



Juba is the capital and largest city of the Republic of South Sudan. The city is situated on the White Nile and also serves as the capital of Jubek State. The city is a river port and the southern terminus of traffic along the Nile. Before the civil war, Juba was also a transport hub, with highways connecting it to Kenya, Uganda and the Democratic Republic of the Congo.*

Juba City Council (JCC) was established in March 2011 and provides its services to the population through three Blocks Councils: Juba, Kator, and Munuki. The Department of Environment & Sanitation of JCC is the main organisation in charge of SWM in the city of Juba. Mixed waste is brought to the main streets by the inhabitants, without any sorting, and Juba City Council is responsible for collecting the garbage along the streets and transporting it to the Juba Controlled Dumping Site that is managed by Rejaf Payam/Rejaf County. However, SWM is not properly implemented due to the deterioration of the security and of the financial situation caused by internal political instability. Illegal dumping and burning are common. As a result, environmental pollution and the spread of diseases have become environmental and public health concerns. SWM is a key priority for Juba City Council, but related costs represent a heavy burden for the city's finances. The council needs expertise to facilitate the implementation of a tariff system for a sustainable collection plan.

Source: * Wikipedia, Juba, accessed 7 March 2019, <<https://en.wikipedia.org/wiki/Juba>>

Information

Population*	1.5 million (2015 estimation)
Population growth (annual %)*	N/A
Area (km ²)*	71.22 (2012)
Climate**	Tropical wet and dry climate
Main industries*	Crude oil and primary industries (agriculture, forestry, livestock, and fishery)
Currency***	USD 1: SSP 130.26 (South Sudanese pound) (March 2019)

Sources: * JICA report "Data collection survey on solid waste management in Juba"

** Wikipedia, Juba, accessed 7 March 2019, <<https://en.wikipedia.org/wiki/Juba>>

*** Cuex.com

Current SWM Situation

Item	Outline
Institutional System	
Legal system	<ul style="list-style-type: none"> ● There is no specific law on solid waste management in South Sudan nor in Juba City. As related laws, there are the National Environment Bill (2013) and the Local Government Act (2009). The National Environment Bill has been prepared by the Ministry of Environment and Forestry but has not yet come into force. It has a comprehensive content that includes waste management. The South Sudan Environmental White Paper (2017) was published in June 2018, emphasising the need for proper disposal of waste as part of environmental policy. The Local Government Act has been formally implemented and describes general matters of public works by local governments. Under the Local Government Act, waste management is considered as one of the public service to be provided by the local governments along with water supply, sanitation, electricity, transportation, communication, etc. ● Juba City Council (JCC) has established its own by-laws on waste management in Juba City. Revision is ongoing to reflect new environmental standards and economic conditions.
Policy/Plan	<ul style="list-style-type: none"> ● National Environment Policy, 2015-2025 (draft). ● National Policy on Medical Waste Management (first draft: November 2011). ● A Waste Management Plan has been established based on a technical cooperation project with the Japanese government. It aims to raise the collection ratio in Juba City Council up to 34% by 2023 and includes procurement of equipment, capacity building, etc. However, due to the tight budget of Juba City and the rapid population growth of the city, the plan is not progressing as planned. ● The Juba City Sanitation Reform and Investment Plan states the need to invest in the waste management area for the purpose of improving public health.

Item	Outline
Implementation system	<ul style="list-style-type: none"> ● The Ministry of the Environment is responsible for developing environmental laws & policies. ● The Department of Environment & Sanitation of JCC is responsible for waste collection, including: <ul style="list-style-type: none"> » Preparing waste collection plans. » Collecting fees for waste collection. » Implementing collection and transportation, and budget execution. » Providing licences to private companies. » Procuring collection vehicles. » Maintaining collection vehicles. » Raising public awareness and implementing environmental education (together with Kator, Juba and Munuki Block Councils). And for paying the fees for waste disposal. ● Rajaf County is responsible for the operation and management of the final disposal site, including: <ul style="list-style-type: none"> » Preparing the operation plan for the dumping site. » Implementing disposal works, and budget execution. » Collecting fees for waste disposal. » Procuring equipment for the dumping site. » Maintaining equipment of the dumping site. ● Number of staff in JCC: <ul style="list-style-type: none"> » Staff related to waste: 174. » Drivers: 5. » Cleaners: 235.
Technical System	
Waste generation amount & characteristics	<ul style="list-style-type: none"> ● Waste generation amount (estimated): about 1,337 tons/day (2017). ● Waste generation rate: about 0.65 kg/person/day (2017, survey data). ● Waste collection amount: about 34.3 tons/day (2017, survey data). ● Waste collection rate: about 2.6%. ● Waste composition: more than 50% of tree leaves, very little food waste due to the economic situation of Juba City.
Storage and discharge/ Collection and transportation/ Road sweeping	<ul style="list-style-type: none"> ● Each block is collecting waste from residential area. Residents are responsible for bringing their waste to the designated JCC main roads. JCC is responsible for the secondary waste collection, i.e. picking-up the waste from the black plastic bags, scattered waste and waste from heaps and transporting it to the final disposal site. ● JCC has about 18 collection vehicles but most of them are out of order because of lack of spare parts and/or maintenance. ● The average number of collection trips is 4 times a day, including a compactor (25 m³) and a truck (8 m³). Although the number of trips varies each month depending on the condition of the collection vehicles, it tends to decrease since July 2016. ● The collection efficiency is poor because most of the roads of the city are difficult to access for vehicles. Only 2.2% of the roads are asphalted/paved and they get wet during the rainy season. In addition, roads in residential areas are narrow. Therefore, collection by JCC is mainly carried out along major roads that are asphalted/paved or maintained. ● JCC gives licences to collect waste to private companies. Registered and unregistered companies collect and transport waste, but the services are not properly conducted, and collected waste is (mainly) illegally dumped.
Intermediate treatment/ Recycling	<ul style="list-style-type: none"> ● Recycling is provided in the National Environmental Bill and in the National Environment Policy 2015-2025. ● Some recycling activities exist. ● Self-disposal at generation source (open burning) exists.
Final disposal	<ul style="list-style-type: none"> ● JCC has one landfill site: Juba Controlled Dumping Site. It was established in December 2012 and has an area of 25 ha. It is managed by Rejaf County and Rejaf Payam, and the Juba city government pays disposal costs to Rejaf Payam. ● However, this final disposal site is no longer controlled. The fence around the dumping site was almost completely removed during the July 2016 crisis. Heavy equipment (bulldozer) is out of order, there is no more soil cover activity and waste is burnt in open air to reduce volume. The surrounding environment is therefore deteriorating due to the offensive odours and flies. ● Juba Controlled Dumping Site is located about 13 km from Juba city centre. Nevertheless, due to the bad condition of the junction road, the disposal site is difficult to access, and safety around the site is a concern. The number of collection vehicles reduced drastically, and only 34.3 tons per day are discharged at Juba Controlled Dumping Site. ● Part of the fee collection system is still working. ● Illegal dumping along the access road is expanding. A huge illegal landfill in Gumbo has been formed along the Juba-Nimule Road, causing significant deterioration of the surrounding environment. Gumbo illegal landfill site is estimated to have an area of 0.4 km² (about 1.5 km × 0.25 km) and to receive 8.6 tons of waste per day. It is an open dump without any heavy equipment, and waste flows into the river during the rainy season. Another major illegal dump site is located on Juba-Yei Road.

