



# Juba Assessment

## Town Planning and Administration

November 2005 DRAFT



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**CREATIVE ASSOCIATES INTERNATIONAL INC**

**Juba Assessment Report  
September-October 2005**

**Sudan Local Governance and Capacity Building through  
Strategic Participatory Town Planning.**

**CA No.623-A-00-05-00318**

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# TOWN PLANNING



Background  
Existing Conditions  
Administration  
Tools  
Opportunities

## Executive Summary

The signing of Sudan's Comprehensive Peace Agreement has brought with it the prospects for Southern Sudanese leaders to provide for a just and durable peace for their citizens. As the Government of Southern Sudan (GoSS) proceeds to extend civil authority throughout the New Sudan, the GoSS has made strategic town planning a priority project. In order to assist the GoSS to respond in an effective and timely manner to pressing population return and reintegration issues, the GoSS and USAID through its implementing partner Creative Associates International, Inc jointly collaborated on a detailed municipal assessment of Juba to examine opportunities, constraints, and challenges in addressing rapid growth and change in Juba.

As a part of the USAID funded Sudan Local Governance and Capacity Building through Strategic Participatory Town Planning project implemented by Creative Associate International, a team of Urban Planning, Architecture, Land Tenure, and Public Administration specialists conducted a municipal assessment of Juba in September, 2005. The assessment examined greater Juba's planning priorities, options, and opportunities, conducted an analysis of the current municipal administrative structure and existing records pertaining to land transactions and town planning, and examined existing governmental capacity to manage land, housing, building, and planning in a period of rapid change.

The Creative Associates' technical team worked in close cooperation with municipal and national governmental partners from the GoSS. Though it is clear that officials of relevant municipal authorities are understaffed, poorly trained, and under equipped, findings from the assessment revealed that Juba indeed has systems in place for city planning and management, though this system is undergoing a transformation from the post-colonial system that was inherited from Northern Sudan. Challenges abound as the new government consolidates power and begins the process of governance. Yet overall, this initial assessment which took place just before the new government was announced indicates that there are promising opportunities to support and invest in the existing Southern Sudanese technical staff and systems for land use planning and administration.

## SUMMARY OF FINDINGS

The following provides a summary of the findings of the Juba Administrative systems and procedures:

- Administrative structures and procedures for land and building administration exist and are generally still working, though under a general review.
- Relevant cadastral and planning information and archival data are partially available.
- There appears to be a lack of transparency and coordination among the primary public institutions in the land tenure system. The disconnect between the land registry (courts) and the land administration and survey office raises concerns that cadastral records and court sanctioned property certifications need to be examined for consistency purposes.
- Habitation densities vary per municipal subdivisions (Juba, Kator, and Munuki) The distribution of property densities in the territory utilize a combination of pre-existing official planning laws, (housing/property classification in first, second third, and fourth class) and the customary African law, using land for agricultural purposes.
- Interviews with the land administrative officials from 3 municipal subdivisions and traditional tribal leaders, coupled with field assessments and records review indicate significant available land for plot allocation to address urban growth and reintegration, with the most promising region for resettlement being in the Munuki region, and extension of settlements towards Gudele.
- GoSS administrative and management capacity at the leadership level (Municipal and State level) have a reasonable grasp and vision for urban management and planning requirements, but seriously lacks technical capacity and resources to enact changes and manage growth effectively.
- GoSS administrative offices in Juba face the dual challenge, in a reactive fashion, of providing habitat facilities to the huge number of low income communities living in poor conditions; and at the same time, providing clear rules and regulations for different investment groups arriving (mainly real estate, business and tourism).

## RECOMMENDATIONS

Given the pace of change occurring throughout Southern Sudan, especially in the new capitol of Juba, there will be significant reshaping forces affecting the municipality. The demand for land within Juba will almost certainly grow dramatically with the anticipated influx of new residents. The primary challenges of the new government include: how to respond to this rapid growth in a manner that is deemed fair and reasonable by the citizenry; how to manage the political and physical transition of Juba (and other municipalities) in a way that short, medium, and long-term revitalization plans are based on Sudanese-led visions that are supported by, not controlled by foreign investment and international assistance; and most importantly the challenge of engaging Southern Sudanese technicians and administrators, and the communities they serve, in the process at the earliest possible stage.

General recommendations for steps to begin to meet these challenges include:

Given the potential for conflict which could arise in the contesting of land ownership, the new government should conduct a comprehensive records review of the existing cadastral records in the Building and Lands Administration, and the Land Survey Office, against the records in the Land Registry Office;

Pending the establishment of the Land Commission for urban land and property, especially in the former garrison towns, the GOSS should consider an interim policy of dispute resolution or suspension of claims determination pending formal review of urban land issues;

In areas which are deemed clear of the possibility of land contesting (possibly an extension of the municipality boundaries) the GoSS could employ existing land survey, sub-division, and allocation procedures for urban land. Recipients of land could include former ex-combatants; IDPs, refugees, and landless poor as a means to alleviate urban growth pressures and provide a durable solution to reintegration pressures through a resource the government controls, land;

Create a mobile task force at the community level in areas to be developed to include town / community planners, land surveyors, court / land registry authorities and social officers to process and record land registration and title. This would have the added benefit of bringing services to the people, and provide local technicians and land administrators on the job training while providing a necessary public good;

Streamline the process and transparency of land allocation to allow existing and future residents an understanding of the legal process and encourage land ownership and the use of permanent structures;

Immediately begin a process of strengthening the human, systems, and operational capacity of ministry and municipal level departments to organize and document urban land resources.

## NEED FOR MASTER PLANNING

Without a strategic and holistic vision for Juba, development activity by public and private investment will drive the urban character without regard to long-term municipal needs and the human experience of Juba residents. The new shape of Juba must be guided by a comprehensive framework, made up of coordinated sub-plans for transportation, infrastructure, housing, environmental resources and community facilities. It should also include sub-area plans for focused investment in districts of sensitive resources or in need of strategic investment and rehabilitation. A Master Plan can help to protect the local identity and heritage that celebrate the character of Juba for community and economic development.

Juba does not operate on a system of land-use zoning, and construction has occurred ad hoc according to functions. A Master Plan will protect and guide land use in Juba by regulating the placement and nature of land uses within and around the city, and identify appropriate densities and locations for commercial uses, public institutions and various housing types. Such considerations will increase in importance with the expected growth in population. Zoning works to define ways balance compatible community-supportive uses with buffers from necessary growth in commercial and industrial development projects. It will also reinforce sectoral roles and departmental mechanisms for implementation. A Master Plan is a living document that should evolve with the shifting needs of the community.

As it exists, Juba has a unique urban character with public access to the Nile and defined but unguided districts and neighborhoods anchored by village centers, markets and modest community facilities. Physical linkages between these are currently weak but can be enhanced through a democratic process of public engagement and consensus building.

## Recommendations for Master Planning in Juba

### Components

- Survey of Existing Conditions including Population, Demographics, Land Use, Service Provisions and Natural Resources
- Digitized Documentation of Land Resources (Quality and Character)
- Analysis of Findings and Public Input (Juba, Kator, Munuki)
- Development of Long-Term Vision with Strategies for:
  - Revitalization and Strategic Infill Focus Areas
  - Infrastructure and Roads
  - Environmental Protection and Nile River Conservation
  - Community Facilities in each District (Health, Schools, Community Centers, Parks and Recreation, etc.)
  - Economic Development (Types and Location of Industry, Commercial Activity, Public-Private Partnerships
  - Heritage Conservation
- Design of Land Use and Zoning Map
- Public Review and Approval of Master Plan

### First Actions

- Establish Regional, Municipal and Local Councils
- Train and Staff Municipal Departments to Implement Local Plans and Building Permits
- Initiate Community Dialogue on Local Priorities

## Introduction

After years of civil war, an important and long-awaited transition is occurring in Southern Sudan. With the establishment of the Government of Southern Sudan (GoSS), Juba has been selected as the new regional capital; the icon of peace and order for the people of the South.

The Juba Assessment was completed over a one month period during which the Creative Associates International, Inc. (CAII) Planning Team (the Team) completed stakeholder interviews with members of the local and State municipal management staff, members of the Government of Southern Sudan, and members of the local community. Field reconnaissance included the surveys of sites within Juba proper, Juba environs, community and government facilities, and existing structures and buildings.

Data were collected from municipal departments and administrative units as well as independent research and analysis. The following elements were reviewed for the study:

- Records: Cadastral systems, land transaction, housing land survey and existing plans. Juba currently only has one existing map which dates to the 1970s.
- Urban boundaries, land uses, districts and neighborhoods bounds and character, opportunity areas for expansion within Juba and peripheries.
- City Planning standards, system for land allocation, planning standards for infrastructure and social service facilities.
- Existing master planning structure: contents and process for city planning and emergency priorities.

## Regional Context

The analysis of any city must begin with an understanding of its regional context and its relationship to surrounding areas, towns and land resources. In the case of Juba, the regional context has been shaped by its relationship to the Nile River, arable land, natural resources and regional road systems. During war time, access to the river was restricted, and the inter-regional road network was nearly blocked. These restrictions have had severe Implications on Juba's regional dynamics and movement between other towns and rural areas.

Since the signing of the Peace Agreement, there is evidence of increased flow of activity along the river and within the regional road network. The navigable waters of the Nile are enhanced through improved water transport facilities. De-mining activities, such as Rapid Route Verification, and road improvements have enhanced access between Juba and other destinations within Southern Sudan and neighboring countries.

The strengthening of these connections will soon have evident implications on agriculture, industry and trade activities. These components will act as driving forces in the reshaping of Juba as the new Capital of Southern Sudan. Figure 1 illustrates the southern region of Sudan and Juba's location and major Intra- and inter-regional transportation routes.

## CONNECTIONS

Connectivity, such as improved roads, bridges and river transport, are reshaping regional trade and social networks.

Juba is strategically placed within an important geographic triangle made up of Wau, Malakal and Juba. These three locations each have modernized airports and active river ports. Such linkages are critical for the movement of goods and people throughout Southern Sudan and greatly increase their propensity as key locations for trade.

## GROWTH

Juba's future depends on the expansion of services, agriculture, industry and tourism. The improvement of regional roads, such as the Yei-Juba road and the road to Mundri, have already heightened the level of traffic into Juba. Prices of certain goods have begun to decrease due to heightened commercial trade activity.



