population). In addition there will be 'unmet' demand from within the existing town – households or businesses in shared or crowded conditions who want a plot of their own.

Residential is the single largest user of land and the major determinant of the scale of expansion areas. The key factor in determining the number of residential plots required is the forecast increase in population. This is typically expressed in households (assuming that 1 household = 1 residential plot). But the demand will also include other important land uses: schools, health facilities, offices, markets, shops, workshops etc.

Planning of expansion areas should adopt a modular approach. This means preparing an integrated plan for a neighbourhood block, with a given population and appropriate range of public facilities and services. This module can be repeated (with variations as necessary) to create other expansion areas.

The traditional housing classification system (1st, 2nd and 3rd class) is widely thought to be inappropriate as a planning tool in current conditions. It is more efficient to adopt a flexible approach that recognises the need to provide varied plot sizes (to reflect different desires and affordability) while promoting the cost effective use of urban land

Housing

Expansion areas will be planned in accordance with the approved town master plan – where there is one. Where there is no master plan, the planning of expansion areas should go ahead, since the demand generated by population growth will not wait for the preparation and approval of a master plan. Public utilities infrastructure (water supply, sanitation, roads, electricity etc) will be planned for progressive delivery.

Budget constraints mean that only basic level services – or none at all – are likely be provided at the outset of development. So the plan will incorporate the long-term provision, but actual delivery will be phased in line with budget constraints and the ability of individuals to pay for services.

Equitable and transparent plot allocation procedures must be applied. In particular, multiple plot ownership (by family) must be rigorously controlled as it frustrates the fair distribution of plots. Plots should be openly advertised and allocated on the basis of demonstrable need.

This is essential to assure public confidence in the land management process.
Planning new development areas
Land Management
Why no mention of a Master Plan?

There has so far been little mention of the master or development plan – the overall framework within which the planning activities described above are carried out. A master plan is desirable, but not essential: it achieves very little on its own, without concerted effort to tackle 'lower level' town planning work.

These area-based planning activities – for existing areas and expansion areas – have a much more direct and immediate impact on the daily lives of urban households. They are therefore a more valuable planning activity than the master plan because they affect directly the quality of urban livelihoods.

Different plan types

In common usage, the term plan refers to a map or diagram, a visual representation of 2-dimensional (sometimes 3-dimensional) ideas, often presented on a map base. This can show existing facts or features (e.g. a survey of an existing settlement or building); or it can show a proposal for development (a new housing layout or building).

In UM usage, the term has wider meaning, referring to a collection of information and ideas in graphical and text format that is used to present proposals for future development. Typically a plan will include a number of maps and diagrams, supported by accompanying text that explains and justifies what is present in the maps/diagrams. The text needs the plans, and the plans need the text – one without the other will usually be unsatisfactory.

The more complicated the planning exercise, the more text is usually required – so, for example, a town master plan will be a long document containing detailed analysis of the context and explanation of the proposals, to provide justification for the plan recommendations. And numerous plans and diagrams will be used to illustrate existing data and features and the development proposals. A 'one map' master plan is unlikely to be adequate.

The next section describes different types of plan used for different types of UM exercise.

Plan types

WHAT > WHEN > HOW: Three elements of a plan

For a development plan to be effective, it must have three elements: these are described very simply as WHAT, WHEN and HOW. The WHAT element is the long term vision for what the plan hopes to achieve. This is typically presented as a map supported with text, data and diagrams, showing the future spatial arrangement of land uses (residential, commercial, public buildings etc) and main infrastructure components. The WHAT element is relatively simple to produce; but on its own changes nothing - it needs the support of two other elements.

The WHEN element addresses the phasing or programming of development: it is clear that the long-term vision cannot be achieved in one step, but will be developed incrementally over a period of time. The length of time depends on the scale of development involved and the resources available - both financial and institutional. So the WHEN element explains the steps that need to be taken to move towards the long-term vision, matched to available resources.

The HOW element addresses how actions are to be organised to initiate implementation of the first steps towards the long-term vision, or how the plan is to be implemented. A plan is rarely implemented by one single agency; it usually involves different agencies working in collaboration and independently. The HOW element identifies which agency will be responsible for which action and over what period, and indicates where coordination between different agencies is necessary. It therefore provides the basis for monitoring the performance of implementation.

Those responsible for commissioning or for carrying out a planning exercise will need to check that the work addresses these three elements.

What does the term strategic mean?

The term strategic is very commonly used in urban management and planning: e.g. Strategic Development Plan, A Strategic Approach to Sanitation etc. But the precise meaning is not always clear – so what does it mean?

The term is used in two distinct ways, and it is important to understand exactly how it is being used, so as to avoid confusion. The two ways are:

- to refer to a high level approach that is concerned with broad policy, rather than detail;
- to indicate a focus on the HOW element, or the method(s) used to achieve the objective. This derives from military usage, for example: "Our objective is to capture town X. Our strategy will be to advance in the night and attack at sunrise".

But note that it is sometimes used with an imprecise manner, meaning neither of these - in which case it is superfluous and without true meaning.

Transition phase:

- The UM process model offers a simple tool that will help MPI staff understand the scope and content of the work they are required to do.
- UM work should address equally the upgrading of existing areas and the layout of new development areas – both are essential in the short-term.

- There are many valuable UM interventions that can be carried out even when there is no overall master plan for the town, that will deliver significant benefits to residents.

Long-term:

- The scope and quality of UM activities and interventions will increase as the institutional resources improve and local government becomes more effective.
- The establishment of effective Town or Municipal Councils will mark an important shift in the local control of UM activities.

