

南スーダン共和国  
環境・林業省  
ジュベック州環境省  
ジュバ市役所  
ラジャフ郡庁

南スーダン共和国  
ジュバ廃棄物管理情報収集・確認調査  
最終報告書

平成 30 年 8 月  
(2018 年)

独立行政法人  
国際協力機構 (JICA)

八千代エンジニアリング株式会社

環境
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本報告書では、2018 年度精算レート表に基づき、以下に示す 2018 年 7 月時点での外貨交換レートを使用した。

外貨交換レート

SSP1 = JPY 0.7948 (2018 年 7 月)

写真集 1 (ジュバ市の廃棄物管理の状況)

	
コンパクターによる収集運搬	ワークショップ (ガレージ)
	
市場ごみ収集の様子	市場裏の不法投棄 (重機による一斉清掃時の様子)
	
最終処分場の管理棟	ジュバ市近郊での大規模不法投棄
	
ごみ量調査の様子	ごみ量調査の家庭ごみの例

## 写真集2（キックオフ・ワークショップ 於 ウガンダ国）



写真集3 (スタディツアー 於 スーダン国)

	
KCC 訪問の様子	オンドルマン中継所の視察
	
定時定点収集の視察	AU 事務所訪問の様子
	
ワークショップでの記録管理について説明を受けている様子	Bahari 処分場視察の様子
	
集合写真 (2018年8月)	スーダン環境省との共同ワークショップ (2018年12月)

## 写真集4 (パイロット・プロジェクト進捗モニタリング)

	
進捗モニタリング会議の様子	廃棄物行政に関する講義
	
スーダン連邦環境省前にて	環境省事務次官への表敬
	
ハルツーム州清掃局訪問	清掃局長への表敬
	
パイロット・プロジェクト報告の様子	集合写真 (2018年6月)

写真集5（ジュバ市におけるパイロット・プロジェクトの進捗状況）



一次収集用の手押し車 (Tri-Cycle)



住民説明会の様子



一次収集用の手押し車を住民に披露



臨時中継所の建設



パイロット事業の開始式



一次収集人による回収の様子



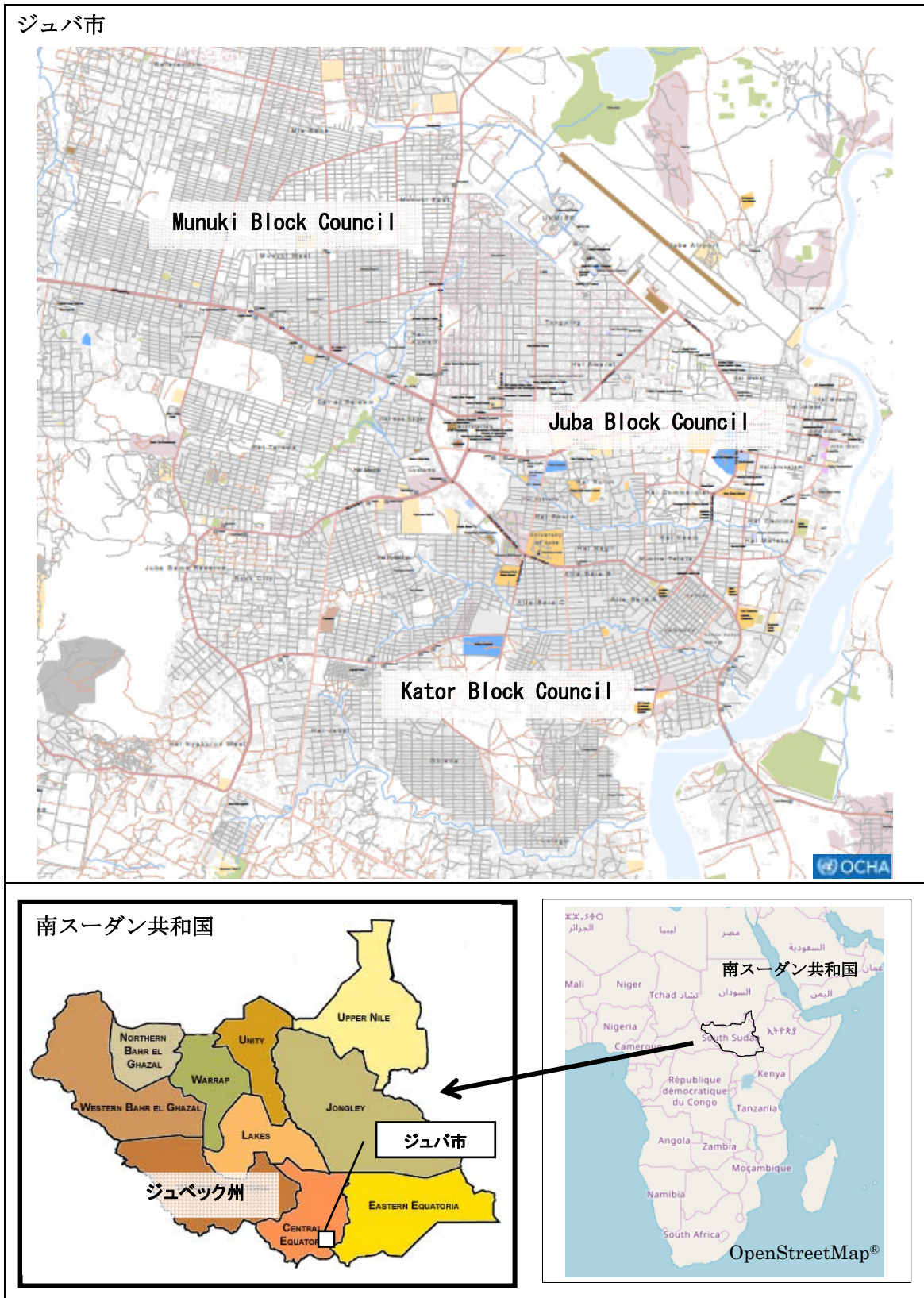
ジュバ・ラジャフ廃棄物管理グループの  
週例会議



処分場の重機（ブルドーザー）の修理



### 本調査の対象地域



## 目次

第1章	業務の概要	1
1.1	業務の背景	1
1.2	業務の目的	2
1.3	業務対象地域	2
1.4	関係官庁・機関	2
1.5	調査体制	2
1.6	調査の経緯	4
1.7	ジュバ市の基礎情報	5
1.7.1	ジュバ市の社会経済状況	6
1.7.2	ジュバ市の人口	6
第2章	廃棄物管理に関する法・組織	7
2.1	廃棄物関連法及び条例	7
2.1.1	国家環境保護法	7
2.1.2	ジュバ市の廃棄物管理に係る条例	7
2.1.3	ラジャフ郡（ラジャフ地区）の廃棄物管理に係る条例	7
2.2	ジュバ市における廃棄物管理体制	7
2.2.1	ジュバ市における廃棄物管理組織の関連	7
2.2.2	ジュバ市環境衛生局	11
2.2.3	ラジャフ郡（ラジャフ地区）	12
2.3	役割分担	13
2.3.1	収集・運搬	13
2.3.2	最終処分	13
第3章	廃棄物管理の状況	14
3.1	廃棄物管理の概要	14
3.1.1	家庭ごみ量調査	14
3.1.2	処分場搬入量調査	15
3.1.3	廃棄物発生量	16
3.1.4	ごみ処理フロー	17
3.2	廃棄物収集・運搬	19
3.2.1	廃棄物収集車両の状況	19
3.2.2	収集状況	20
3.2.3	民間収集業者の状況	22
3.2.4	多量排出事業者の状況	23
3.3	ワークショップの状況	24
3.3.1	維持管理能力	25
3.3.2	ワークショップに保管されているその他車両の活用	25