SOURCE: DELORME MAPPING/ RESPONSE NET 1993

FIGURE 1 – Regional Context Juba is situated in a fertile “green zone” of Southern Sudan. This green zone has historically been the lap of cultivation in the South, versus areas to the north which are more pastoral in nature.

## THE REGION

The land surrounding Juba is vast. Rolling hills and wide valleys stretch as far as the eye can see. Juba is considered a crossroads of regional activity due to its location on the river, and the bridge that stretches across the Nile.

Proximity to neighboring countries such as Uganda and Kenya also enhance trade activity at the regional and international levels.



## THE RESOURCES

Juba and its environs are replete with natural resources. Fertile lands straddle the banks of the Nile River. The periphery of the town is sparsely populated with cultivated lands and many residents travel by foot each day to reach their small subsistence farms.

The force of the Nile River lends itself as a potential source for energy production. The river waters abound with fresh water fish and could contribute to an enhanced fishing industry.

The region around Juba is remarkably petroleum-rich. Natural resource extraction is expected to have a significant impact on the economy of Sudan.

## Land Area and Population

Juba is located within the southern part of South Sudan. It is situated in the midst of vast expanses of open space, including swamplands and agrarian landscapes. The Jaral Marata mountain range, located west of Juba, provides a picturesque backdrop for the town with its sharp scenic peaks and wide valleys. The Nile River creates a lush greenway that spans into Greater Juba and supports a diversity of local flora and fauna, creating an rich ecological zone.

City officials estimate that Juba proper occupies a 12 kilometer area in diameter from the center of town (approximately 11,300 hectares). Greater Juba, including the surrounding rural lands, encompasses roughly 100 kilometers in diameter. Juba proper is comprised of three sub-area districts: Juba, Kator, and Munuki.

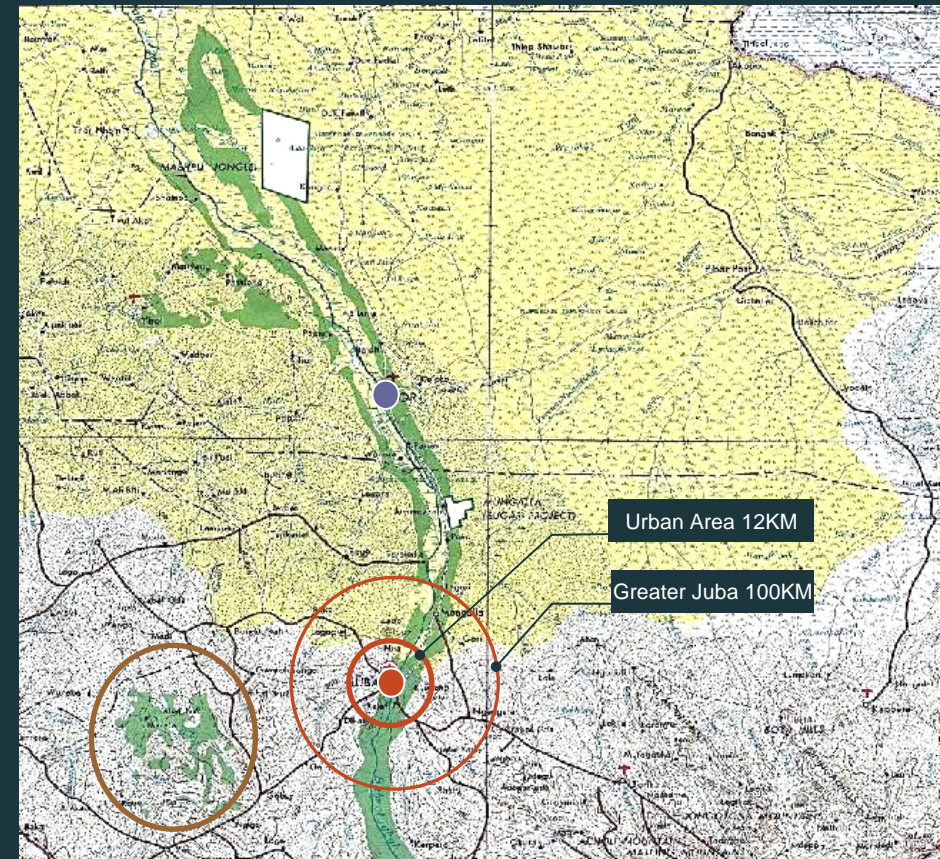
Interviews with officials from each sub-area, supported by field surveys, provided insight into the population estimates for Juba proper, as well as demand for land resources for the short- and, medium-term. Currently, Juba's total population is comprised of approximately 250,000 inhabitants. Recent land subdivisions have provided for 22,000 plots of land throughout the city.

### POPULATION TRENDS\*

1973 (municipal survey)	56,737 total
1983 (municipal survey)	83,787 total (47% growth)
1993 (municipal survey)	114,980 total (27% growth)
2005 (Estimated)	163,000 Resident Population
	<b>250,000 including IDPs</b>

\* Figures provided by the Juba Survey Department

FIGURE 2 – Surrounding Area



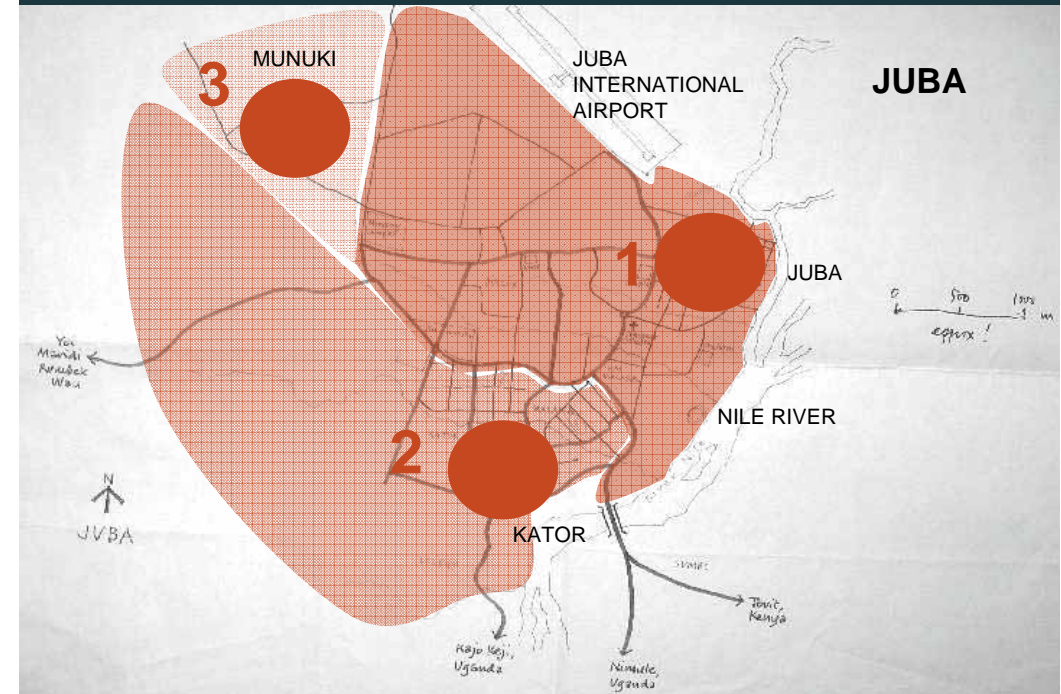
## Land Classification

Juba's land tenure was founded on the system inherited from the former, northern government. The previous system, based in leasing land from the government, did not allow for private ownership by individuals.

The Juba Lands Department shared a hand-drawn graphic that depicts the current sub-division of land based on a class system. The class system divides greater Juba into three sub-area districts: Juba, Kator and Munuki (Figure 3). These districts operate under three separate administrations. Land Class areas are characterized by the plot dimensions, land fees and taxes, and the quality and permanence of building materials. Though there were originally four distinct classes, Class 4 is being phased out to encourage land ownership and discourage temporary construction.

The Lands Department also presented documents that illustrated the process for registration of land, which occurs through the court system. Though there is no land use zoning within Greater Juba, building permits are issued by the Juba administrative Unit which reviews development proposals. The review board is comprised of the Town Council Engineer and the Public Health Officer.

FIGURE 3 – Land Class System



DISTRICT CORE

1-3

CONCENTRATIONS OF LAND CLASSES

## Land Tenure and Administration

Land Class areas are characterized by their plot dimensions, land fees and taxes, and the quality and permanence of building materials. Areas within Juba that have been formally planned have been sub-divided into a gridded street pattern that provides for rectangular-shaped plots. Sub-divided plots are leased to individuals for varying terms, depending on the class of the plot.

Juba does not operate under a zoning system that dictates allowable uses within an area such as residential, commercial or industrial. Building permits are issued by a Review Board in the Juba Administrative Unit and is comprised of representatives from various municipal departments.

Development near the downtown area of Juba is predominately comprised of Class 1 plots with a concentration of permanent structures and colonial-style homes. Moving outward from Juba, areas of land continue to be subdivided into rectilinear plots, but contain fewer permanent structures and more temporary buildings such as the customary Tukul huts. Tukul development constructed within the grid-plan is classified as class 3. In the peripheral areas of Juba, such as Munuki, Tukul villages have been constructed without a formally planned or sub-divided system and have concentrated in organic form that is traditionally associated with development around cultivation. Development within such zones was formerly considered Class 4, a class that is being phased out to encourage ownership of land and use of permanent building materials.