UPGRADING EXISTING AREAS SUMMARY:

- The objective of upgrading is to improve the physical, social and economic conditions for the benefit of local residents.
- In selecting areas for upgrading, priority should be given to lower income areas, where conditions are worst and needs are greatest.
- There are two types of settlement covered by upgrading, both with degraded or unimproved services:
  - Formal or planned areas
  - Informal or unplanned areas
- Three basic rules apply to the upgrading process:
  - Minimise displacement;
  - Involve the local community fully in planning and implementation;
  - Plan for incremental delivery of infrastructure & services to match local affordability.
- An upgrading package will comprise a mix of initiatives to improve the development layout and delivery of services; it may also include support to community development.
- Different solutions are required for different areas, with upgrading packages tailored to suit local conditions and local needs.
- Formal areas selected for upgrading will be typically 3rd/4th class areas with degraded or unimproved services:
  - Development may not be strictly in line with the original plan – major encroachments will be addressed through regularisation of the layout; but it is not necessary to impose a rigid order.
  - Infill development can be used for development of unused or
  - under-used land so as to promote cost-effective development.
- Informal areas are settlements that have been developed by local initiative outside the statutory planning system – displacement should be the last option :
  - If the settlement can remain, prepare an upgrading plan;
  - If the settlement has to be removed, provide alternative plots for displaced residents.
- Successful upgrading of informal settlements must give special attention to:
  - Providing security of tenure – a major incentive for improvement of dwellings by households.
  - Sensitive regularisation of plots – sufficient to enable insertion of services; but it does not need to impose a regular grid pattern.
  - Involving the community in the entire planning and implementation process – to ensure community buy-in.

Objectives of upgrading

The basic objective of upgrading is to improve the physical, social and economic environment of an existing settlement for the benefit of the people who live there. The priority will be on low-income areas where conditions are usually worst – but the principles of upgrading can also be applied to higher income areas.

The upgrading of existing areas of the town is one of the two main components of town planning, the other being the planning and development of new development areas (or expansion areas) to cater for urban growth.

Planning New Development Areas.

There are two types of area covered by upgrading:

- Formal or planned areas, with degraded or unimproved services, but some security of land tenure;
- Informal or unplanned areas (e.g. squatters or IDPs) with few or no services, with little or no security of land tenure.

Three basic rules

There are three basic rules that apply to all upgrading – for formal/planned and informal/unplanned areas:

- Minimise displacement: The aim is to protect the rights of local residents and improve their living conditions. It will sometimes be necessary to displace some households – but this must be kept to an absolute minimum.
- Community participation: The local community must be fully involved in the upgrading exercise, from conceptual planning through to implementation.

This will ensure that:

- proposals reflect accurately local needs and aspirations;
- proposals are affordable by local households;
- the local community buys in to the upgrading process.
  - Incremental infrastructure delivery: Plan for the incremental improvement of infrastructure and services over time – it will not be possible to provide a high standard of service provision from the outset due to budget and household affordability constraints.

Incremental infrastructure delivery: Plan for the incremental improvement of

infrastructure and services over time – it will not be possible to provide a high standard of service provision from the outset due to budget and household affordability constraints.

Basic UM Principles

The upgrading process

Upgrading is most effective if carried out on an area-by-area basis – it is easier to address upgrading as a series of manageable projects,rather than tackling the whole city in one. And it needs to relate to overall planning policy or a development plan. For example, infrastructure components need to relate to planning of individual components (e.g. water supply master plan), and be suitably tailored for local area needs.

Priorities will vary from area to area depending on the nature of existing facilities, their condition, and the preferences of the local community. Although the upgrading process will be similar for all formal and informal areas, different solutions will be required for different areas. So initiatives need to be tailored to suit the individual area;

'Painting the whole wall' - an approach to the incremental delivery of services.

When painting a wall, you do not paint a small section of the wall with undercoat, second coat and top coat; and then move onto another section; and then to another section. You paint the whole wall with undercoat; then the whole wall with a second coat; and finally the whole wall with a top coat. The delivery of services should adopt the 'whole wall' approach – deliver a basic level of services (= undercoat) equally and evenly to all households throughout the town, before providing areas with a higher level of services. This is a more efficient and more equitable allocation of resources and standard formula solutions should be avoided.

Communities who benefit from upgrading will be required to pay consumption charges for services such as water supply and electricity. These services are very sensitive to the community's ability to pay. Since beneficiaries will tend to come from lower-income groups - particularly in informal settlement areas – proposals need to be very carefully planned and designed to match local affordability. In some cases it will be necessary to provide only a very basic level of service (e.g. communal standpipes) to keep within local affordability.

Salva Kiir Mayardit
President of the Government of Southern Sudan visits the United Nations Mission in Sudan (UNMIS) office in Malakal.

This may appear contrary to the objective of providing good services; and that the standard is too low to represent substantial improvement. However, a community that has very poor or no public utilities usually has very low expectations than a wealthier, more developed community. It is therefore likely to give greater value to a basic level of service than a wealthier, better-served community, on the understanding that this is a first step, and that the level of service will be upgraded incrementally over time as local affordability increases.

A mix of components

An upgrading package for an area will typically comprise a mix of components to improve physical conditions drawn from the following:

- Regularisation of layout
- Roads/footpaths
- Water supply
- Sanitation
- Electricity supply
- Street lighting
- Solid waste management
- Community facilities
- Support with housing construction
- Land tenure

These may be supplemented with activities to support community development and stimulate local economic activity. This mix may combine initiatives in the target area or settlement itself with initiatives that are town-wide and bring benefits to residents in other areas. This will often be the case with network infrastructure components such as water supply or roads. For example, providing a target area with improved piped water supply may require constructing a water main from some distance that passes through other non-target areas; or it may require investment to increase the capacity of the central water treatment plant.