3.4	最終処分の状況.....	26
3.4.1	最終処分場（Juba Controlled Dumping Site）の状況.....	26
3.4.2	処分場搬入量.....	27
3.4.3	搬入車両の状況.....	27
3.5	不法投棄の状況.....	28
3.5.1	グンボ不法投棄場（Juba-Nimule Highway）の状況.....	28
3.5.2	アクセス道路（Juba-Yei Road）の不法投棄の状況.....	30
3.6	データ検証.....	31
3.6.1	家庭ごみ量の妥当性検証.....	31
第4章	廃棄物管理に関する財務状況.....	33
4.1	ジュバ市の財務状況.....	33
4.2	財務管理体制.....	33
4.2.1	環境衛生局の財務状況.....	33
4.3	処分場運営に係る財務状況.....	36
4.4	データ検証.....	36
4.4.1	ごみ処理フローに基づく支出の妥当性検証.....	36
4.4.2	廃棄物管理コストの確認.....	36
第5章	調達事情（第三国調達）.....	39
5.1	日本国内での調査結果.....	39
5.1.1	無償資金協力業務での機材供与の可能性.....	39
5.1.2	機材及びスペアパーツの調達先.....	39
5.1.3	現地までの輸送ルート.....	39
5.2	南スーダンでの調査結果.....	40
5.3	近隣国での調査結果.....	41
5.4	まとめ.....	41
第6章	マスタープランの方針.....	42
6.1	ジュバ市の廃棄物管理の問題点.....	42
6.2	ジュバ廃棄物管理基本計画（マスタープラン）の考え方と具体的方策.....	42
6.3	マスタープランの骨子及び目次案.....	44
第7章	パイロット・プロジェクトの実施.....	46
7.1	パイロット・プロジェクト概要.....	46
7.2	パイロット・プロジェクトの結果.....	47
7.3	パイロット・プロジェクトで得られた成果.....	48
7.4	パイロット・プロジェクトの課題・教訓.....	49
7.5	マスタープランの実現性の検証結果と反映事項.....	49
7.6	ジュバ・ラジャフ廃棄物管理グループ.....	51
7.7	廃棄物管理規則の素案.....	52
第8章	キャパシティ・ディベロップメント.....	54

8.1	スーダン国ハルツーム州でのスタディツアーの実施	54
8.2	ジュバ市カウンターパートのオーナーシップ	55
8.2.1	我が国の経験に学ぶ変革期の廃棄物管理	55
第9章	本調査から得られた教訓	56
9.1	遠隔での調査実施の困難さ	56
9.1.1	既存データの欠如	56
9.1.2	カウンターパートの清掃行政及び廃棄物管理に係るデータや用語の理解不足	56
9.1.3	データの信憑性の確認方法	57
9.2	キャパシティ・ディベロップメントを中心とした遠隔での調査実施の工夫	57
9.2.1	カウンターパートと共にデータを“作る”姿勢への転換	57
9.2.2	計画策定への段階的なデータ利用による共通認識の醸成	58
9.2.3	実現可能なマスタープランに向けた徹底的な議論	58
9.2.4	隣国スーダンでのスタディツアー実施と連携体制	58
9.3	活動の組織化によるオーナーシップの醸成	59
第10章	今後の支援の方向性	60
10.1	ジュバ市廃棄物管理の改善に向けた支援の方向性	60
10.2	ジュバ市廃棄物管理の定着に向けた活動の優先順位	61
10.3	技術協力プロジェクトの方向性	62
10.4	無償資金協力の方向性	62
第11章	活動実績	63
11.1	キックオフミーティング（ウガンダ国カンパラ市）	63
11.2	第1回スタディツアー（スーダン国ハルツーム州）	65
11.3	第2回スタディツアー（スーダン国ハルツーム州）	67
11.4	最終ワークショップ（スーダン国ハルツーム州）	68
11.4.1	全体スケジュール	68
11.4.2	最終ワークショップ プログラム	68
11.5	パイロット・プロジェクト進捗モニタリング（1）（スーダン国ハルツーム州）	69
11.5.1	全体スケジュール	69
11.5.2	進捗報告ワークショップ プログラム	70
11.6	パイロット・プロジェクト進捗モニタリング（2）（スーダン国ハルツーム州）	70
11.6.1	全体スケジュール	70
11.6.2	PPモニタリング最終ワークショップ プログラム	71
11.7	カウンターパートリスト	71
添付資料		72

## 図表目次

図 1-1	現地調査の実施体制.....	3
図 2-1	ジュバ市における廃棄物管理関連の組織体系 .....	8
図 2-2	ジュバ市における廃棄物管理関連の組織体系（位置関係） .....	9
図 2-3	ジュバ市環境衛生局の組織図 .....	10
図 2-4	ラジャフ地区の組織図 .....	12
図 3-1	ごみ処理フロー.....	18
図 3-2	JCC 収集車両トリップ数（2016年7月～2017年7月） .....	20
図 3-3	不法投棄が確認されているエリア .....	28
図 3-4	1日あたりの不法投棄車両数の推移(Juba-Nimule Road) .....	30
図 3-5	不法投棄場におけるごみ処理料金の徴収額(Juba-Nimule Road).....	30
図 3-6	人口別、原単位別の家庭ごみ量及び収集率の推計結果（グラフ） .....	32
図 4-1	環境衛生局の収入内訳（FY 2016/17） .....	34
図 5-1	南スーダンと近隣国との位置関係と幹線道路 .....	40
図 6-1	マスタープラン（第1期・第2期）の基本的な考え方と具体的方策.....	43
図 7-1	パイロット・プロジェクト工程表 .....	47
図 7-2	JRSWMG の組織構成.....	51
図 10-1	技術協力プロジェクト及び無償資金協力のスコープ案 .....	60
図 10-2	ジュバ市廃棄物管理の定着に向けた活動の優先順位.....	61
表 1-1	ナショナルスタッフのメンバー一覧.....	3
表 1-2	データ収集の経緯 .....	5
表 1-3	ジュバ市の基礎情報.....	5
表 2-1	ジュバ市環境衛生局の組織体制.....	11
表 2-2	各ゾーンの収集対象地域.....	11
表 2-3	ラジャフ地区が申請している新ラジャフ環境衛生局の役職と人員配置 .....	12
表 2-4	廃棄物管理に関する役割分担 .....	13
表 3-1	ごみ量調査の概要 .....	15
表 3-2	処分場搬入量調査の概要.....	16
表 3-3	家庭から発生する廃棄物量（2017年9月）（トン／日） .....	16
表 3-4	事業者から発生する廃棄物量（推計値）（トン／日） .....	16
表 3-5	廃棄物収集車両（JCC 保有）の保有台数及び稼働状況 .....	19
表 3-6	民間収集業者の登録状況.....	22
表 3-7	ジュバ市環境衛生局による収集が行われているホテル及び施設一覧.....	23

表 3-8	処分場搬入車両数及び搬入ごみ量 (Juba Controlled Dumping Site) .....	27
表 3-9	車両別・ドライバー別搬入回数 (1 週間合計) .....	27
表 3-10	不法投棄車両数及び不法投棄ごみ量(Juba-Nimule Road) .....	29
表 3-11	人口別、原単位別の家庭ごみ量及び収集率の推計結果 .....	31
表 4-1	ジュバ市の決算総額 (2011/12・2014/15 年度) .....	33
表 4-2	環境衛生局の収入額 (FY 2016/17)(SSP).....	34
表 4-3	環境衛生局の支出 (FY 2016/17) .....	34
表 4-4	環境衛生局の財務委員会メンバー .....	35
表 4-5	人件費試算の前提条件 .....	37
表 4-6	試算結果 (人件費) .....	37
表 4-7	燃料費試算の前提条件 .....	37
表 4-8	試算結果 (燃料費) .....	38
表 4-9	ごみ処理費の前提条件 .....	38
表 4-10	試算結果 (ごみ処理費) .....	38
表 5-1	ジュバ市までの調達ルートと留意事項 .....	39
表 5-2	ウガンダ国での中古車販売会社へのヒアリング結果.....	41
表 6-1	マスタープラン目次案 .....	44
表 7-1	パイロット・プロジェクト概要 .....	46
表 7-2	パイロット・プロジェクトに向けた役割分担 .....	46
表 7-3	パイロット・プロジェクト開始式の日程 .....	48
表 7-4	マスタープランへの反映内容 .....	50
表 7-5	JRSWVG の役割.....	51
表 7-6	廃棄物管理規則の素案 .....	52