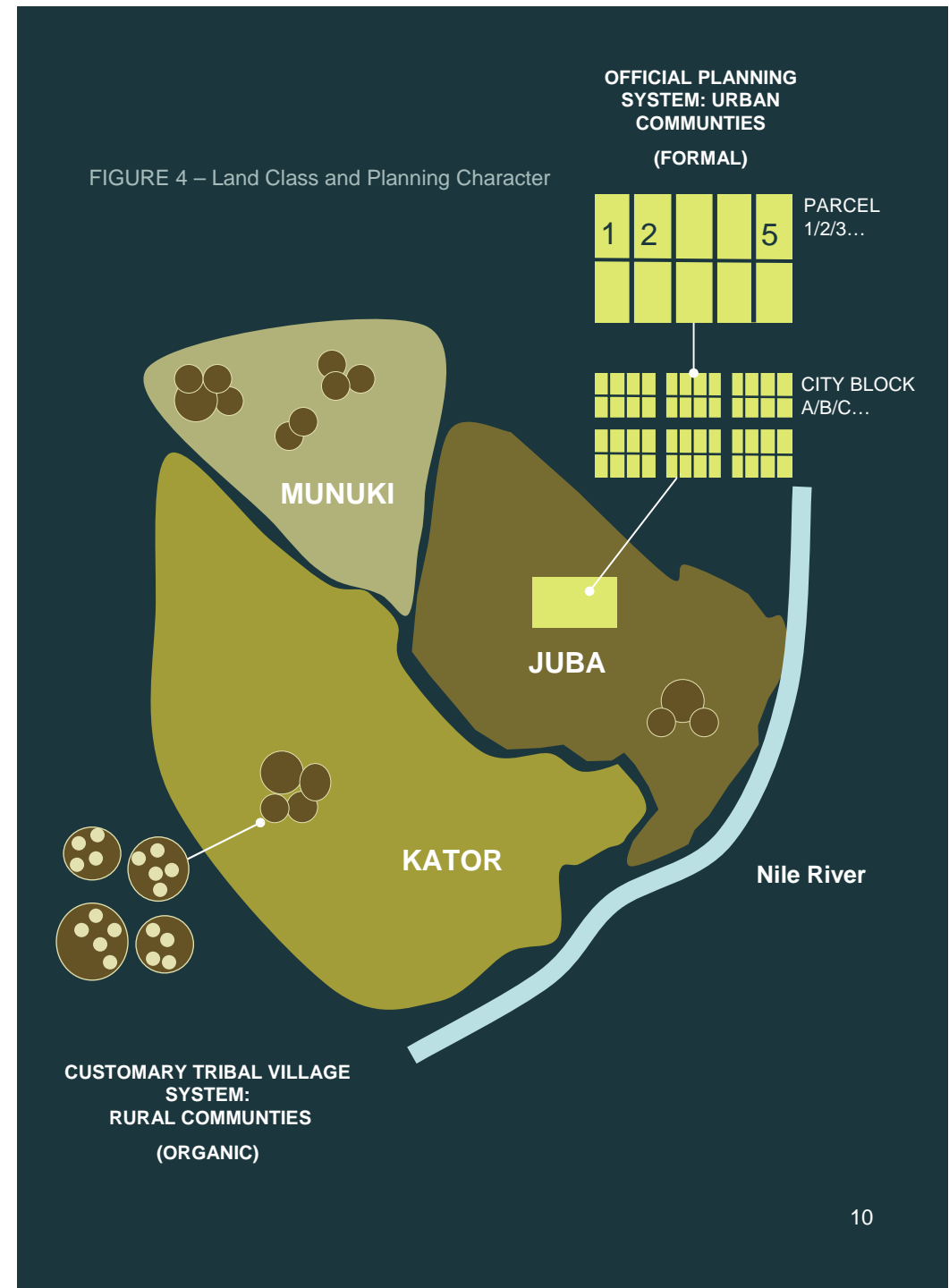
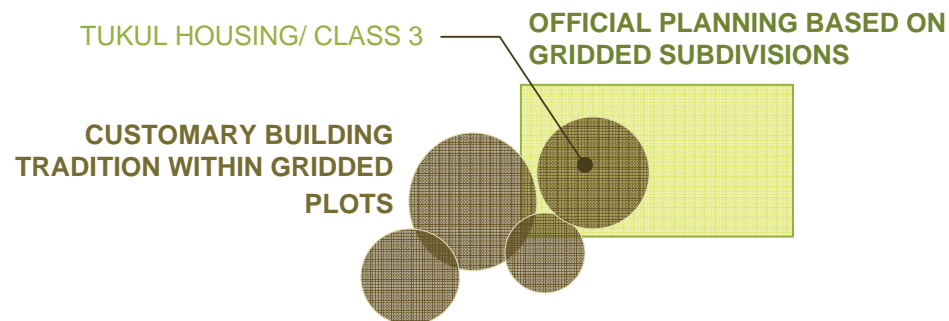


FIGURE 5- Land Class Contrast

This aerial view is a section of a satellite image acquired by the CAII project. It depicts an existing section of Juba where the development contrasts from organic Tukul development patterns into the formally sub-divided grid system.



TUKUL DEVELOPMENT OUTSIDE  
OF PLANNED GRID



TUKUL AREA CONSTRUCTED  
WITHIN PLANNED GRID



PERMANENT STRUCTURES INSIDE  
PLANNED GRID



MUNUKI's population totals approximately 100,000 residents. Located in the northern-western most part of the city, it is home to the greatest concentration of Juba's IDP population. Munuki plots are predominately classified as 3<sup>rd</sup> and former 4<sup>th</sup> class, with the lowest standard for construction. Munuki hosts a modest market place used by local residents.



KATOR has an estimated population of approximately 73,000 inhabitants. The district has 5,000 formally subdivided plots, categorized as 2<sup>nd</sup> and 3<sup>rd</sup> class. These are believed to house around 48,000 people. It has been estimated that almost 25,000 of Kators population are IDPs living in squatter housing. Many of Kator's Arab-owned shops were burned during 2005 riots.



JUBA's population numbers 77,000 inhabitants, with nearly 56,000 concentrated in 7,000 semi-occupied lots. The remaining 21,000 residents occupy squatter housing in former public open space areas. Juba is predominately comprised of large, 1<sup>st</sup> and 2<sup>nd</sup> Class plots, and is home to an active market-place near the Nile River.

## Demand for Land

The demand for land within Juba will continue to grow with the anticipated influx of new residents. The establishment of the new government in Juba will attract government officials and their families. It is difficult to determine how many refugees and internally displaced people will pass through or settle in Juba, though local officials and international agencies, such as UNHCR, predict that returnees will number up to 60,000. The combination of these new residents will require a variety of land resources, services and community facilities. The in-migration and demographic shifts will have significant implications for the real-estate dynamics throughout Juba's urban core and peripheries.

Juba's diverse community is made up of approximately 250,000 residents that according to the Survey Department, formally occupy over 30,000 plots of land in Greater Juba. It is estimated that of this total, 86,000 occupy "squatter" housing that has been dispersed throughout the area.

It is interesting to note that concentrations of commercial activity are located in proximity to 1<sup>st</sup> and 2<sup>nd</sup> Class areas. These areas are focused near the waterfront toward the east of Juba, extending toward the airport in the north, and the Nile Bridge in the south. The 1<sup>st</sup> and 2<sup>nd</sup> Class areas have a high-degree of access to air, roads, and navigable waters which are all imperative for the movement of goods and people. Historically, land within these areas has been held by the local Arab population.

It is anticipated that the land within these areas could experience significant growth-pressure due to its connectivity, central location and facility of trade.

## POPULATION GROWTH

According to the Survey Department, population growth in Juba is anticipated to require 11,000 new plots in various areas of the City. Given the projections for growth, the number of new plots could rise to 22,000 in the event that the total number of inhabitants doubles to 500,000 over the next several years. This would significantly alter the character of Juba from being a medium-sized town, to City status that would require extensive services and infrastructure.

# Land Class Characteristics

FIGURE 6 – Class Area Descriptions and Concentrations

		CLASS	MATERIALS	MINIMUM PARCEL SIZE	TERM OF LEASE	APPROXIMATE ANNUAL FEES PER PARCEL
		<b>Class 1</b>  128 people per hectare	<b>Permanent</b> Upper Class/ Colonial English Homes with historic value  Access to services	25 X 25 meters	50 years- renewable once for 30 years	50 USD
		<b>Class 2</b>  200 people per hectare	<b>Basic</b> Middle Class Cottage Homes with simple construction  Some w/ sanitation	20 X 20 meters	30 year- renewable once for 20 years	37.5 USD
		<b>Class 3/4</b>  266 people per hectare	<b>Removable</b> Low-income mix of permanent and temporary materials  Limited or no Sanitation	20 X 15 meters	20 years- renewable twice for 10 years each	25 USD
		<b>Informal Tukul Zones</b>  532 people per hectare	<b>Tukul</b>  Ex. "Squatter housing", not legally settled	<b>NOT APPLICABLE</b> This land is informally occupied by people from rural areas. The surrounding land is used for rotational crops and subsistence farming.		

## Land Use

Given the expected population growth of Juba, and the need for plot allocation, two critical questions are presented: “In which direction, or directions, will growth and expansion occur? What urban patterns, character and density will the new city form take on?” Questions of growth management require a comprehensive master planning process that defines a clear vision to address the future needs of Juba. A master plan must determine whether the current trends of land use are desirable and appropriate to Juba’s current and future needs. A Composite Structure Diagram of Juba is provided in Figure 8 and is based on field research, available city documents, and interviews and modest map information from the Juba Surveying Department. Since there is no formal zoning system in Juba, each district is comprised of a diverse mix of uses including residential, commercial (basic neighborhood retail and services), and light industrial/ manufacturing including modest activities in carpentry, textiles, tobacco, and warehouses near the river and the airport. Most commercial activity is focused along existing roads.

### SUB AREA TOWNS

The Composite Structure diagram illustrates the profile and relationship of each of the sub-area districts, referred to as “Towns” (Juba, Kator, and Munuki). Juba is located within the historic core of the city, with an active commercial downtown. Commercial users such as banks and retailers occupy built structures, while merchants are located in a quaint open-air market that is active during the day. This commercial business district is highly trafficked and draws consumers from around Juba and surrounding areas. Downtown Juba is located within a First Class zone, with direct access to the regional connectors and gateways: the riverfront, harbor and Juba International Airport.

Kator is located south-west of Juba town. It is an active and popular area made up of Second and Third Class development. Kator benefits from an active market area and has a concentration of Arab residents and business owners. This sub-area, or town, is also located adjacent to the bridge, a main gateway into the City from the east.

The town of Munuki remains isolated, tucked beyond the district of government buildings north-west of Juba. It has a high concentration of low-income residents who occupy Tukul huts. Munuki is known as having the greatest concentration of Internally Displaced People (IDPs), and faces many of the struggles associated with settlement areas such as lack of services and infrastructure. A small market area provide basic items for the local residents of Munuki, but does not have a strong draw that attracts patrons from Kator or Juba.