FORMAL OR PLANNED AREAS

Formal or planned areas in need of upgrading are typically existing 3rd or 4th Class areas. Plots will have been developed in accordance with an approved layout; but they display some or all of the following characteristics:

- un-surfaced roads/footpaths in degraded condition;
- seriously degraded or lack of public utilities - water supply, sanitation, electricity etc.
- overcrowded living conditions resulting from plot sub-division;
- encroachment of plot development onto road/footpath reserves and open space;
- shortage of local community facilities e.g. schools, clinics etc.

They can also be 1st or 2nd class areas

with similar characteristics – but priority should be given to lower-income areas, because these represent the areas containing households in greatest need.
Table XXX summarises the issues and actions required to address typical components for upgrading of a formal settlement.

Regularisation of layout

Development in planned areas may not be strictly in accordance with the original plan, or with the plot demarcations set out by the surveyors. In many cases this will not matter – minor variations that cause no major obstruction or inconvenience to public space of adjacent plots can be ignored, as long as the local community accepts them.

But where development ignores surveyed plot boundaries, or there is major encroachment onto road/footpath reserves or sites designated for public use (e.g. school, open space), then action will be required. The regularisation of layout should be carried out sensitively: the aim is to achieve an ordered form of development that restores the basic characteristics of the original plan, while minimising disruption to residents. It is not necessary to impose an artificially precise or rigid 'order'.

Infill development

Some areas of the town may contain low density development, with large plots occupied by one building surrounded by a large area of unused land. Plots allocated to Government departments are frequently far larger than required for their foreseeable needs. There are also unused pieces of land that were once allocated but have never been developed; or they may never have been allocated.
Such inefficient use of land contributes to the high cost of infrastructure development. The need to promote cost-effective development means that such land should be put to productive use. The term infill development is used to describe the development of unused or under-used land within the existing town structure. This may involve re-drawing the boundary of large underused plots so as to create a new block of 'vacant' land on which additional plots can be set out.

INFORMAL/UNPLANNED AREAS

What are informal areas?

Informal or unplanned areas are settlements within the town structure that have grown spontaneously through the actions of a community or individuals, outside the statutory planning system. Residents of informal areas are typically migrants or IDPs, usually from lower income groups, who have been unable to get a formal housing plot and have taken their own initiative. Some will be recent arrivals; but some will be long-established communities. These are sometimes referred to as squatters.

A common view is that informal settlements represent disorder, disease, ignorance and lack of respect for the law. But recent research throughout Africa suggests that this is an unnecessarily negative view.
Upgrade or relocate?

The first issue to be addressed is whether the settlement can stay and be upgraded, or is to be relocated. An important principle, widely adopted throughout Africa, is that informal settlements should not be displaced simply because they are informal or unplanned. There must be additional factors to justify displacing people who are usually among the poorest and most disadvantaged urban households. Even if they are squatters, the default assumption is that a settlement should remain in place unless there is a pressing reason for its removal (e.g. site required for a hospital/school, main road etc).

This leads to two alternative courses of action:
If the settlement is to remain, households are given security of tenure and an upgrading plan is prepared.
If the settlement is to be removed, alternative plots must first be provided to relocate displaced households;

Planning New Development Areas

The upgrading of informal areas adopts a similar process to that used in formal areas. There are three aspects which require special attention:

- Land tenure: Because these are informal settlements, residents will usually have no formal land tenure; and providing security of tenure is central to the success of upgrading an informal settlement.
- Community participation: Involving the community in the entire planning process will be a major factor in assuring the success of the upgrading programme.
- Regularisation of layout: Informal areas usually have a very irregular pattern of plot development, which complicates the layout regularisation. The regularization exercise should aim for a pattern of development which suits the local community and allows the insertion of essential services - but it need not try to convert an irregular pattern into a regular grid.

Table XXX summarises the issues and actions required to address typical components for upgrading of an informal settlement.

Definitions

Squatter settlement: an area of housing built on land without the agreement – legal or otherwise – of the landowner. Usually low quality housing – but a wealthy house occupier can also be a squatter.

Slum: An area of housing that was once in good condition, but has deteriorated through lack of investment or subdivision, resulting in crowded accommodation rented out to low-income groups.

Irregular subdivision: Land sub-divided by the legal owner into plots for sale or rent, without following the relevant planning and building laws. Often developed to sub-standard level to cram in more households and maximise the owner's profit.

Transition phase:

- Priority should be given to upgrading settlements that:
  - have the worst conditions in terms of degraded and unimproved
  - environment;
  - bring benefits to low-income households.
- Spread investment evenly and fairly to deliver improved services – at a basic level - to as many households as possible, rather than delivering good services to fewer households.

Long-term:

- Consolidation of upgrading of service delivery
- The establishment of effective Town or Municipal Councils will mark an important shift in the local control of UM activities.

Summary of Upgrading Components – Formal/Planned Areas

FORMAL/PLANNED AREAS
ISSUES ACTIONS

1. Regularisation of Layout - Development may not be strictly in accordance with approved layout plan or demarcated plot boundaries.

Regularisation should be sensitive to achieve ordered development - but should not aim to impose a precise rigid 'order'.