## 略語集

略語	英語	日本語
C/P	Counterpart	カウンターパート
HH	Household	家庭
JBC	Juba Block Council	ジュバ区役所
JCC	Juba City Council	ジュバ市役所
JICA	Japan International Cooperation Agency	国際協力機構
JPY	Japanese Fiscal Year	会計年度（日本）
JRSWMG	Juba Rejaf Solid Waste Management Group	ジュバ・ラジャフ廃棄物管理グループ
KBC	Kator Block Council	カトール区役所
KCC	Khartoum Cleaning Corporation, Sudan	（スーダン国）ハルツーム州清掃企業局
MENRPD	Ministry of Environment, Natural Resources and Physical Development, Sudan	（スーダン国）環境・天然資源・都市開発省
M/M	Minutes of Meeting	会議議事録
MOU	Memorandum of Understanding	覚書
MP	Master Plan	マスタープラン
NGO	Non-Government Organization	非政府組織
O&M	Operation and Maintenance	運営管理
PCSP	Primary Collection Service Provider	一次収集人
PP	Pilot Project	パイロット事業
QC	Quarter Council	クウォーターカウンセル
RSS	Republic of South Sudan	南スーダン共和国
SSP	South Sudanese Pound	南スーダンポンド
SWM	Solid Waste Management	廃棄物管理
t/d	ton per day	1日あたりのトン数

## 第1章 業務の概要

### 1.1 業務の背景

南スーダン共和国（以下、「南スーダン」と言う）の首都ジュバ市において、2012年から2014年まで日本政府による技術協力プロジェクト「ジュバ廃棄物管理能力強化プロジェクト」が行われた。それまで、ジュバ市内では清掃サービスが行われておらず、清掃サービスを実施する組織も定まっていなかった。また、埋立地も整備されておらず、1haにも満たないごみ捨て場しかなかった。

そこで、技術協力プロジェクトを通じて、環境省、ジュバ市役所、ジュバ市の各パヤム（区）、埋立地を管理するジュバ郡庁、ラジャフパヤム（ラジャフ地区）から廃棄物関係者約10人を集め「ジュバ廃棄物管理グループ（JSWMG）」を設立し、2012年7月からジュバ市最大の市場及び住宅地の一部で収集サービス事業を開始した。収集サービスは次第に定着し、大規模排出者からの料金徴収も始まった。また、既存埋立地だけでは収集したごみの受入容量が不足してきたことから、新たに25haの用地を取得し、管理型埋立地を整備して運用を開始した。埋立地でも搬入車両から料金を徴収し、収集料金で運用費をカバーした。このような動きを受け、ジュバ市でも廃棄物処理を担当する部局ができ、担当職員が配置された。

ジュバ市は、上述の技術協力プロジェクトを通じて作成した「廃棄物管理計画」の中で、2023年において収集率34%を達成することを目標として掲げており、機材の追加調達等を通じた廃棄物管理能力強化を計画している。しかし、実際にはジュバ市の予算のひっ迫や市の急激な人口増加を受けて、計画は予定通りに進捗していない。

とりわけ事業実施の大きな障害となっているのは、①行政職員の事業執行能力の低さ、②技術者の技術力不足、③「公共サービス」の概念の欠如だと考えられる。

計画を予定通りに進めるためには、南スーダンの事業執行主体である環境省、ジュバ市役所、各区（パヤム、現在のブロック）、ジュバ郡庁が事業を主導することが求められる。しかし、現状では清掃事業を組織的・制度的に体系立てて取り組むことが困難であり、例えば、ごみ収集サービスの開始時には、ジュバ市や区の職員に経験が全く無かったため、廃棄物収集運搬車両さえあれば収集サービスを開始できると考え、組織的に収集運搬を行うことができなかった。ジュバ廃棄物管理グループ（JSWMG）によって廃棄物収集や埋立地管理を行うために、上述の技術協力プロジェクトでは能力向上の研修を約60回開催し、継続した人材育成を行う必要があった。

行政関係者だけでなく、技術者においても能力不足による課題に直面しており、例えば2012年に埋立地の測量を行おうとしたところ、民間企業にも政府にも設計図面を作成できる人材が皆無であった。この状況は道路セクターや同時期の職業訓練のプロジェクトでも同様であった。

ごみ収集サービスの定着に時間がかかる背景には、行政職員や技術者の能力不足だけでなく、清掃事業に対する住民の理解が得られなかったことが大きく影響している。収集サービスは、住民が指定された時間に指定された場所へごみ出しを行うなど、住民の理解と協力の上に成り立つ事業である。しかし、行政職員同様、住民も公共サービスを受けたことがなかったため、清掃事業への理解を得ることが困難であった。収集サービスの定着以前に、行政が住民に対して価値を提供し、住民はそのサービスの恩恵を受けるために決められた行動をとる、という「公共サービス」の概念そのものを浸透させることが必要である。



このような中で、現在の廃棄物処理の実態を反映した新たな廃棄物管理マスタープランの作成が必要になってきており、本調査で、南スーダン国ジュバ市の廃棄物処理のマスタープランを作成するために必要な情報収集を行った。

## 1.2 業務の目的

本情報収集・確認調査では、南スーダン国ジュバ市の廃棄物管理に関する現状、組織運営・維持管理体制（含む財務）など廃棄物管理システム（発生、収集・運搬、中間処理・リサイクル、最終処分）に関して基礎情報の収集を行い、新たな廃棄物管理マスタープラン作成の基礎とする。

また、近隣国における都市レベルでの廃棄物管理システムの実態を調査し、今後検討するジュバ市での協力を資する課題と教訓を見出すことも目的とする。

これらの調査結果に基づき、ジュバにおける廃棄物管理システムに係る優先課題の特定及び支援ニーズの確認を行い、特定された課題に対して、今後の支援の可能性及び支援策の検討を行う。

## 1.3 業務対象地域

南スーダン国 ジュバ市

スーダン国 ハルツーム州 ※遠隔現地調査拠点かつ第三国研修の実施地域

ウガンダ国 カンパラ市 ※キックオフ・ワークショップの実施地域

## 1.4 関係官庁・機関

### (1) 南スーダン（監督官庁、実施機関）

- ① 監督官庁：環境・林業省、ジュベック州環境省
- ② 実施機関：ジュバ市役所（廃棄物収集運搬）、ラジャフ郡庁（最終処分場管理）

### (2) スーダン（関係機関）

- ① 連邦環境省
- ② ハルツーム州ハイアーカウンセル
- ③ 清掃局（KCC）
- ④ 州所属の7区（7LCA）

## 1.5 調査体制

本調査は、日本人専門家がジュバ市内に入って現地調査を行わず、遠隔調査により実施した。調査及び研修をより円滑に行うため、第三国拠点として隣国のスーダンに調査拠点を設置し、南スーダン国ジュバ市内及びスーダン国ハルツーム州にて、ナショナルスタッフを各国2名ずつ雇用した。ジュバ市は通信が不安定であり、コピー機なども十分に整わないため、業務指示や進捗管理はスーダンのナショナルスタッフを通じて実施した。なお、現地調査は現地再委託をせずに、現地雇用のナショナルスタッフ（2名）が行い、必要に応じて、スーダン側のナショナルスタッフがジュバ市に入り、現地調査の支援を行った。現地調査の実施体制とメンバー一覧を図1-1及び表1-1に示す。