Item	Outline
Financial system	<ul style="list-style-type: none"> ● Revenue: SWM revenues mainly come from three sources, namely (1) waste collection fee, (2) issuing permission to sewerage tankers and waste collection vehicles, and (3) fines and penalties. Most of the revenue comes from the waste collection fees, with the fees collection from markets accounting for 62% of the total. <ul style="list-style-type: none"> » Markets: SSP 11,159,276 » Hotels: SSP 2,070,000 » Institutions: SSP 492,000 » Issuing Permission to Sewerage Tanker: SSP 3,298,000 » Issuing Permission to Waste Collection Vehicles: SSP 576,000 » Fines and Penalties: SSP 500,000 » Grand Total: SSP 18,095,276 ● Expenditure: The total expenditure amount of the Department of Environment and Sanitation of JCC in FY2016/17 was about SSP 18 million: <ul style="list-style-type: none"> » Wages & Salaries: SSP 8,382,186 » Use of goods and services: SSP 9,100,290 » Capital Expenditure: SSP 612,800 » Grand Total: SSP 18,095,276 ● Currently, there is no official tariff for waste collection services. Waste management cost represents 30% of the city's budget, a heavy burden for the city's finances. Indeed, the City Council relies on its own budget which is not supplemented by the national government. If the national and state governments were contributing up to 30% to support SWM, it would reduce the financial burden and result in return in the improvement of the service delivery and waste collection system. ● The rate schedule details the financial aspects of expenditures for the service delivery. Tariffs will be paid by the households, private collection service providers, business sectors, government institutions, non-governmental organisations, etc. Today, three Block Councils, operating under the supervision of Juba City Council, have communicated with the citizens about the Waste Collection Fee Policy of the local government/Juba City Council. There has been a positive response from citizens.
Environmental and social considerations	<ul style="list-style-type: none"> ● Environmental education and public awareness creation are provided in the National Environmental Bill and in the National Environment Policy 2015-2025. ● Waste pickers are present, but there seems to be no specific plan to support them.
Donor support	<ul style="list-style-type: none"> ● JICA: development study and implementation of a Master Plan on Solid Waste Management in Juba City. Also, JICA has trained South Sudanese staff in Japan on how to improve solid waste management in the country. They are ready to put their theoretical knowledge into practice. ● UNICEF donated three compactors in September 2016.
Areas for improvement (in order of priority)	<ul style="list-style-type: none"> ● Legislative issues: lack of legislation and policies specific to solid waste management, and the difficult implementation and execution of laws is hindering progress. ● Institutional issues: institutions and organisations should be more stable, lack of skilled staff and reliable data. Collective responsibility is required for timely finalisation of the tariff system and effective service delivery. ● Financial issues: introduction of a tariff system for collection services; lack of resources to finance SWM operations, such as maintenance of vehicles, provision of necessary equipment, payment of salaries, etc. ● Technical issues: need to improve waste collection and disposal, waste should be discharged in a controlled landfill and not dumped illegally.

Waste Amount at Each Stage of Waste Flow*

Waste flow	Amount** (ton/day)	Remarks
① Waste generation	1,337	Waste generated at houses, offices, shops, restaurants, etc.
② Discharge to collection	N/A	Waste discharged for collection services.
③ Self disposal	N/A	Disposal at generation sources, such as burning and burying.
④ Recycling at source	N/A	Reuse of materials, composting, sold to recyclers.
⑤ Collection and transport	34.3	Waste amount collected and transported.
⑥ Clandestine dumping	N/A	Waste illegally disposed of in unknown location.
⑦ Treatment	N/A	Material recycling, composting, incineration, etc.
⑧ Recycling/Reduction	N/A	Recycled and/or reduced waste amount by material recycling, composting, incineration, etc.
⑨ Residue	N/A	Residue from treatment facilities.
⑩ Final disposal site	N/A	Waste amount brought into disposal sites.
⑪ Recycling	N/A	Recycled at disposal sites.
⑫ Final disposal	N/A	Waste amount finally disposed of at disposal sites.

* Based on the waste flow chart on page.

** Figures include estimated value.