- Minor variations may be ignored if they cause no major inconvenience to public space or adjacent plots.
- Action is required where there is major encroachment onto road/footpath reserves, or sites designated for public use (e.g. schools, open space).

2. Roads/Footpaths - Inefficient circulation due to:
Degraded condition caused by un-surfaced treatment and poor drainage.
Encroachment of development on reserves.
Re-establish reserves – sufficient to permit efficient circulation.

- Provide appropriate surface treatment and drainage (good drainage is more important than permanent surface).
- Street lighting on main roads (see 7 below).

3. Drainage - Lack of effective drainage causes deterioration of road/footpath surface.
- Good drainage is more effective for maintaining road/path surface condition than providing a permanent surface.

- Provide drainage along road/path, linked to area/district drainage network.

4 Water Supply - Poor water supply is a major public health hazard and imposes disproportionate high costs on low-income households
- Plan proposed service level to match local affordability, with user charges levied for cost-recovery.
- Urban Water Corporation
- Tanker supply > communal stand-pipe > grouped stand-pipe >individual household supply.

5 Sanitation - Poor sanitation is a major public health hazard.
- Proposed service level will depend on local affordability.
- Note: water-borne sanitation (piped sewerage) is a very expensive option that will not meet local affordability levels.

- Public Health Office, Ministry of Health
- Communal latrines > shared/ individual pit latrine > shared/individual septic tank.
- Focus on 'on-plot' systems.
- Pit latrines are the preferred low-cost option – but only viable where ground conditions are suitable.

6 Electricity Supply - Poor electricity supply impacts on the quality and economic value of evening/night time, especially for low income xchouseholds.
- Also important to support economic activity.
- The simplest utility to provide because it is installed above ground and so is relatively cheap and 'mobile'.
- Proposed service level will depend on local affordability.

- Individual supply on demand.
- Street lighting

ISSUES ACTIONS
Street Lighting - Relatively low-cost installation with significant social and economic benefits.
- Highly valued by local communities.

- Electricity Corporation
- Priority given to public activity nodes, and main pedestrian routes and roads.
- Electricity Supply

8 Solid Waste Management - Domestic and industrial waste is a potential serious health hazard, encouraging vermin, blocking drains etc.
- Complete chain needs to be created from household collection to safe disposal.
- Offers potential to create local employment – refuse collectors, manufacture of collection bins, handcarts etc).

- Public Health Office, Ministry of Health
- Create collection/disposal chain: household collection > local transfer station > district transfer station > sanitary landfill.
- Engage CBOs and NGOs to operate lower chain activities (household collection > local transfer station > district transfer station).

9 Community facilities - Plan sites for local schools, clinics, shops, markets, playing areas etc appropriate for the local population.

- Ministry of Education
- Ministry of Health
- Ministry of Trade and Commerce
- Supply in accordance with relevant planning standards.
- Social Infrastructure

10 Housing - Virtually all housing is private – so State role is to provide technical and statutory environment that encourages individuals to improve their housing.
- Combination of legal and technical initiatives.

- Provide security of tenure – this is the major incentive for encouraging self-improvement of dwellings (see 11 below).
- Supply building materials at cost

price (no profit).

- TA in building techniques that are durable and cost-effective.

11 Land Tenure - Most properties will be subject to some formal tenure – but not necessarily sufficient security of tenure.
- Old 3rd/4th class housing designation gave short leases that provided a disincentive to invest in housing improvement.

- Land Commission
- Modified tenure conditions with longer leases will encourage householders to invest in their property.
- In parallel need to institute sensible land tax as contribution towards upgraded services.

5B PLANNING NEW DEVELOPMENT AREAS

SUMMARY:

- There are many good examples of new development areas, delivering a large number of plots at low cost – there is a need to learn from experience and improve techniques.
- Sites need to be selected with reference to the master plan (if there is one), with good natural drainage and good links to the existing town structure.
- A modular approach is used to create integrated multi-use neighbourhoods – the module area and dimensions will depend on the scale of expansion being planned.
- The supply of housing plots aims to match to forecast population growth, taking account of both natural increase and migration – forecasting should be technically sound, but it is not an exercise in precision.
- Public utilities should be planned for incremental delivery – starting with a basic level of supply and increased over time in line with budget resources and the ability of households to pay for the services.
- The most important objective is to deliver plots to meet demand – it is not a major problem if no infrastructure services can be provided, as these can be introduced over time as resources allow.
- Layouts design must incorporate cost-effective development that minimises infrastructure costs and ensures economical use of land – this will follow well-known techniques.
- The traditional Housing Classification system is no longer considered appropriate – a more flexible approach should be used that delivers a range of plots sizes to meet different needs.
- Allocation of plots must be fair and transparent, using simple and equitable procedures – allocation should be strictly on the basis of need, and multiple plot ownership should be forbidden.

Introduction

This section discusses methods for planning new development areas to cater for urban growth. This type of development may also be called expansion areas. The basic objective is to develop new areas of the town to ensure that there are sufficient plots to accommodate the increased demand that come with urban growth.

Planning of expansion areas is one of the two main components of town planning, the other being the upgrading of existing developed areas of the town.

Upgrading Existing Areas

The basic aim of expansion areas is to meet the increase in demand for plots generated by forecast growth in the three drivers (economic activity, Government and population). In addition there will be 'unmet' demand from within the existing

town – households or businesses in shared or crowded conditions who want a plot of their own.

Housing or residential use is the single largest user of land and the major determinant of the scale and character of expansion areas. The key factor in determining the number of residential plots required is the forecast increase in population. This is typically expressed in households (assuming that 1 household = 1 residential plot). But the demand will also include other important land uses: schools, health facilities, offices, markets, shops, workshops etc.