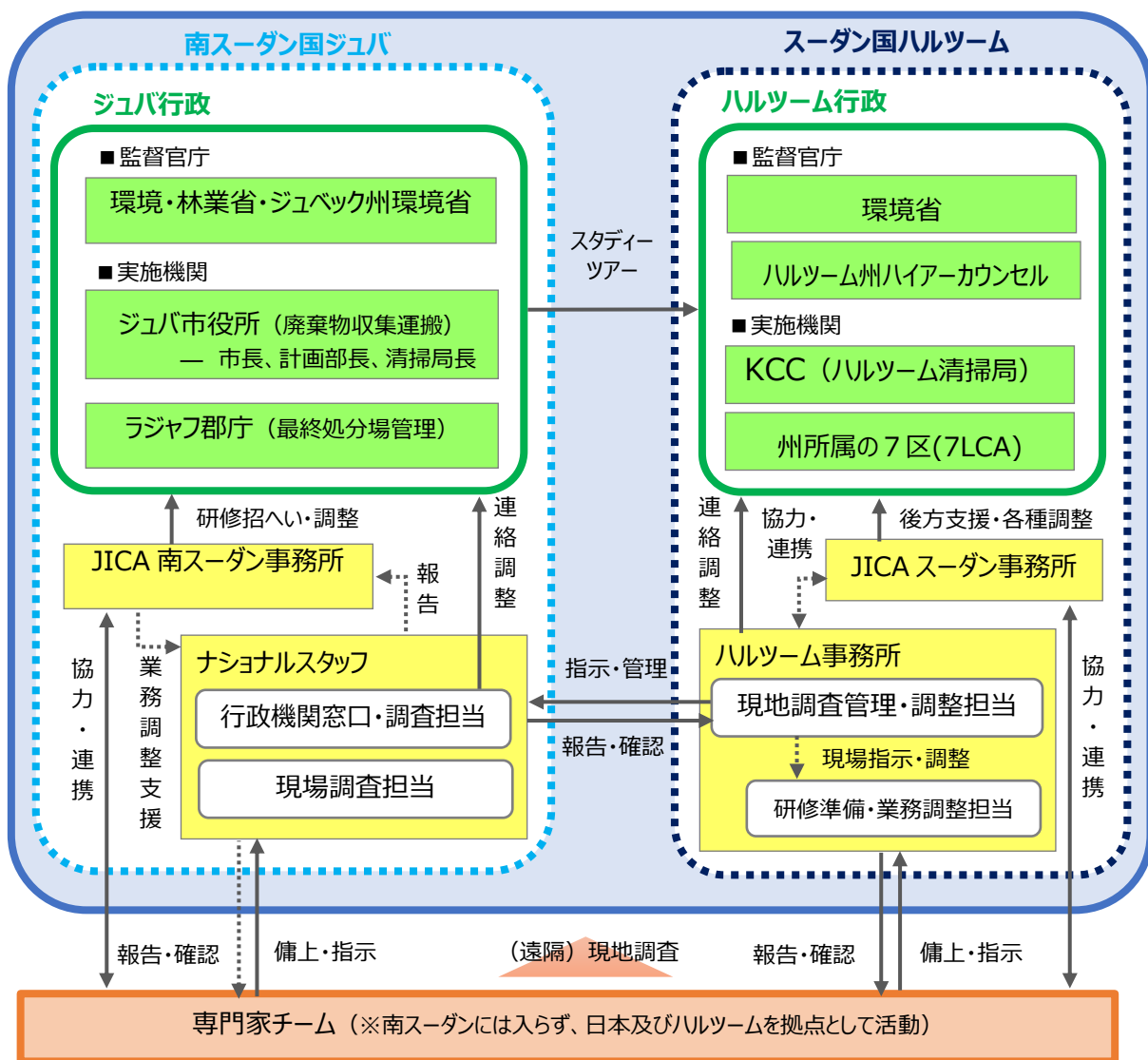


図 1-1 現地調査の実施体制

表 1-1 ナショナルスタッフのメンバー一覧

氏名	勤務地	主な活動実績	役割分担
Johnson Tito	南スーダン国ジュバ市	「南スーダン国ジュバ廃棄物管理能力強化プロジェクト」での活動経験有り。	ジュバ市役所等の行政機関の調査
John Waran	南スーダン国ジュバ市	「南スーダン国ジュバ廃棄物管理能力強化プロジェクト」での活動経験有り。	ごみ収集、最終処分場等現場調査
Adam Eissa Gasim	スーダン国ハルツーム州	スーダンでの廃棄物管理に係る技術協力プロジェクトの活動経験有り。	南スーダンスタッフの現地調査の管理・外部との連絡調整
Gosai Ahmed Mohammed	スーダン国ハルツーム州	スーダンでの行政経験者	スタディーツアー受け入れ準備・スーダン国内の業務調整

(出所) 調査団作成

## 1.6 調査の経緯

本調査は、活動の進捗状況に応じて調査方法を変え、おおまかに5段階に分かれている。

第1段階では、キックオフ・ワークショップの中で、ジュバ市からデータ収集を割り当てられた各参加者がデータを会議に持参し、各々がデータを説明する機会を設けた。しかし残念ながら、ジュバから持参したデータは、会議で解析を重ねると、信頼できるデータではなかった。そこで、ワークショップを通じてデータの重要性や必要性をカウンターパートに説明したが、実際には収集の経験が無いため、理解してもらうことは難しかった。

もう1つ判明したことは、ジュバ市では実際には、ごみ収集を計画的にまた定期的には実施していない可能性が強かったことである。その結果、ジュバには信憑性のあるデータは存在しないのではないかという疑念も出てきた。この時から調査方法を変更し、現地で直接データ収集を行う方法にシフトし、現地から持参したデータは参考扱いとした。

第2段階は、データの取得方法を現地調査とし、現地フィールドで実際に収集したデータを検討、解析することにした。カウンターパートやプロジェクトで雇用したナショナルスタッフが埋立地入口に2週間立って、搬入車両のデータを取得した。データを分析すると、市役所による定期的なごみ収集は殆ど行われていなかった。調査結果から、ジュバ市のごみ処理フローを作成することができた。その結果、ごみ収集率は3%以下であった。埋立地にはほとんどごみが搬入されずに、河川や空き地に不法投棄が行われている実態が明らかとなった。調査期間内に、適正な民間収集が行われている状況は確認されなかった。

スタディツアーでは、ハルツーム州の清掃事業がどのように発展してきたか、JICAが行ってきた専門家派遣、技術協力プロジェクト、無償資金協力などの支援の効果やその相乗効果を説明した。視察先としては、埋立地、中継所、収集現場、ハルツーム州清掃企業局、連邦環境省などを訪問し、廃棄物政策、廃棄物処理構想、ハルツーム州清掃事業のマスタープランの実施について説明した。スタディツアーではカウンターパートのキャパシティ・ディベロップメントに力を入れた。

第3段階では、第1回スタディツアーの終了後、カウンターパートが現地で収集したデータを実際の年次報告書(Annual report)にあてはめてデータの妥当性を検討した。年次報告書にデータを入れることで、データの意味を理解することができ、またデータが適切かどうかカウンターパート自身にチェックさせた。

また、今回のスタディツアー中の講義では、ごみ処理フローに基づく予算の妥当性検証、ごみ量調査(ごみ排出原単位0.65kg/capita/day)の妥当性検証、収集サービスの地域カバー率、ごみ処理フローの再検討、車両の収集能力の再確認、廃棄物管理コストの確認、廃棄物管理システム(埋立処分量、収集率等)の検証、料金徴収の妥当性検証などを試みた。

第4段階は、本調査で収集したデータをまとめ、実現性のある具体的な廃棄物管理方法を検討した。検討にあたっては、我が国の明治から昭和にかけての廃棄物管理の変遷などを参考とし、一次収集の導入と臨時中継所・処分場の建設による収集改善パイロット・プロジェクトの実施が決まった。