### CONNECTOR ROAD

The three sub-area towns are linked through the main connector road that runs east-west through Juba, perpendicular to the Nile River. Due to the number of city administrative buildings located on this road, the corridor acts as an institutional axis through the core of the city. The presence of store front businesses and street merchants along the main road create a commercial corridor that extends from Juba to Kator, anchored at each end with a market place.

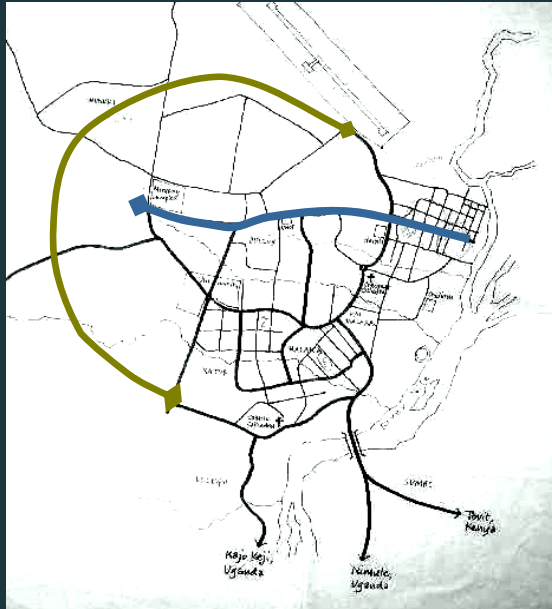
### RIVERFRONT ACTIVITY

The riverfront property in Juba has been neglected for decades. During wartime, access to the river was restricted with the exception of several points in Juba where the public could enter riverside areas. As a result, traditional uses of the river were hindered, and Juba has not developed a river-oriented culture typical of many river towns. The waterfront areas are occupied with fractured land uses that do not promote or facilitate public access, recreation or community activities.

Several new developments, such as the new harbor near the bridge and the AFEX camp are reintroducing vitality at the water’s edge. The presence of these new uses is enhancing the greenway as an attractive corridor for popular activities and investment.

# Town Elements

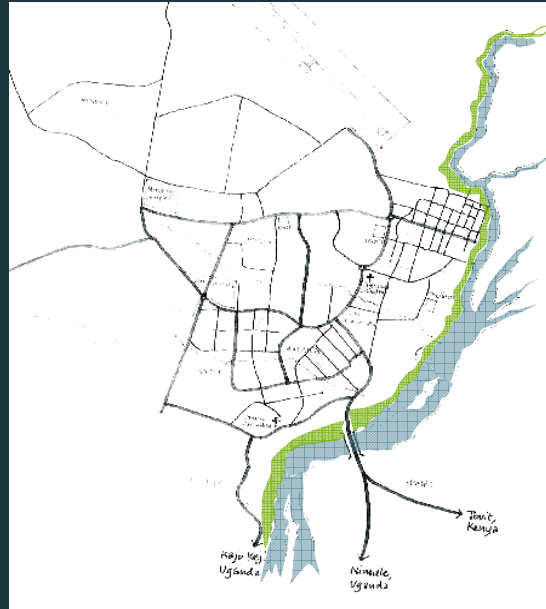
FIGURE 7– Key Elements Shaping the City



Base map provided by Tom Carter

## ROAD SYSTEMS

Transportation shapes a community. Different levels of road access can dictate the character and density of development. Juba is anchored along a main spine (indicated in blue) that is one of the only paved routes and stretches westward from the river. Juba's roads are primarily unpaved and in need of repair. The concept of a ring road (green) is currently under consideration by city officials. Pedestrian and bicycle linkages will enhance the sustainability of the Juba and its ability to provide safe and convenient movement for all citizens.



## NILE GREENWAY CORRIDOR

The Nile River is a source of life and an attraction. It is a significant asset for the city and should be protected. The river and the waterfront should be planned as sources of transportation, commercial activity, recreation and cultural heritage. Enhanced public access can add vitality to nearby markets, neighborhoods and the Nile's ecological greenway corridor through environmental education and stewardship.



## ECONOMIC CENTERS

Public and private economic centers are located throughout Juba. Light industrial and manufacturing activities, indicated in purple, are focused along the river and near the airport. Municipal buildings (green) provide attractive jobs and are concentrated along the main east-west spine road. Market centers, colored in red, are located within each sub-area district: Juba, Kator and Munuki.

## FEATURES

 CENTRAL BUSINESS DISTRICT

 LIGHT INDUSTRIAL

 MARKET/ COMMUNITY CORE

 MUNICIPAL BUILDINGS

 REGIONAL ACCESS POINT

 FIRST CLASS ZONE

 SECOND CLASS ZONE

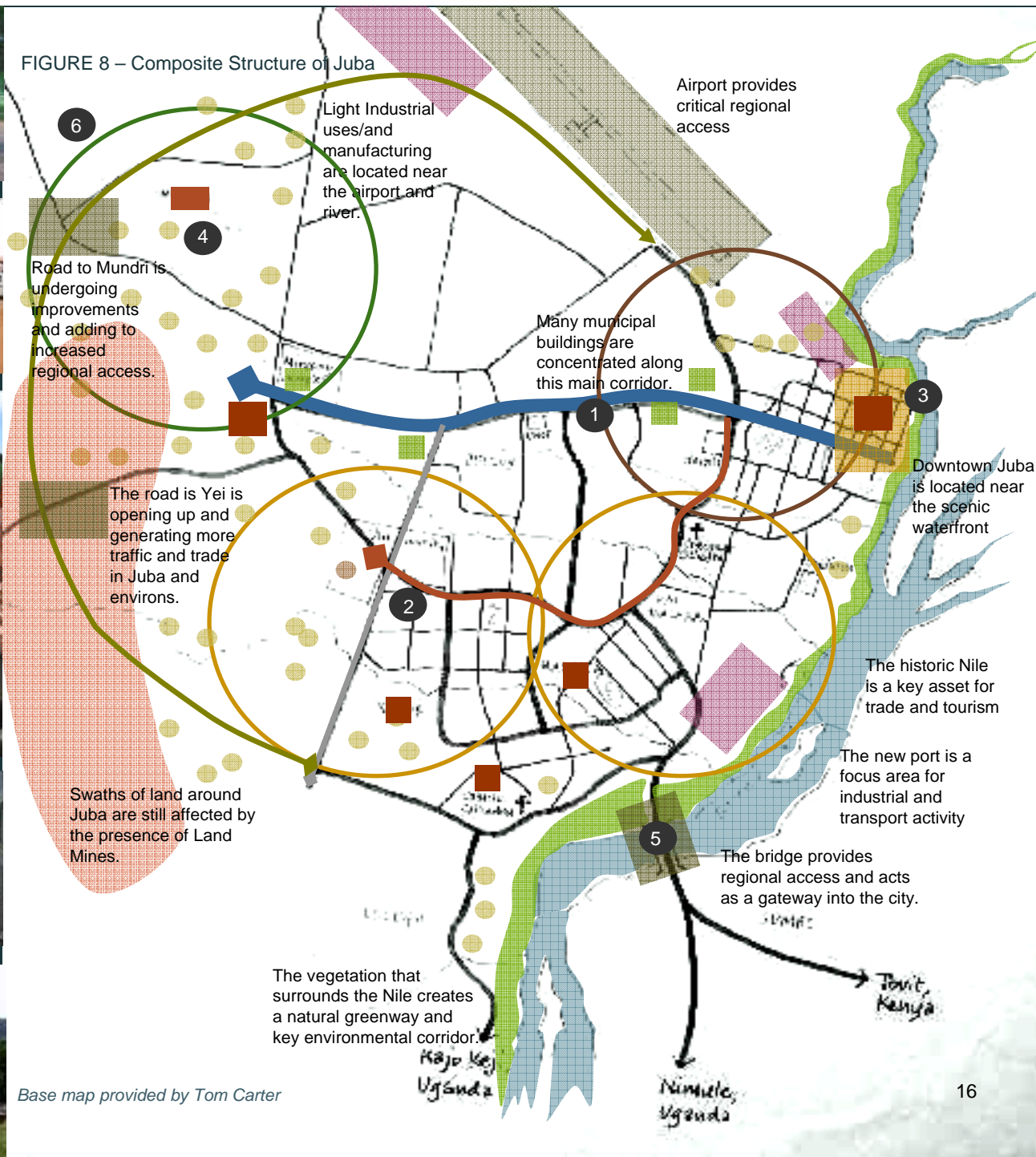
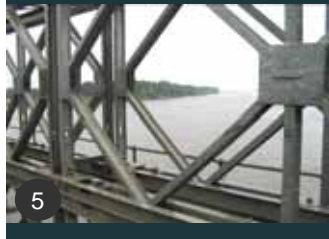
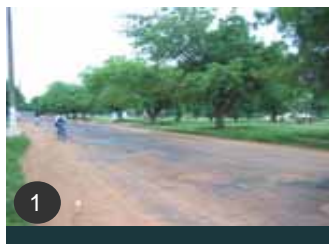
 THIRD CLASS ZONE