Many States have done impressive new development layouts that have made significant contribution to the number of housing plots available for allocation. These demonstrate that the skills and resources are available – in practice it costs almost nothing, needing only planning staff to prepare a layout plan, and survey teams to set out the plan on the ground.
There is a need to learn from experience, copying those examples that represent good practice and simultaneously applying techniques that produce more efficient and cost-effective layouts.

Site selection

Sites for new development will usually be undeveloped land on the edge of town. But they can also be infill sites – unused or under-used land within the existing town structure, which can be re-planned to accommodate additional plots.
Upgrading Existing Areas.

Where there is an approved master or development plan, selection of expansion areas will follow the plan. Where the plan shows the proposed phasing of new development, linked to the provision of main infrastructure (especially the road network), site selection will follow the plan recommendations. Where no phasing is shown, a judgement will be made on the most suitable area(s) to develop first.

If there is no approved plan, expansion areas will be selected on the basis of four simple criteria:

- Links to town: The area selected should be contiguous or close to the existing town structure and especially its infrastructure and services networks – this will allow the new area function effectively as part of the town. Remote locations that require all new services and extensive infrastructure links should be avoided.
- Drainage: The area should be free from the risk of seasonal flooding, and ideally have a gentle slope that facilitates the removal of surface rain water by natural drainage.
- Land tenure: The area should be free of any contentious land issues with current occupiers. This may be achieved through selecting unoccupied land, or through negotiation with current occupiers, including appropriate compensation.
- Environmental factors: New development should avoid valuable agricultural or pasture land, established woodland, important water courses, areas of local ecological significance, and culturally significant sites (e.g. customary burial sites).

Modular Approach

The modular approach plans development as a series of blocks which are planned as integrated neighbourhoods or communities, with a given population and range of public facilities and services to meet routine daily needs (schools, health, recreational open space, markets, shops, employment etc).

It encourages the planning process to consider all the needs of a community. And it uses a step-by-step approach to expansion. The module can be repeated progressively - like building blocks - to manage the incremental development of the town over time.

There is no fixed size for a module – it needs to be large enough to support a range of facilities, and small enough for sensible implementation. If it is too large, development is likely to remain incomplete for many years; if it is too small, it will not be able to support a reasonable level of services.

The module size will depend on the scale of demand and the size of the town. A typical module will house 5-10,000 population (corresponding to 600-1,250 housing plots). In larger towns, a module can be effectively planned to accommodate up to 20,000 population (= 2,500 plots).

The dimensions of the module – and therefore the area of land required – will depend principally on the residential population, since housing plots will represent>50% of the total land area.
The module does not have to be a regular square – the landform may favour a rectangular shape. And it does not have to use right angles – it can be planned as an irregular, deformed grid.

>>diagram

How many plots?

The supply of residential land must reflect the forecast demand for plots. The objective of planning expansion areas is to ensure that plot delivery keeps pace with demand – this means that every household that wants a plot will in theory beable to get one.

The demand is made up of two components:
- population increase
- unfulfilled demand: existing households who live in crowded/shared accommodation or in informal settlements, and who want a plot of their own.

The forecasting exercise should be as systematic and scientific as possible. In practice, much of the basic data will not be available and the resulting forecast will contain a large element of guesswork. This does not matter as long as it is done in a logical and systematic manner – there is no need to aim for precise accuracy: the

supply of plots is most unlikely to exceed demand, especially in the short-term.

Population increase

Population increase is made up of two components:

- Natural increase = the excess of births over deaths;
- Migration = the excess of inward migration over outward migration. In the Southern Sudan, the main factor affecting migration is the movement of returnees/IDPs. It is expected that there will be a net increase (i.e. inwardmigration exceeding outward migration) in migration in most towns in SS because of the impact of returnees/IDPs – but it is important to recognise that migration can generate a net decrease, especially in conditions of conflict and insecurity.

It is important to be realistic when estimating the impact of returnees/IDPs on population growth. The experience of recent years shows that widespread concerns about towns being 'swamped' with returnees was exaggerated - the number of actual returnees did not reach the levels anticipated. However, progressively improved security and economic conditions are likely to increase the rate of return – so it is important to monitor this closely to feed into urban management.

- Centre for Census, Statistics and Evaluation
- Ministry of Health

Infrastructure

Expansion areas need infrastructure (water, sanitation, roads, drainage, electricity etc.) to serve the needs of residential households, commercial operations (shops, markets, offices, workshops etc) and social facilities (schools, clinics etc). These will form the 'skeleton' of the development layout, around which all the plots (housing, commercial, public facilities etc) will be located.

It will usually not be possible to provide these services to a high standard from the outset; and it is likely that some cannot be provided at any level. The reasons are:

– limited coverage of existing utilities networks and their degraded condition means they will not be able to serve outlying areas.

– local communities will be unable to pay the service charges needed to support the services.

So planning of expansion areas should be based on the incremental delivery of services over time – starting off with low levels of supply that are improved gradually over time in line budget resources and the ability of local residents to pay for the services. For example: laterite surface > asphalt surface.

- Water supply: start with communal standpipes > metered private standpipes to groups of houses > individual household supply.