第5段階は、パイロット・プロジェクトの進捗モニタリングを通して、カウンターパートの実施能力を検証し、実現可能な廃棄物管理体系とマスタープランの方向性を決めた。

表 1-2 データ収集の経緯

段階	活動（実施国）	調査方法	データ確認結果	次回までの活動
1	キックオフ会議 （ウガンダ） （2017年6月）	・ C/P のプレゼンによるデータの確認	・ データの信憑性が低い	・ C/Pによる現地フィールドでのデータ収集 ・ 遠隔での実態調査の実施
2	第1回 スタディツアー （スーダン） （2017年8月）	・ 現地フィールドで収集したデータ（財務データ、運行記録等） ・ 実態調査結果（搬入量調査結果）の確認	・ 実測データの信憑性を確認	・ 第三国スタッフの派遣による実態調査の実施 ・ 週礼会議の実施 ・ 年次報告書の作成
3	第2回 スタディツアー （スーダン） （2017年10月）	・ 実態調査（ごみ量調査）結果の確認 ・ 年次報告書によるデータの妥当性検証	・ 信憑性のあるデータからMPの基礎となる情報を整理	・ PP検討（一次収集の導入、臨時中継所・処分場の建設）
4	最終会議 （スーダン） （2017年12月）	・ MPの実現性を検証するためのPP計画	・ ジュバC/PのMP計画能力を確認	・ PP実施準備（一次収集車両の製造、PP対象地域の選定、MOU準備、臨時中継所・処分場の建設等）
5	PP進捗モニタリング(1) （2018年3月）	・ PP計画に基づく準備状況の確認	・ ジュバC/PのMP実施能力を確認	・ PP実施（キックオフ開催、対象地域での一次収集開始）
	PP進捗モニタリング(2) （2018年6月）	・ PP実施結果に基づくMPの実現性の検証	・ PP実施結果に基づき、MPの方向性を確認	—

【凡例】 C/P:カウンターパート MOU:ジュバ市役所と一次収集人との覚書 MP:マスタープラン PP:パイロット・プロジェクト

（出所）調査団作成

## 1.7 ジュバ市の基礎情報

ジュバ市の基礎情報は表 1-3 のとおりである。

表 1-3 ジュバ市の基礎情報

項目	内容
人口（推計）	150万人（2015） <sup>1</sup>
面積	71.22 km <sup>2</sup> （2012） <sup>2</sup>
人口密度（推計）	21,061.5 人/km <sup>2</sup>
行政区	3区（ジュバ区、ムヌキ区、カトール区）
自治会（Quarter Council）	55QC
廃棄物発生量（推計）	約1,337 t/日（2017）

<sup>1</sup> 2015年の推定人口。現在は150万人以下であると推定される。

<sup>2</sup> ジュバ市の境界線は定まっておらず、都市部の拡大に応じてジュバ市の範囲が拡大していると想定される。

項目	内容
廃棄物排出原単位	約0.65 kg/人日 (2017年調査結果)
廃棄物収集量	約 34.3 t /日 (2017年調査結果)
収集率	約2.6%
最終処分場 (面積)	Juba Controlled Dumping Site (25 ha)
修理工場	Central garage
廃棄物関連の職員数	174
ドライバー数	5
清掃員数	235

(出所) 調査団作成

### 1.7.1 ジュバ市の社会経済状況<sup>3</sup>

南スーダン共和国は2011年7月に独立した。独立以降混乱が続いており、内政は不安定である。2013年12月に引き続き、2016年7月に衝突が発生し、ジュバ市の治安情勢が一次急速に悪化した。

主要産業は原油と一次産業（農業、林業、畜産業、漁業）であり、1人あたりGNIは790ドル（2015年、世銀）である。長引く衝突により財政支出がひっ迫しており、経済成長率は-6.3%（2015年、世銀）である。

近年、通貨の対ドル減価が急速に進み、急速なインフレが発生している。2015年12月に変動為替相場制が導入され、同日付の相場は1ドル18.5SSPと、固定相場2.96SSPから6倍以上となった。物価上昇率は729%（2016年8月、南スーダン統計局）であり、ガソリンなどの燃料不足も深刻となっている。

### 1.7.2 ジュバ市の人口

ジュバ市では定期的な人口センサスが行われておらず、正確な人口を把握することは困難である。2015年頃、ジュバ市は急激な人口流入により推定人口150万人と言われていた。しかし、2016年7月の武力衝突の影響で国外避難による人口流出が加速し、現在のジュバ市人口は150万人を下回ると推察される。

人口動態が流動的であることから、本調査では、人口を150万人と仮定し、ごみ量推計を行った。報告書の中では、必要に応じて、100～150万人と幅を持たせて記載している。

<sup>3</sup> 外務省HP「南スーダン共和国 (The Republic of South Sudan) 基礎データ」参照。

## 第2章 廃棄物管理に関する法・組織

### 2.1 廃棄物関連法及び条例

#### 2.1.1 国家環境保護法

南スーダン国およびジュバ市において、廃棄物管理に特化した法制度は確立していない。関連法としては、「国家環境保護法（2013年）」と「地方自治法（2009年）」がある。国家環境保護法は環境・林業省によって準備されているが、まだ施行されていない。国家環境保護法は包括的な内容であり、その一部に廃棄物管理が含まれている。2018年6月に南スーダン環境白書（2017）が刊行され、環境政策の一部として廃棄物の適正処理・処分の必要性が強調されている。

地方自治法は、正式に施行されており、地方自治体による公共事業の一般的な事項が記載されている。地方自治法の中で、廃棄物管理は、水道、公衆衛生、電力、交通、通信等と並んで地方自治体による公共事業の1つであると位置付けられている。

#### 2.1.2 ジュバ市の廃棄物管理に係る条例

ジュバ市役所（JCC）は、ジュバ市の廃棄物管理に係る独自の条例を制定している。現在、新たな環境基準や経済状況を反映し、改訂手続きを行っているところである。

環境政策全体では、Juba City Sanitation Reform and Investment Plan が準備され、公衆衛生の改善を目的とした廃棄物管理分野への投資の必要性が言及されている。