 TUKUL AREA

 PRIMARY CORRIDOR

 COMMERCIAL ROUTE

 PROPOSED RING ROAD

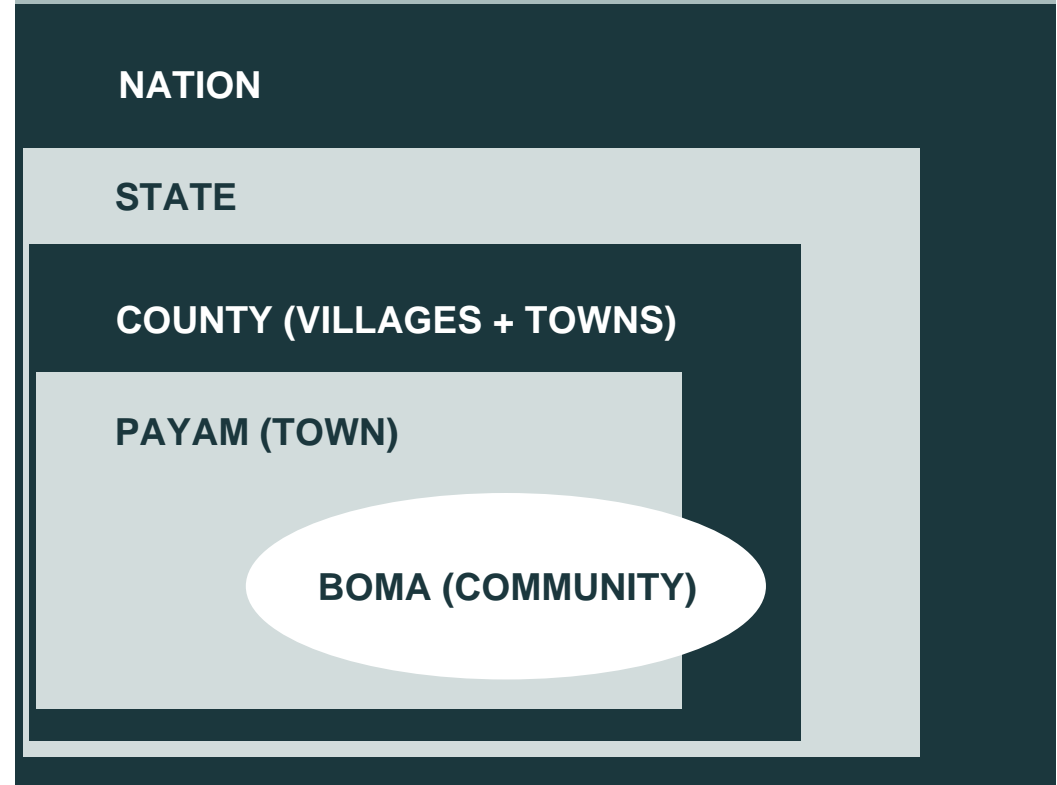


## Territorial Structure

The territorial organization in Juba emulates traditional tribal structure for governance. At the most local level one can find the Boma, or village community comprised of families within a tribe. Village communities democratically elect a representative tribal chief who acts as a counseling elder and is the clearinghouse for decision-making for the interest of tribal members. A circuit of villages constitute a Payam, or town. At the next organizational level is the County, made up of villages and towns, and the rural communities associated with them. County governments represent the their founding communities to the State level representation, which comprises the national government..

In Juba, this structure has been blended with the system of governance held by the north. IDPs and refugees from surrounding countries such as Ethiopia and Congo have congregated into mixed-neighborhoods in and around Juba. A variety of tribes have located within the urban area, and continue to abide by their tribal governance structure through the election of a tribal chief, though a particular tribe may be fractured and spread out throughout the town, geographically separating members of a certain tribe from their local chief. The municipal arrangement as it was held by the north, categorized local neighborhoods into "areas" called "Hellahs." The administration allocated community representatives to these areas called "Sheikh Al Hellah," or Head of Area. The Sheikh acts as a conduit between the tribally and ethnically diverse neighborhoods and the administrative units to address community-related issues. Because the Sheikh is appointed by the municipality, there are instances of tension that arise from how the community views its own representation in the absence of an electoral process for a neighborhood leader, particularly when the tribal custom is to elect a chief by democratic means.

FIGURE 9 – Territorial Structure



## Administrative Structure

Town Planning in Juba has historically had a top-down approach in which authorities have applied laws and regulations delegated by a central body to local authorities. During the legal transformation, there has been an increase in the authority and input on the parts of local government and non-governmental organizations. Though the role of local actors such as various ministries, engineering council, electricity corporation, etc. has been enhanced, the disbursement of authority has created overlapping and confusion of roles that could easily be transmitted into the emerging government.

The previous land administration structure was based on a “premium and punishment” system, regulated by money and in-kind transactions. This system prevented “illegal” occupancy of land by penalty. The administration encouraged a generous compensation procedure for land owners adversely impacted by public interest projects such as the construction of roads or public facilities. The cadastral land registration system promotes a regulation of the market and reinforcement of social order by public policy. This mechanism has blocked local people from rising in the social hierarchy by keeping them “land poor.”

### TIMELINE OF REGULATORY PROCESS

Land Settlement and Registration Ordinance, 1925

The Village Lands Scheme, 1948 (revised 1950)

Disposal of Government Lands for Building Purpose Regulation (1974)

Town Planning Act of 1406, 1985

FIGURE 10- TOWN PLANNING ADMINISTRATIVE STRUCTURE

### GoSS

Secretariat of Physical Infrastructure and  
Town Planning (SPITP) Secretary -Dr. Daniel Wani

Office of Housing, Urban Development and Public Utilities  
Director- Dr. James Tadiwe

### STATE

Directorate of Housing & Construction Director General- Lewis Gore	Directorate of Communication and Transport	Directorate of Urban Drinking Water	Directorate of Routes and Bridges
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Department of Land and Town Planning Director- Cornelius Goja Lad

Department of Housing Director- Semaya Kumba

Department of Surveying Director- Louis Tombe

Department of Construction- Director- Emanuel Taito

Department of Projects- Director in Transition

Department of Research- Director in Transition

### LOCAL LEVEL

Administrative Units (former Municipal Councils) Juba/ Kator/ Munuki  
Deputy Director, Juba- John Kape Mukatur

## Land Transaction Process

Juba's land transaction process includes three primary actors: the Building and Lands Administration, the Land Survey Office, and the Land Registry (or Court) which holds records pertaining the titles and deeds of privately leased land in Juba (Figure 11). The process of transferring land occurs with oversight by the Town Planning Board. However, the existing system is hindered by the fractured communication between the actors, particularly by the Land Registry/ Court which does not provide for transparency in its archives and sharing of information resources as they apply to land ownership in Juba.

Figure 12 describes the step-by-step process for acquiring land in Juba. This process applies to the sub-division of un-plotted land. The existing system is functional but needs to be strengthened in its communication between departments. Public awareness can be enhanced to facilitate the process for new-comers to the city and existing residents who may not be aware of the legal steps for leasing land.

FIGURE 11– Primary Actors in Land Transaction Process

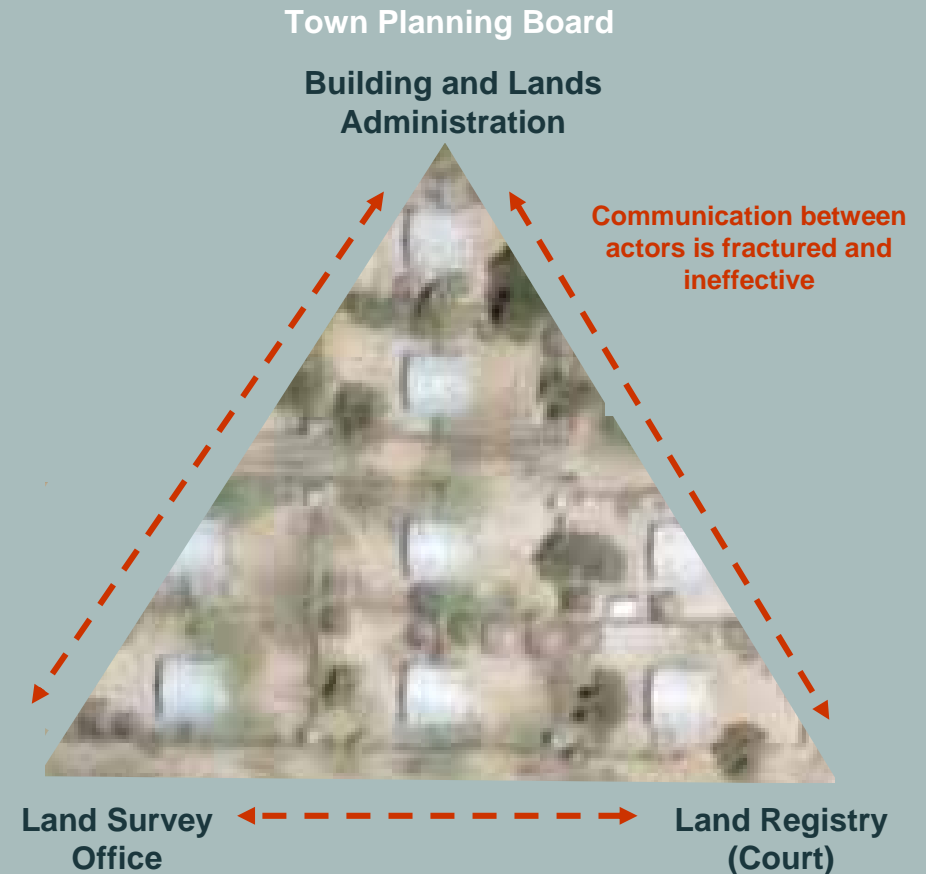
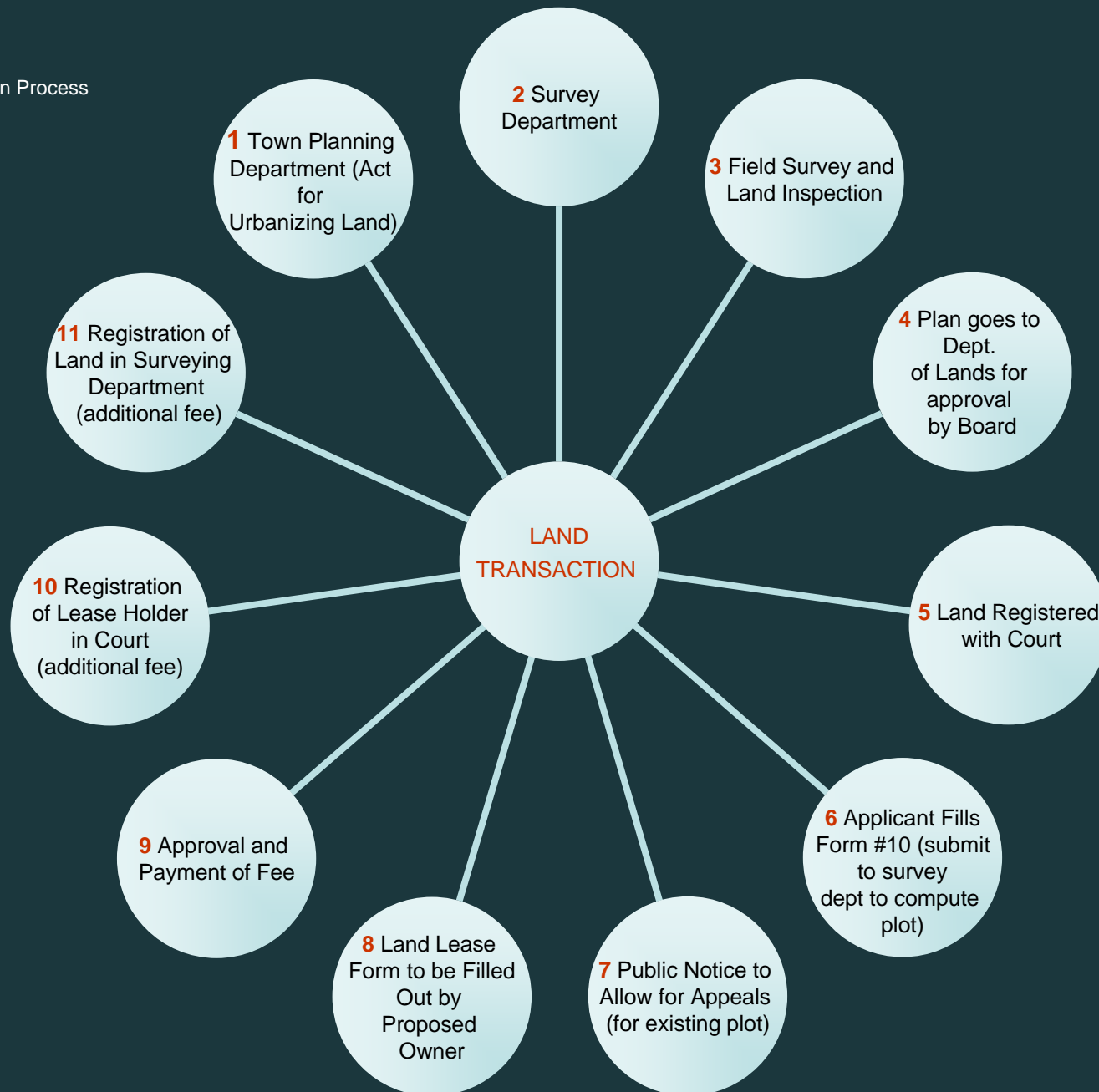