Different service levels are possible within one neighbourhood. Water and electricity supply networks can provide different levels of supply according to the individual household's ability to pay – some households can have individual water supply, while their neighbours use communal standpipes. This will be managed by the relevant utility corporation

6 – Public Utilities

7 - Roads and Transport

- Southern Sudan Urban Water Corporation
- Southern Sudan Electricity Corporation

In some cases, the lack of funding will mean that no public utilities can be provided. This need not be a problem, and should not be used as a reason for not setting out new expansion areas. The Munuki district in Juba demonstrates how an area can transform itself over time, from plots demarcated on open ground with no services. It is now a thriving community, with ever improving services, some provided by individuals themselves, and some through investment by public sector agencies. There are similar examples in other towns.

The most important thing is to give households a plot on which they have security of tenure.

Note that demarcated, un-surfaced roads can be provided effectively at no cost. The only cost involved is the work time of surveyors for setting out, which is already covered in their regular salary.

Cost-effective development

Layout design must promote cost-effective development. There are two important reasons:

– To reduce infrastructure network costs: Each metre of road, drain, water pipe and electricity cable costs money. It is therefore important to plan layouts in a form that allows the shortest length of network length to serve the largest number of plots.

– To reduce land coverage: Contrary to common belief, the supply of good urban development land is not infinite. In some towns (e.g. Malakal, Bentiu) there is already a real shortage; and in towns where there is currently no problem, there will be increasing pressure as the towns expand.

It is therefore imperative to plan urban development to use land as efficiently and effectively as possible. There are a number of simple, well-established techniques:

- Small plots: The smaller the plot, the more households or activities can be accommodated on a given area of land.
- Rectangular plots: Much more cost-effective than square plots – run utilities along the short side, and a given length of pipe will serve more plots.
- Sensible road width: Road width should be determined by the

function in the roads hierarchy – the width of roads in many residential areas are wider than is justified by the expected volume traffic.

- Footpaths to serve housing plots: Housing plots can be served effectively with footpaths for low-income households that do not own a car.
- Institutional plots: The size of plot allocated to Government departments, and public/private institutions should be based on real justified needs – these are often larger than required.

Giving sensible consideration to these techniques when preparing development layouts will achieve a significant reduction in the overall land requirement, without prejudicing the quality of development.

>>diagram

Housing classification

The historical housing classification system (1st, 2nd, 3rd, 4th Class) is widely recognised to be inappropriate for current conditions. It imposes unnecessary restrictions on housing supply and individual development options, while offering few obvious advantages.

Recent practice favours a more flexible approach, which recognises the need to supply varied plot sizes to reflect the different desires and socio-economic status of households, while promoting the cost-effective use of urban land.

Fair and transparent allocation

It is imperative to ensure simple, equitable and transparent plot allocation procedures for new development areas. Past procedures have not always met the basic test of equitable allocation according to need; and they have frequently given the impression of being corrupt, even when they are not.
Three important principles need to be applied:

- Plots should be openly advertised using media that reach the entire population, including the most disadvantaged (e.g. local radio);
- Allocation should be on the basis of need, and not on a first-come-first served basis.
- Multiple plot ownership by an individual or members of the same family should be forbidden;

These and other rules relating to allocation need to be applied consistently to assure public confidence in the process.
Transition phase:

- Prepare development layouts to supply housing plots to meet demand from:

- Returnees/IDPs

- Unmet demand from households within the town

- No need to wait for master/development plan – go ahead anyway.
- Give priority to the needs of the lower-income groups and the most disadvantaged.
- Provide plots without public utilities, if necessary - people can sort them out for themselves.

Long-term:

- Increased resources and capability will allow more systematic matching between supply and calculated demand.
- Incremental supply of infrastructure and public utilities in line with budget resources.

TYPES OF PLAN

A plan is more than a map

The term plan is used in everyday language to describe a drawing on a sheet of paper, usually a technical subject (like a building) and often with a geographical element (a map base). It can be a precise measured drawing, or it can be a free-hand sketch.
In the urban management context, the term plan usually has a wider meaning: it refers to a document that typically includes four different, but closely linked components:
- Plans or maps: graphical presentation of information on a geographical base;
- Diagrams: graphical presentation of ideas or data;

- Text: to explain and justify the analysis and proposals;

- Tables: numerical data to support the text.

For most Urban Management work, a plan or map (or number of plans/maps) will not be sufficient to explain fully the proposals – and so it is necessary to add the other components. The decision.

Types of plan

Table XXX describes various types of plan that may be used in the urban management process. It is not a compulsory list but is to illustrate the range of plan that may be used in typical urban management work. This shows:

- Type: the subject matter of the plan type.
- Typical names: there are no set names, so different names may be used to describe similar types of plan.
- Objectives: each plan type has different objectives, depending on the subject matter and the intention of the person or agency that commissions the plan.
- Main content: this depends on the subject matter and the use to which the plan is to be put.

SUMMARY:

- In common usage, the term 'plan' refers to a single drawing or map.
- In UM, the term usually refers to a document comprising some or all of the following four components:

  Plans or maps
  Diagrams
  Text
  Tables of data

The mix of components in any one document depends on the nature and requirements of the planning exercise.
Many different types of plan are used in UM, each with a different purpose, subject matter and form of presentation.
The type of plan to be used depends on the objectives of the planning exercise (see table 5C.1).