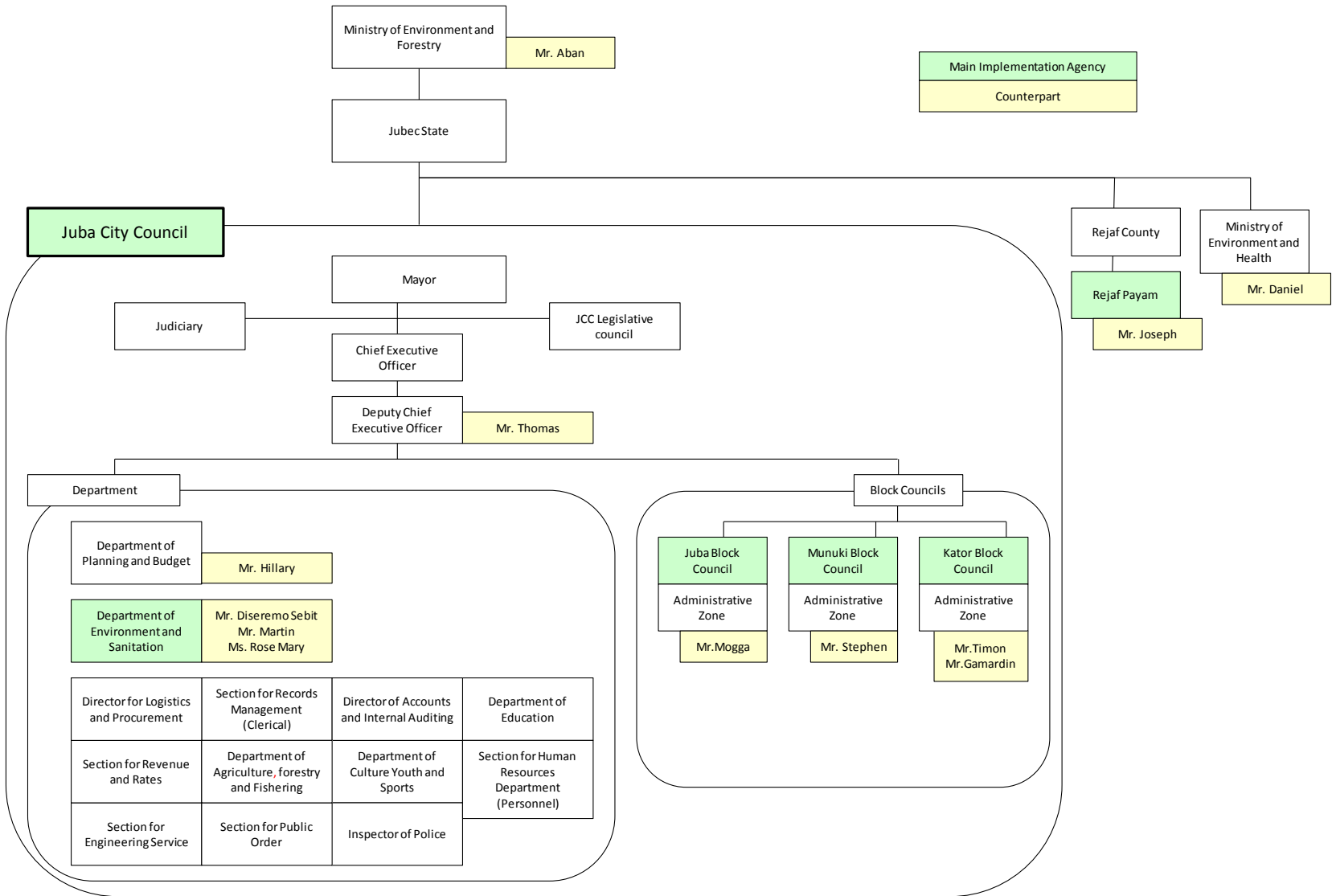
#### 2.1.3 ラジャフ郡（ラジャフ地区）の廃棄物管理に係る条例

ラジャフ郡（Rejaf County）は比較的新しい地方自治組織であることから、廃棄物管理に係る条例を有していない。これまでラジャフ地区（Rejaf Payam）が廃棄物管理の実施主体であったことから、ラジャフ郡とラジャフ地区は、共同で廃棄物管理に係る条例案を作成した。調査期間中に条例案が承認され、正式に施行となった。

### 2.2 ジュバ市における廃棄物管理体制

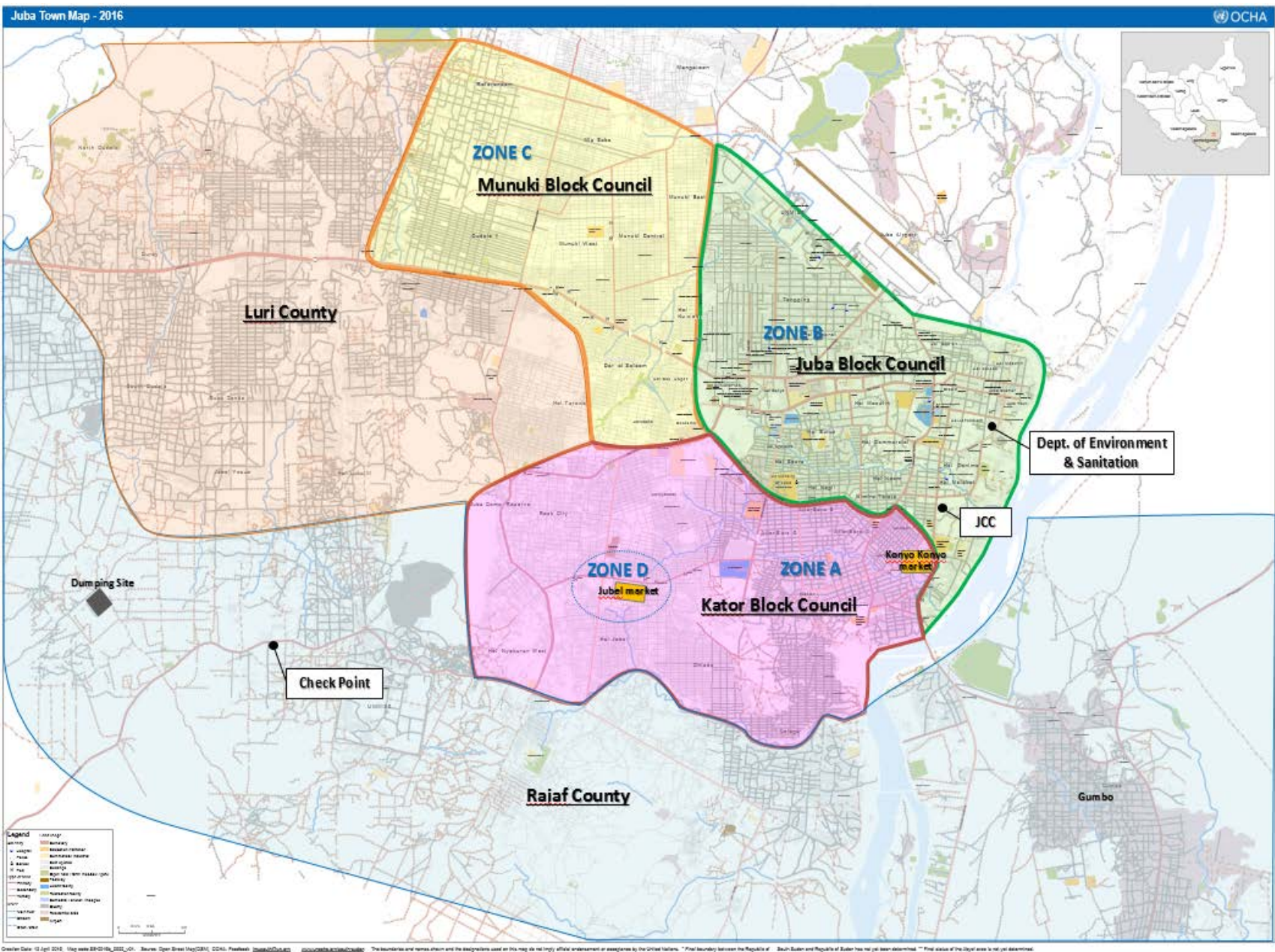
#### 2.2.1 ジュバ市における廃棄物管理組織の関連

ジュバ市における廃棄物管理関連の組織体系は図 2-1 のとおりである。ジュバ市において廃棄物関連組織の中心はジュバ市環境衛生局（Department of Environment and Sanitation of JCC）となり、最終処分場の運営管理をラジャフ郡（ラジャフ地区）で実施している。



(出所) 調査団作成

図 2-1 ジュバ市における廃棄物管理関連の組織体系



(出所) OCHA 提供資料をもとに調査団作成  
図 2-2 ジュバ市における廃棄物管理関連の組織体系 (位置関係)





## 2.2.2 ジュバ市環境衛生局

ジュバ市環境衛生局の組織図は図 2-3 のとおりとなる。職員数の内訳と収集対象地域を表 2-1 及び表 2-2 に示す。

表 2-1 ジュバ市環境衛生局の組織体制

ゾーン	公衆衛生 職員数	環境 職員数	監督 職員	料金 徴収員	警備員	警察	作業員
Zone A	9	3	11	14	8	5	87
Zone B	7	2	6	10	0	4	62
Zone C	4	3	6	11	2	2	51
Zone D	4	3	6	6	6	4	28
Zone E	0	3	13	3	4	6	50
<b>Total</b>	<b>24</b>	<b>14</b>	<b>29</b>	<b>44</b>	<b>20</b>	<b>21</b>	<b>278</b>

(出所) JCC 提供資料

表 2-2 各ゾーンの収集対象地域

ゾーン	収集対象地域
Zone A	Kator Block - Konyokonyo market, Atalabara, Malakia, Lologo Suk Sita
Zone B	Juba Block - Hai Malakal, Juba market, Hai Shaura, Hai Mayo, Nimr Talata, Hai Commercial, Juba Na Bari, Hai Gabat, Hai Cinema
Zone C	Munuki Block - Munuki Block “A”, “B”, “C”, Kuwait, Munuku extension, Gudelle 1 & 2, Rockcoty, & custom, Darsalam,
Zone D	Kator Block - Jebel Market, Nyakuron West, East, & South,
Zone E	Department of Environment: Hotels, Restaurants, NGOs, government institutions, private companies, general markets