FIGURE 12– Land Transaction Process



## Reshaping Forces

There are three key factors contributing to the rapid transition of Juba. These factors are creating pressure on the urban management of Juba, as well as the urban and rural lands and regional resources.

### GOSS LOCATION TO JUBA

As the seat of the new government, Juba will be host to political leadership, public servants, military personnel and their families. It is estimated that the population serving in official functions could total 5,000. In stride with this new government, international agencies are locating to the new capital in support of the new government. The government departments are identifying structures to house their operations, and local and international agencies are occupying existing space as well as constructing new buildings for their functions. Certain international agencies have design guidelines for security required by their sponsoring governments which may dictate the character of their structures.

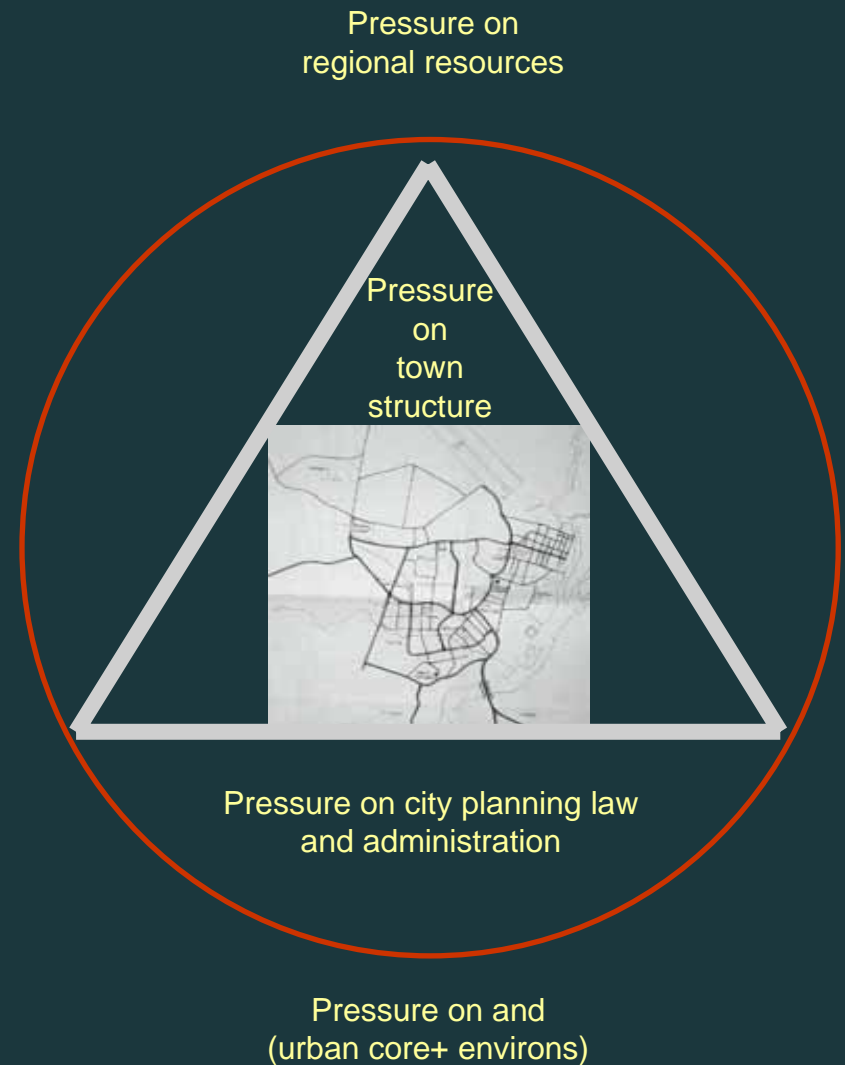
### MIGRATION FLOWS

With the signing of the Comprehensive Peace Agreement, Juba is likely to experience a great influx of refugees, Internally Displaced People and newcomers from surrounding rural lands. UNHCR estimates that over 500,000 Sudanese refugees have fled to neighboring countries, and that approximately 60,000 returnees including refugees and IDPs could resettle in Juba and surrounding areas.

### BUSINESS/INVESTMENTS

The establishment of Juba as the new capital is inspiring a great deal of private investment. Local and international entrepreneurs and investors are developing various projects in infrastructure, hospitality and miscellaneous services.

FIGURE 13– Reshaping Forces



# First Actions for Strengthening the Administration

Capacity building should be the foremost priority in Juba's Municipal Management. The current political transition is shifting the ideologies of urban administration, introducing first-time pressures and demands for Juba. The following are first actions for enhancing the capabilities of Juba's current and future administrators.

Partner with International Organizations such and experienced Sudanese Authorities to select and train new staff as:

- Town Planners in Physical and Environmental Planning, Infrastructure and Urban Policy
- Land Surveyors
- GIS Specialists
- Building Inspectors/Architects

Develop and strengthen administrative tools while providing intensive training to existing and new administrative staff. Key tools include:

- Maps with standard urban planning information including road systems, topography and drainage, vegetation, existing structures and community facilities such as hospitals and schools.
- Data Systems for Town Area Information and Building Register
- Record Keeping through transparent and comprehensive review of existing land titles. Coordination of building, cadastral and tenure files.
- Instructional Pamphlets and Workshops for Community-based Reconstruction Programs for Housing and Sanitation



Juba's only formal map is housed in the Survey Department. New maps with data layers overlaid onto satellite images of the town are being provided by Creative's mapping project for Southern Sudan.

# Fundamental Data Tools for Planning and Administration

The Juba Assessment included the use of a visual data information tool for statistical reporting on structures and areas within and around Juba. This tool has universal applications as it provides comprehensive analytical insight into all areas of the municipality, broken into sub-areas by character.

The data system has value for both public and private sector users for immediate development and long-term planning. It provides information that can be applied for the purposes of taxation of land and buildings, as well as rehabilitation and reconstruction of key structures and urban focus areas. The information extracted and summarized by this tool can be built upon by Town Planners for assessment and administration of urgent needs. For long-term planning, it can assist in the implementation of a basic register for dealing with town plan management and public administration at the state and local levels. This system works to simplify the planning of public buildings, such as schools, municipal structures, and health facilities, as well as initiatives for new development. Local plans for cultural and natural heritage, economic development, or environmental conservation can also benefit from this tool by identifying resources within an area and understanding the total value of an area and its components in a rapid and comprehensive summary.

This tool can be customized to as a foundational information bank of land, building and population attributes. These data can be employed by a regional assessors office for levies and census data gathering. This information can be made available to private sector investors who are examining local resources for redevelopment and market trends, providing a quick overview of real-estate value and estimated renovation costs.

## JUBA Assessment 2005

CREATIVE ASSOCIATES INTERNATIONAL INC.

Registration: Home Collection only  
Date: 19/09/2006



### - Identification -

Plot No. 2 1  
Municipal District 1, FA  
Sub District 2

### - Information -

Use of land: Shops small business  
HA: 10  
Est No of planned plots: 20  
No of build plots: 20  
Est No of Buildings: 20  
Floors: 2  
Build Area: 7,000  
Area of buildings: 7,000  
Est no of Inhabitants: 100  
Preservation notes: Area with preservation value

### Technical Information

Arch Style	Other	Individual Space
Roof Design	Flat	Thickly
Roof Construction	Flat	Water
Roof Material		
Wall Construction	Brick	
Wall Material		

### - General Quality of Buildings -

Roof Info: 5  
Wall Info: 6  
Wtr. Drainage: 6  
Average evaluation: 6

### - Notes -

### - Potential -

The area is the shopping center and can be improved

17. October 2005

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## FEATURES OF THE SYSTEM

Each area of the City is categorized by its planned or functional land use, as well as the character of structures located within the area. A rapid assessment can be generated by building or land category, for example: two-story commercial structures within the city; or all single-family housing zones within the town.

The database is created in MS-Access and is connected to an archive of photographs. Site facts and attributes in the data base include:

**Identification Codes** are given to each area and correspond to a number on the map. These numbers are then linked to digital maps illustrating all areas within the town boundaries;

**Quantitative Parameters** define characteristics for each area such as: hectares of land; number of buildings; built area in square meters; number of floors; total built square meters; total numbers of plots; numbers of planned and built plots; and number of inhabitants.

**Qualitative Parameters** measure value of architectural style, culture, environmental/ contextual compatibility, and preservation.

**Technical Depreciation** assesses structures within an area including how worn-down they are, roof, walls, windows, and estimate of overall building quality and value. This parameter is the basis for an estimate of required investment for upgrading the area to acceptable standards.