- Typical map scale:

Type Typical Names Objectives Main Content Typical map scale
1 City or town-wide - Master Plan
- City Development Plan

- Structure Plan

- To set out long-term development strategy for city/town

- To provide plan framework to guide more detailed planning (see below)

- Survey of existing land use pattern and activities

- Analysis of constraints and opportunities

- Definition of plan year horizons

- Population forecasts and land requirements

- Alternative development models

- Infrastructure requirements (roads, public utilities, schools etc)

- Environmental considerations

- Stakeholder consultation

- Funding implications

- Implementation mechanisms

- Survey of existing land use pattern and activities

- Analysis of constraints and opportunities

- Definition of plan year horizons

- Population forecasts and land requirements

- Alternative development models

- Infrastructure requirements (roads, public utilities, schools etc)

- Environmental considerations

- Stakeholder consultation

- Funding implications

- Implementation mechanisms

4 Informal settlement - Settlement upgrading plan - Proposals for improvement of an underserviced informal settlement.

- Focus on assuring security of tenure, formalising land use pattern, provision of public utilities, access etc.

- Detailed survey of physical features and socioeconomic characteristics.

- Stakeholder participation in plan formulation

- Security of land tenure

- Access - roads and footpaths

- Public utilities – water supply and sanitation

- Community development support

- Funding implications

- Implementation mechanisms

5 Regional development - Regional development plan

- patial development of large area beyond town e.g. whole or part of State.

- Survey of existing land use pattern and activities

- Analysis of constraints and opportunities

- Definition of plan year horizons

- Population forecasts and land requirements

- Alternative development models

- Infrastructure requirements (roads, public utilities, schools etc)

- Environmental considerations

- Stakeholder consultation

- Funding implications

- Implementation mechanisms

- (Theme) plan or study

- Sector Strategy

- To formulate proposals for a particular technical theme or sector with explicit spatial development implications.

- E.g. environment, transport, open space, vacant land.

- Detailed analysis of existing theme/ sector characteristics.

- Stakeholder consultation

- Analysis of constraints and objectives.

- Formulation of proposals

- Funding implications

- Implementation mechanisms

Type Typical Names Objectives Main Content Typical map scale

7 Thematic study (non-spatial)

- Policy paper

- Sector strategy

- To formulate proposals for a particular technical theme or sector.

- E.g. housing, economic development, employment.

- Detailed analysis of existing theme/ sector characteristics.

- Stakeholder consultation

- Analysis of constraints and objectives.

- Formulation of proposals

- Funding implications

- Implementation mechanisms

Not relevant

8 Regulations/standards - Design Regulations
- Technical standards
- To set down regulations or standards to be followed for particular type of development.
- E.g. housing, building construction, sanitation.
- May be mandatory or advisory.
- Detailed technical specifications.
- Explanation/justification for application
- Definition of when, where and on whom they are applicable.

ENVIRONMENTAL HEALTH SUMMARY:

- Four services are crucial to the UM agenda:
  - water supply
  - sanitation
  - solid waste management
  - drainage
- A poor physical environment has a very damaging effect on health, particularly affecting children and the poor, who comprise the vast majority of urban residents.
- Environmental health is not just about illness and disease – it has a major impact on the ability of households to secure healthy and rewarding livelihoods.
- The interaction of infection and contamination is complex, and creates potential health hazards in all four service areas.
- This demands a broad-based package of initiatives that addresses all four services - to improve one or two services without improving the others will seriously compromise the potential benefits.
- Four principles underpin the planning and delivery of environmental health services
  - public health imperative
  - realistic standards
  - cost recovery
  - incremental delivery
- Capital investment must be followed by implementing effective operation and maintenance (OandM) and cost recovery to ensure sustainability.
- OandM may be carried out by government agencies, community organisations or the private sector.
- Promotion of public health awareness is a crucial 'soft' investment that complements the 'hard' investment in improved services.

Planning and delivery of these services are central to the urban management agenda. Most of the detailed planning, design and implementation of public utilities will be done by specialists in the particular service (water engineers, sanitation engineers etc).

But it is essential that all UM staff have a good understanding of the broad principles involved in planning and delivery. They will then be able to engage in substantive discussion with the specialists, to ensure that the delivery of public utilities matches broader UM objectives.

Why is environmental health important? These four services:

- Water supply
- Sanitation
- Solid waste management (or refuse disposal)
- Drainage

are linked by their potential role in promoting environmental health. We say 'potential' because the generally poor quality of provision at present actually contributes to the spread of disease and a broader damaging impact on urban livelihoods.

There is well-documented evidence from around the world that a poor physical environment has a very damaging effect on health, especially of children. Research shows that this is usually well understood by local residents, who are well aware of the general conditions and activities that result in disease and of the detrimental effects of ill health on livelihoods. But they are often not able to identify the direct link between a particular activity or condition and a particular disease. They are therefore often unable to take the initiatives on their own that will break the cycle of ill-health.

Moreover, the urban poor often suffer from a wide range of other health problems, many of which have little to do with the physical environment, but are closely linked to social conditions e.g. noise, overcrowding – which result in stress and contribute to health problems and mental illness. So the urban poor – who comprise the vast majority of urban residents – are the most likely to be exposed to health risks and the least likely to be able to afford health care – which feeds the classic spiral of ill-health and poverty. Poverty and ill health are inseparable: ill health is perceived as a main cause of increasing poverty and simultaneously as an obstacle to escaping from poverty.

Environmental health is therefore not just a concern about illness and disease. It has a major impact on the ability of households to secure a healthy and rewarding livelihood. So urban management initiatives that address environmental health in an effective manner are expected to have a direct beneficial impact on urban poverty and livelihoods.

Environmental health problems

Pathogenic (i.e. causing disease) micro-organisms, such as bacteria and viruses, are transmitted by direct contact with excreta and wastewater or indirectly by contamination of food, water or solid waste. They are also be transmitted via an animal or insect vector (e.g. rats, mosquitoes, flies).