(出所) JCC 提供資料

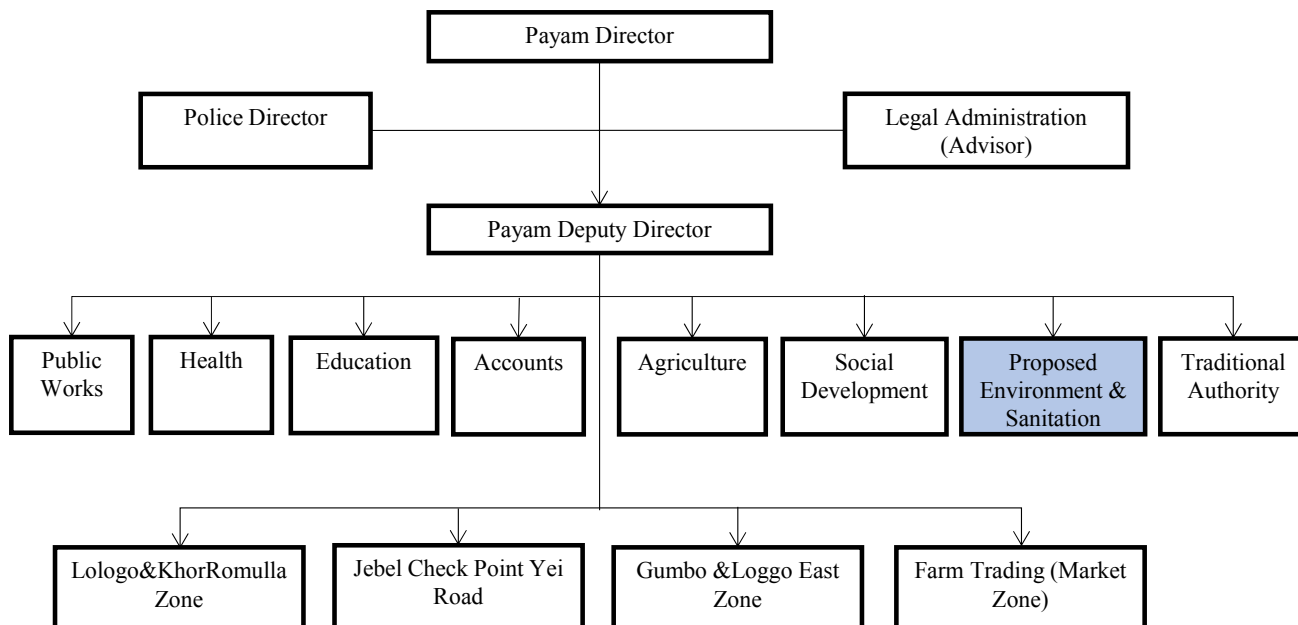


写真 2-1 ジュバ市環境衛生局の入り口

(出所) 調査団 (ナショナルスタッフ) 撮影

### 2.2.3 ラジャフ郡（ラジャフ地区）

ラジャフ地区の組織図は図 2-4 のとおりである。ラジャフ地区では、新たに環境衛生局の新設を申請している。新組織の役職と人員配置は表 2-3 のとおりである。



(出所) ラジャフ地区提供資料

図 2-4 ラジャフ地区の組織図

表 2-3 ラジャフ地区が申請している新ラジャフ環境衛生局の役職と人員配置

役職	氏名	配置状況
Director of Env. & Sanitation	Dr. Rashid Osman	New
D/Director of Solid Waste Management	Mr. Juma Cirilo	New
Asst. Manager of Solid Waste Management	Ms. Grace Marcello	New
Environment Officer	Ms. Flora Ochola	Current Public Health Officer
Dumping Site Supervisor	Mr. Yusif	Temporary Worker
Bulldozer operator	Mr. Mogga	Temporary Worker
Dumping Site Worker	Mr. Tongo	Temporary Worker
Dumping Site Worker	Mr. Justin	Temporary Worker
Watchman	To be confirmed	New
Accountant	Ms. Lilly	Temporary Worker
Revenue Officer	To be confirmed	New

(出所) ラジャフ地区提供資料

## 2.3 役割分担

廃棄物管理に関する役割分担は表 2-4 のとおりである。

表 2-4 廃棄物管理に関する役割分担

	国	ジュバ市		ラジャフ郡庁 <sup>4</sup>
	環境省	ジュバ市役所 (環境衛生局)	区役所 (Kator/ Juba/ Munuki)	
<b>1. 法制度</b>				
・ 環境関連法令の整備	○			
<b>2. 収集・運搬</b>				
・ 収集運搬計画の策定		○		
・ ごみ処理料金の徴収		○		
・ 収集運搬の実施と予算執行		○		
・ 民間業者へのライセンス発行		○		
・ ごみ収集車両の調達		○		
・ ごみ収集車両の維持管理		○		
・ 住民啓発及び環境教育		○	○	
<b>3. 最終処分</b>				
・ 埋立地の運営計画の策定				○
・ 埋立地管理と予算執行				○
・ 埋立処理料金の支払い		○		
・ 埋立処理料金の徴収				○
・ 埋立地管理用の機材調達				○
・ 埋立地管理用の機材の維持管理				○

(出所) 調査団作成

### 2.3.1 収集・運搬

「収集・運搬」に関する活動は、主にジュバ市環境衛生局が実施している。ジュバ市役所の下部組織である3区役所 (Block Council) は住民啓発活動のみを行っており、「収集」「ごみ料金徴収」「収集車両の調達・配車・維持管理」は実施していない。

### 2.3.2 最終処分

「最終処分」に関しては、「最終処分場の埋立作業」「重機の維持管理」「最終処分場での処分費用徴収」等を最終処分場が位置するラジャフ郡 (ラジャフ地区) が実施し、ジュバ市役所がラジャフ地区へ処分費用を支払っている。

<sup>4</sup> 最終処分場の管理はラジャフ地区によって実施されていたが、ラジャフ郡の設置に伴い、最終処分場の監督責任がラジャフ地区からラジャフ郡に移行した。しかし、ラジャフ郡には最終処分場を管理するための経験や人材が不足しているため、実質的には継続してラジャフ地区が最終処分場の管理に係る実務を担っている。

## 第3章 廃棄物管理の状況

### 3.1 廃棄物管理の概要

ジュバ市では内政不安定による治安の悪化や財政悪化の影響を受け、廃棄物管理が適切に行われていない。住宅地での定時定点収集は行われておらず、不法投棄や野焼きが常態化している。河川への不法投棄や市場でのオープンダンピングにより、環境汚染やコレラの蔓延など、環境・公衆衛生の問題となっている。



写真 3-1 住宅地沿いの河川への不法投棄



写真 3-2 河川へ不法投棄されたごみの清掃を行っている様子



写真 3-3 住宅地の道路脇に不法投棄が広がり、  
ごみの一部は野焼きされている

(出所) カトール区提供資料



写真 3-4 市場裏の野焼き跡

#### 3.1.1 家庭ごみ量調査

本調査では、ジュバ市における総排出量を把握するため、家庭ごみの排出原単位調査を実施した。調査の実施にあたっては、スーダン人ナショナルスタッフをジュバ市に派遣し、調査方法の指導・監督を行った。調査結果は日本人専門家が確認し、集計を行った。ごみ量調査は、90 世帯（各ブロック 30 世帯）を対象とし、連続した 7 日間のごみ量を計測した。ごみ量調査の概要を表 3-1 に示す。

表 3-1 ごみ量調査の概要

目的	(1) Measure waste amount generated per person per day in Juba (2) Estimate total waste amount generated in Juba
実施組織	Juba City Council (JCC) Japan International Cooperation Agency (JICA)
調査期間	22 <sup>nd</sup> September, 2017 - 30 <sup>th</sup> September, 2017 (Total 9 days)
対象地域	Munuki Block (30HHs), Juba Block (30HHs), Kator Block (30HHs)
調査対象家庭数	Total 90 HHs (30HHs/block * 3 blocks)
調査方法	[Questionnaire] No. of family member, observation note [Measure] Plastic bag weight

(出所) 調査団作成



写真 3-5 ごみの重量測定の様子

(出所) 調査団 (ナショナルスタッフ) 撮影



写真 3-6 調査対象家庭の例

(ナンバリングによる管理を行った。写真は No. 30 の家庭)

### 3.1.2 処分場搬入量調査

JCC では廃棄物処理量を把握するための定量データを保有していなかったことから、処分場における搬入量調査を実施した。治安悪化により Juba Controlled Dumping Site への搬入量が減少しており、ラジャフ郡 (ラジャフ地区) ではグンボにある大規模不法投棄場におけるごみ処理費 (ティッピング・フィー) の徴収を実施していたことから、調査は Juba Controlled Dumping Site 及びグンボ不法投棄場の 2ヶ所にて、それぞれ 1~2 週間実施した。