**Code List** categorizes buildings and areas through standards defined by the local building culture and style, site attributes, and historic data.

**Observations** of existing conditions, issues, constraints and opportunities.

**Area Potential** examines prospects for a structure or an area, or general comments or future concepts generated from field-based observations documented through photos.



## INFORMATION SHARING FOR TOWN BUILDING

**TECHNOLOGY** The database is developed in MS Access and can be linked through the world wide web for increased access to information for planning at the local, state and national levels. The data and photos can then and be transferred to a remote internet system such as a Microsoft SQL server 2000, with proprietary interfaces for remote data entry and publishing information directly to Internet.

**USES OF THE SYSTEM** The system can be customized and applied for a wide range of purposes. Its main benefits are to help Civil servants, architects and planners to organize information for operational use for urgent needs and a long term sustainable planning and administrative process. This application can act as necessary foundation for up-to-date documentation of existing conditions and for critical decision-making in town planning.

Accurate information on existing conditions give central authorities an informative statistical building data. The data can be customized to suit a strategic inquiry into different building and area activity.

Yearly or quarterly updating of building activities can be registered and distributed to the central authorities. This will provide real-time assessments of reconstruction activity and new project development.

**JUBA TOWN INFORMATION** Main district name: Juba  
 Registrar: Juba District Council  
 JUBA

**VALUES** (13 good, 46 medium, 78 bad)

Architectural	4	Foot	3
Cultural	3	Open	1
Environmental	5	Open	1
Original	7	Open	1
Preservation	3	Open	1

**Use** Horizontal distance  
 Center Point: 1801-1850  
 Address: UK Colonial  
 Wall Con: Elite  
 Wall Material: Stone  
 Roof Con: Stone  
 Technical facilities: 100% Stone  
 Technical facilities: Electric  
 Technical facilities: Stone  
 Public facilities: Stone  
 Public facilities: Stone  
 Public facilities: Stone

Area HA (100x100 m)	2.0
EST. total no of plots	1.0
EST. no of plots in zone	0
Est. No of buildings	200
Est. no of inhabitants	500
Public area	3.000
Form	1.0
Area of building	3.000

**Est. Rev. Cost** 1,100,000

**Notes** This results in a high density of buildings, which is a good thing for the area. It is a good thing for the area. It is a good thing for the area.

**Potential** The buildings are built on a high density of buildings, which is a good thing for the area. It is a good thing for the area. It is a good thing for the area.

## Pedestrian and Bicycle Connections

One of the most obvious needs in Juba is that of a network for pedestrians and bicycles. As the city grows and experiences an influx of investment, existing and new roads will be designed with pavement that will increase vehicular speeds. The majority of Juba's resident community is without cars and travel by foot or by bicycle. Because this is the most common form of mobility in the town, it is imperative that immediate and long-term developments in infrastructure and town planning occur in consideration of pedestrian and bicycle linkages.

The safe and efficient movement of Juba's residents must be improved through a comprehensive network and strengthened connections of bicycle trails, foot paths and sidewalks. These connections should link focus areas of the town, such as market centers, schools, public squares, parks and community facilities throughout the city and the town's periphery.

Pedestrian and bicycle routes should be integrated into the road system and also provide for independent trails that weave through the community with greenways that stretch through natural areas and provide access to open space, the Nile River, and natural areas preserved for community gardens, recreational parks and wildlife habitats. Aside from enhancing the movement of residents, these routes could be used by future visitors who wish to walk along a river trail, or stroll to an open air market along a lively sidewalk lined with shops, coffee and tea stations and street-side vendors.

The development of a pedestrian network must be a priority for the city now, or it will become very difficult and costly to retrofit the infrastructure to accommodate this need in the future.



## Recommendations for Planned Tukul Areas

Tukul huts are developed on formal parcels and unplanned open space using cost-effective materials. It is anticipated that many of the returnees to Juba will rely on this style of development for their housing needs. Some basic recommendations for addressing the Tukul neighborhoods include:

**Have a Mobile Task Force** in the field to include town planners, land surveyors, court authorities and social officers to process and record the pace and scale of new development, while providing information on legitimate land purchase and registration.

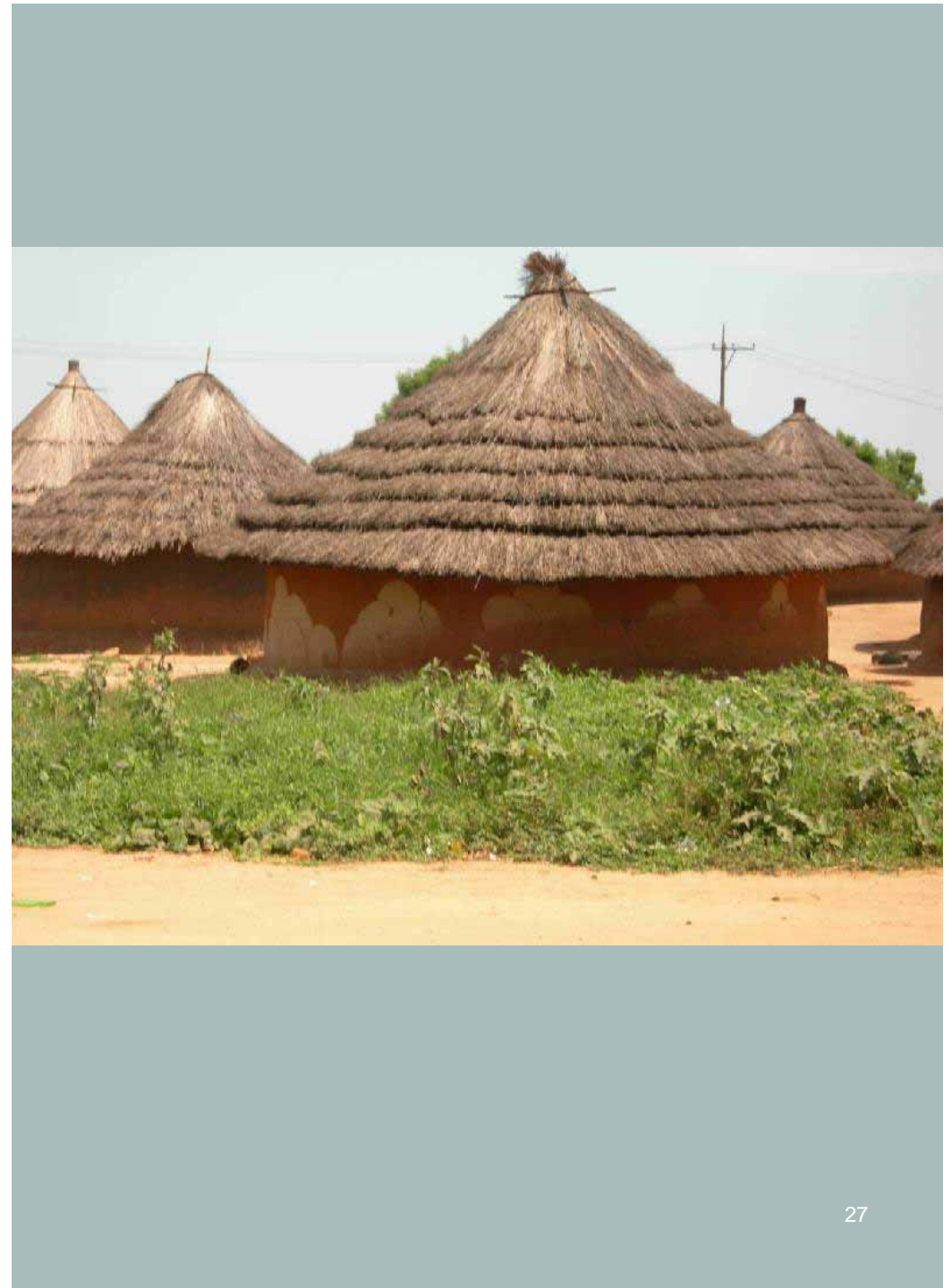
**Streamlining Process and Transparency of Land Allocation** to allow existing and future residents to understand the legal process and encourage land ownership and use of permanent structures.

**Integrate Mechanisms for Community-based Reconstruction and Economic Development** so that community members can work in partnership with the administration at the grass-roots level for community development projects. Provide information and materials for building a sustainable single-family house and septic system.

**Plan Land Patterns in a Variety of Shapes** to accommodate local traditional development styles and support local identity and reinforce the unique character of Juba.

**Enhance Basic Services** such as water and electricity to modest Tukul neighborhoods within and around Juba.

**Integrate Communally Held Land** to be used for local agriculture, community open space and recreation.



## Challenges

The Juba Municipal Management is facing a series of challenges that could continue to create constraints in sustainable long-term planning and development. The current administration lacks resources and capacity, but has a growing population that is replete with needs and demands on the system. Some of the key challenges and considerations for Juba include:

**RIGID CLASS ZONING** The current land classification system is fixed and dictates a density pattern that concentrates large, low density parcels in high-value inner-urban areas and small, high density development in the periphery far from key services and access to market. Juba is absent of a diverse mix of land uses distributed throughout the city that distribute access to economic opportunities.

**SOCIAL SEGREGATION** The current land classification system creates socio-economic cleavages and hinders access to the advantages of urban living. Perceptions about access to services, land and resources along ethnic lines is a factor in social conflict.

**LOW-INCOME POPULATIONS** Large factions of Juba's population are without economic opportunity and lack skills to contribute to a diverse and thriving employment base for new businesses.

**SUB-STANDARDS LIVING CONDITIONS** Many residents of Juba live in structures made of temporary building materials and are without access to basic services and infrastructure such as access to clean water, electricity and adequate sanitation systems.

**LACK OF CAPACITY** The current local and state level administrations are challenged by the needs of the city, but are without resources and adequate institutional knowledge on how to address the needs of the population.