Chemical agents, including toxic and hazardous wastes, may be dissolved in water or conveyed in suspension. This is likely to become an increasing problem in future as industrial operations expand in urban areas. The interaction of all these factors is complex; and it impacts on all four services to create potential environmental health hazards:

- Water supply:
  - Lack of safe water supply forces poor households to use unsafe water, which places children at very high risk;
  - Poor quality water storage (in oil drums, buckets etc) creates potential for contamination.
- Sanitation:

- Open defecation and poorly-constructed pit latrines contaminate the surface water and shallow aquifers;
- Direct contact with excreta transmits disease, especially in case of young children;
- Contamination can 'flow back' into the piped water system through cracks and joints when the pressure drops, so contaminating the 'safe' water supply.

• Solid waste

- Creates breeding sites for disease carrying vectors: rodents (rats) and insects (ticks, fleas, flies, mosquitoes etc);
- Blocked drains and water courses cause flooding that spreads contamination and standing water that encourages breeding of insects and worms;
- Accumulated waste dumps are frequently used as open latrines.

• Drainage:

- Flooding of sanitation facilities and solid waste during heavy rain contaminates surface water;
- This leads to increase in skin and eye disease and gastric infections;
- Standing water in badly drained areas in plots or around standpipes encourages breeding of insects and worms.

The interaction emphasises the importance of a broad-based package of initiatives that addresses all four services: to improve water supply without addressing disposal of waste water (either though sanitation or drainage) is certain to compromise the potential benefits of the improved water supply.

Four general principles

There are four general principles that underpin the planning and delivery of these services. These principles are also applicable to the broader UM agenda – but have particular relevance in ensuring that environmental health services are delivered effectively to those in greatest need.

1. Public health imperative: The main reason for providing or improving public utilities is to improve public health - this applies particularly to water supply, sanitation and solid waste disposal; less to electricity supply. Communities that have poor public utilities services will tend to experience a higher incidence of disease than those that are well provided; and this will tend to be worse in lower-income and disadvantaged communities, with well-recorded detrimental impacts on the livelihoods of these households – so the planning of public utilities needs to prioritise the needs of these groups.
2. Realistic standards: It is important to balance aspiration with realism: the admirable aspiration to provide a greatly enhanced service to all households must be balanced against the inevitable fact that there will be real constraints on funding and implementation resources for the foreseeable future. Aiming too high will result in very expensive programmes that benefit a few, and not the community at large. So it is important to pursue realistic standards so as to meet the needs of the vast majority of households that fall into lower income groups.
3. Cost recovery: Public utilities have to be paid for - so households that benefit from public utilities must make a financial contribution towards those services.

This has two purposes:

- The agency supplying the service is reimbursed for the service it provides, which is essential for it to operate in a cost-effective manner.
- C harges are normally based on volume of consumption – so it promotes fairness because high consumers pay more than low consumers.

So household affordability is a major factor that determines the level of public utilities that is feasible. And it reinforces the principle of realistic standards:

if the agency provides an unrealistically high standard of service, consumers will not be able to afford it and the agency will be financially unsustainable.

- Incremental delivery: It is sensible to plan for the gradual improvement of services over time, matched closely to the availability of funding and implementation resources, and also of local household affordability. Adopting this approach will naturally encourage the use of realistic standards.

Figure XXX illustrates how the four principles can form a virtuous circle, in which the four principles reinforce each other and combine to target the poor.
Ensuring sustainability

As with all UM sector activities, ensuring sustainability is crucial to effectiveness. The quality and value of a particular investment is conditioned in large part by the\ systems put in place for effective operation and maintenance (OandM). Failure to plan and implement effective OandM will compromise the potential health benefits of the original investment. 6.16 OandM can be implemented by different agencies:

- Local government
- The community, through a CBO (community-based organisation)
- NGOs
- Public utility company
- Private sector agents

TARGETINGTHE POOR

Cost recovery is a crucial element of sustainability: it is only by getting beneficiaries to make a financial contribution for the service delivered that the delivery agency will be able to continue providing the OandM that will assure continuity of the service.

Promoting public health awareness

Investment in physical environmental health components needs to be complemented by public health education, to promote:

- awareness of environmental health issues among target communities
- good hygiene practice

The aim is to orientate local residents to improve the management of their waste and to educate them in what they can do to reduce disease transmission.

A comprehensive approach

Tackling environmental health in an effective manner requires an integrated approach that combines 'hard' and 'soft' investment.

Hard investment:

- These represent construction of new or improved physical facilities (e.g. water supply, sanitation, drainage etc)

The important message is that to achieve successful environmental health outcomes, effective action is needed covering all four boxes. They are all equally important: if one box is ignored, the success of the other boxes is severely compromised.

Transition phase:

- Addressing environmental health should be the primary focus for short-term UM initiatives – because of their direct impact on the quality of livelihoods.
- Particular focus must be given to the needs of children and the poor, who make up the vast majority of urban residents.
- The four principles (see XXX) provide a useful framework for identifying appropriate initiatives and the correct targeting of investment.

Long-term:

- Continuing improvement of environmental health services will be possible as resources become available.
- There is likely to be an increased role for the private sector involvement in delivery and O and M of services.

SUMMARY:

- Conventional water supply comprises a chain from source to disposal: source > treatment > distribution > consumption > disposal.
- The two main sources are ground-water (underground aquifers) and surface water (rivers, lakes and man-made reservoirs) – but rain water represents an untapped potential.
- Treatment is necessary to remove contamination and make water potable (safe to drink). The amount of contamination will depend on the
- quality for source – so all public water supply needs to be regularly tested.
- Treatment of bulk supply is carried