## Conflict and Perceptions

Juba is rife with residual tension between northern and southern factions of the community. There are strong perceptions that Northern Sudanese operate with greater access to resources in land and commercial connections. It is important to be aware of these perceptions as they are the underlying causes of potential conflict, such as in the case of the Juba riots that were enflamed after the death of the late Chairman Garang. Some of the perceptions include:

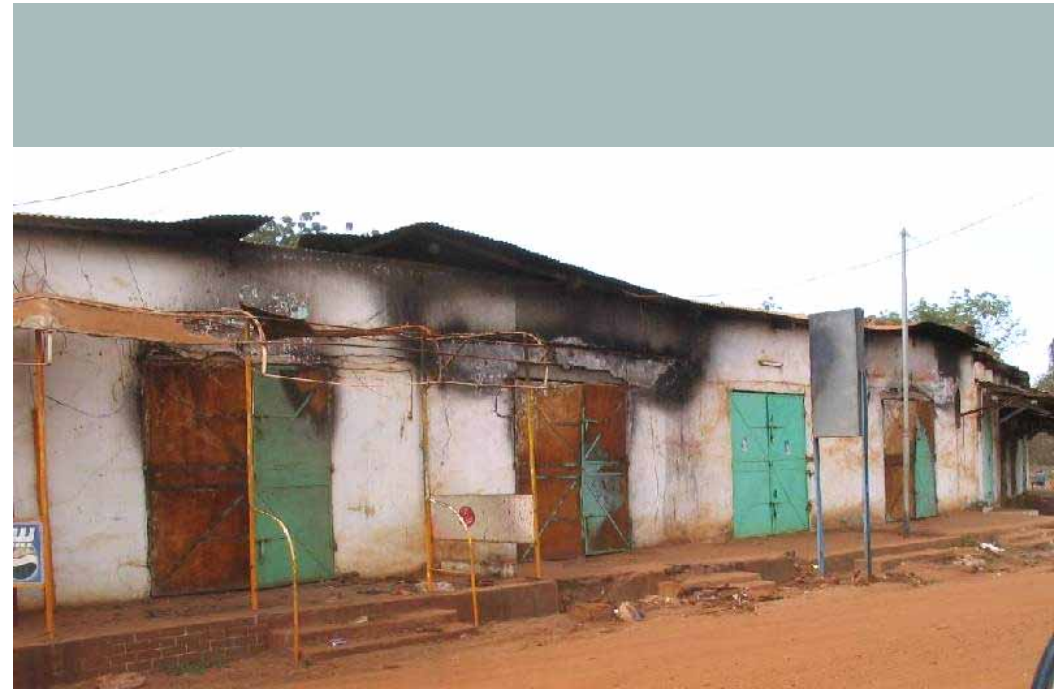
**UNFAIR TAX DISTRIBUTION** The concept that municipal leadership has historically been held by the northerners who collect taxes which are channeled outside of Juba, denying resources for local municipal investment in basic services.

**CONCENTRATION OF OCCUPANCY** The idea that the Government of Sudan supports northern-held businesses, NGO's, banks and religious organizations while southern organizations are without means.

**MONOPOLIES ON BUSINESS AND GOODS** The perception that access to commercial services, raw materials and key goods (sugar, flour, grain, fuel) are concentrated in the hands of northerners.

**CONTESTED OWNERSHIP OF LAND** The concept that a nebulous or guarded land records system favors ownership of valuable land resources by Northern Sudanese, particularly large parcels located near commercial centers and regional access routes such as the airport, river and bridge.

**INFLUENCE IN ADMINISTRATION AND COMMERCE** The idea that there is an exclusive network that operates local administrations and enterprise systems.



Markets and storefronts controlled by northerners were burned during riots after the death of the Late Chairman, John Garang.



# Needs

The Juba Assessment study identified several critical needs area that are imperative to address in the interim to ensure a sustainable long-term planning process and to coordinate the array of activities that are occurring in the immediate transitional period.

**COMPREHENSIVE LAWS** A sustainable vision for Juba must be protected through regulations at the national, state and municipal levels. Legal guidelines regarding the administration of land and infrastructure development will help to legitimize development processes and protect citizens from unfair practices, while providing a clarified model for future revitalization projects. Codes and ordinances that apply to buildings, roads and parcels of land will give structure to construction projects, and resource and community protection. Land use zoning can identify appropriate areas for different types of construction, such as industrial development that is seeing an increase near major transportation points. Environmental planning and natural resource protection must be establish to ensure environmental and water quality, providing guidelines to industry on waste disposal or use of hazardous substances.

**TOWN DESIGN AND DEVELOPMENT FRAMEWORK** The political and physical transition of Juba involve an array of externally developed plans and construction activity. The long-term revitalization of the city should be based on Sudanese-led visions that are supported by, but not controlled by foreign investment. A physical town plan that outlines appropriate land uses that serve residents and commercial activity can provide a framework to guide urgent construction activity and investment.

**INVESTMENTS IN TARGETED CONSTRUCTION** Many of Juba's community facilities are in disarray and in need of major repairs or reconstruction. School structures are inadequate in number and quality, and medical operations are without proper facilities to serve the existing number of residents in need of health care. These community assets are in need of improvement and expansion to cope with the demand of the anticipated influx of residents in a way that ensure access to education and health care. Such facilities should be distributed to accommodate residents in Juba, Kator and Munuki, as well as the rural communities in the urban periphery.

**IMPLEMENTATION PLAN** Comprehensive laws and guidelines in a development framework require strategic steps and partnerships for delivery. This is the most fundamental aspect of planning exercises for Juba as the public and private sectors in Juba move forward in a variety of development activities. A long-term implementation plan must include a combination of actors representing aspects of planning, land surveying, public health, legal structures, and the business community to identify feasible and action-oriented activities toward the greater vision for Juba.

**CAPACITY BUILDING** The current administration requires immediate strengthening to cope with the pressures of growth and transition. Ministries and municipal departments require an increase in skilled staff, training in multiple disciplines, improved facilities, and data resource tools. Currently, many departments are without human resources and modernized data tools to document and organize urban land resources.

## Potential Growth Scenarios

- A** **The Fragmented City** (Private Perspective)  
This scenario assume development that is driven solely by private market activity without guidance from a long-term planning framework

**Risk** Haphazard development that deteriorates the urban fabric with random development. Social exclusion by making most valuable and desirable real-estate inaccessible to public or disenfranchised citizens

- B** **The Institutional City** (Public Perspective)  
The Institutional City is developed through public investment in infrastructure and social services with controlled private development.

**Risk** Unsustainable requirements of public funds, low-economic performance and lack of variety/diversity in the urban landscape.

- C** **The Inclusive City** (Public/Private Partnership)  
An Inclusive City thrives on joint-venture projects that allow the City to leverage public investments to guide growth and diversify development activity, promoting a mix of construction types and economic generation.

**Risk** Lack of careful management of partnerships will impede development. Uncertain impacts of full community integration.

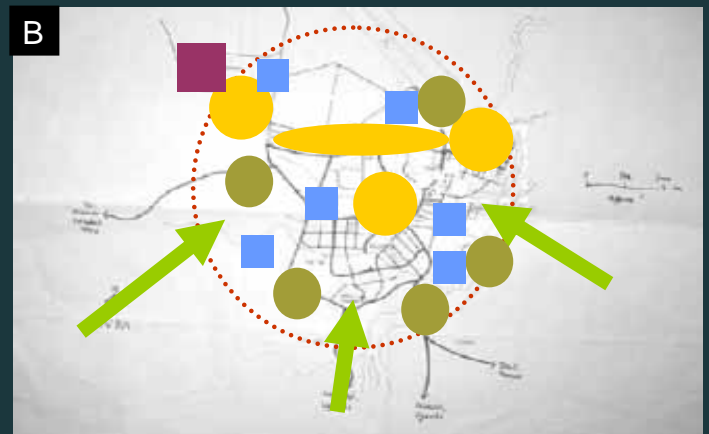
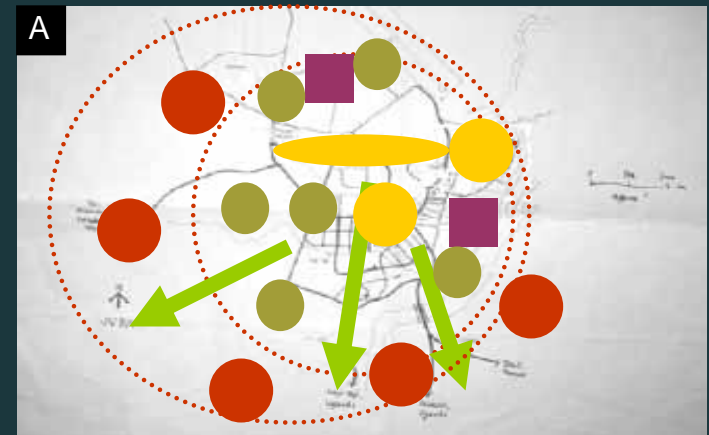
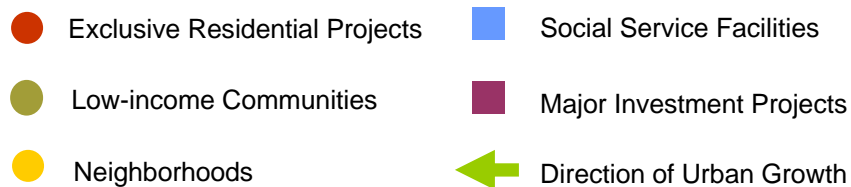


FIGURE 14- EXAMPLE OF A SUB-AREA PLAN IN MASTER PLAN PROCESS **EMBRACING THE RIVER**



# Opportunity Areas for Focused Planning and Regeneration

Identify Opportunity Areas for New Local Markets and Community-Based Economic Initiatives

Encourage Urbanization of Low-Income Tukul Areas-with Provision of Infrastructure and Services

Integrate Pedestrian Trails and Bike Paths into Existing Roads and Natural Greenways that Link the Town to the River

Consolidate Medium Density Areas as Transition Between Compact Urban Infill and Lower-Density Peripheral Neighborhoods

Preserve Community Green Space for Neighborhood Gardens and Recreation

Strengthen Neighborhood Cores with Health and Education Facilities-Promote Garang's Vision of Bringing the Town to the People

Regulate Focused Industrial Development in Strategic Locations Near the Airport and Designated River-side Sites such as the New Harbor

Protect and Enhance the Nile River Greenway Corridor for Environmental Quality, Public Access, Transport and Local Identity

Activate the Core of Juba with In-fill Opportunities along the Primary Avenue, anchored by Government Facilities.

Revitalize Infrastructure within the "Old Town" Commercial District

Protect and Preserve Districts and Structures of Cultural, Historic or Natural Significance

Enhance Connections Between Neighborhoods and Community Facilities, such as the Stadium