調査実施にあたっては、ラジャフ郡 (ラジャフ地区) の協力のもとジュバのナショナルスタッフ 2 名が現地視察を行い、料金徴収を行う会計スタッフに搬入記録用紙への記入方法の指導を行った。搬入記録はラジャフ郡庁が保管し、データ入力にはナショナルスタッフが実施した。搬入記録及び入力されたデータを日本人専門家が確認し、集計作業を行った。処分場搬入量調査の概要を表 3-2 に示す。

表 3-2 処分場搬入量調査の概要

目的	Obtain the certain data of incoming vehicle and waste amount
実施組織	Rejaf Payam Japan International Cooperation Agency (JICA)
調査期間	Controll Dumping Site: 6 <sup>th</sup> July, 2017 - 12 <sup>th</sup> July, 2017 (7days) Illegal Dumping Site: 26 <sup>th</sup> July, 2017- 6 <sup>th</sup> August, 2017 (14 days)
調査項目	Date, Arrival time, Vehicle Number, Reciept Number of Tipping Fee, Driver' s Name, Trips, Type of Vehicle, Tipping Fee Amount, Rate Collector' s Name

(出所) 調査団作成

### 3.1.3 廃棄物発生量

ジュバ市内における廃棄物の発生量は表 3-3 のとおりである。ごみ排出量原単位は、2017 年 9 月に 90 世帯 (各ブロック 30 世帯) を対象に実施した調査結果に基づき算出した。

表 3-3 家庭から発生する廃棄物量 (2017 年 9 月) (トン/日)

	人口	原単位 (kg/人/日)	廃棄物発生量 (トン/日)
Munuki Block	450,000~675,000	0.572	257~386
Juba Block	300,000~450,000	0.571	171~257
Kator Block	250,000~375,000	0.798	200~299
<b>Total</b>	<b>1,000,000~1,500,000</b>	<b>0.654</b>	<b>628~942</b>

(出所) 調査団作成

表 3-4 事業者から発生する廃棄物量 (推計値) (トン/日)

	店舗数	Unit (トン/店舗)	廃棄物量 (トン/日)	
Markets	Jubel Market	900	-	30
	Konyokonyo Market	1,500	-	45
	Juba Market	800	-	25
	Atrabara Market	500	-	20
	Ribiya Market	500	-	20
	Gudele Market	200	-	10
Subtotal (Markets)			150	
Restaurants	100	0.5	50	
Hotels & Institution	31	2	62	
Small shops / others	-	-	100	
<b>合計</b>			<b>262</b>	

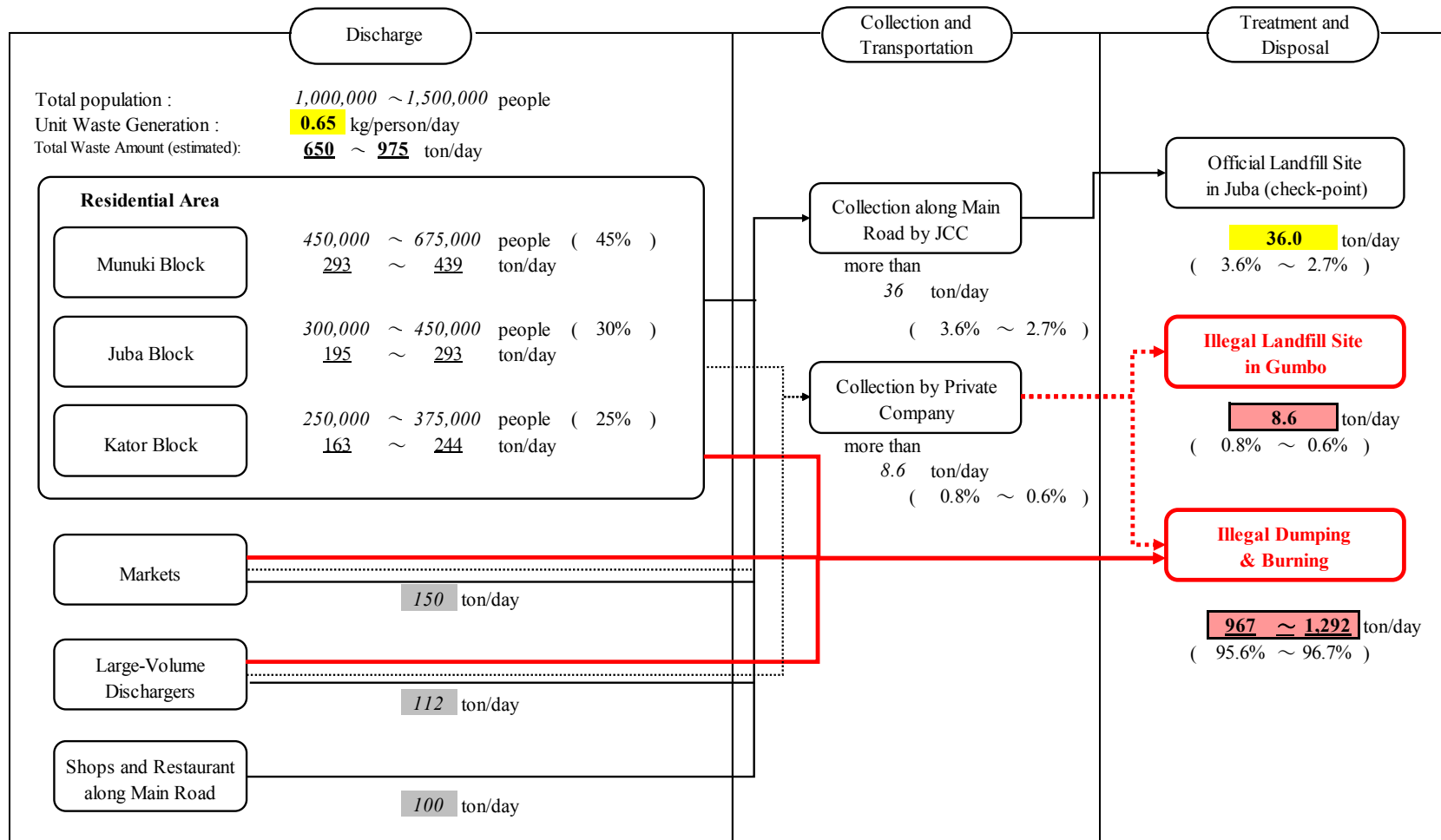
(出所) カウンターパートへのヒアリング結果に基づき調査団作成

### 3.1.4 ごみ処理フロー

ごみ処理フローを図 3-1 に示す。ごみ排出量原単位 0.65kg/人/日及び最終処分場での搬入量（Juba Controlled Dumping Site 34.3 トン/日、グンボ不法投棄場 8.6 トン/日）は現場調査結果を示したものであるが、その他は現地調査にて実測データを取得することが困難であったことから、試算結果を示している。

ごみ処理フローは、ジュバ市の廃棄物管理の全体像を把握するために有効であり、本調査では早期に作成し、カウンターパートと数値を精査していく方法で情報を整理していった。具体的には最終処分場での搬入量調査の結果とカウンターパートへのヒアリングに基づきごみ処理フローの素案を作成し、カウンターパートと議論を重ねて修正した。さらに、家庭ごみ排出量の情報を得るためにスーダン人ナショナルスタッフをジュバに派遣してごみ量調査を実施し、家庭ごみの排出原単位を得た。このように、段階的に情報の精度を高めていった。ごみ処理フローを通じて、廃棄物収集・運搬の形態や収集率、不法投棄の実態などが可視化され、カウンターパートと現状の共通認識を得ることができた。また、ごみ処理フローをもとに、財源の適正利用の検証などが可能となった。





Total Waste Generated Amount  
**1,012 ~ 1,337** ton/day

Total Waste Collection Ratio  
**4.4% ~ 3.3%**

[Legend]

Highlighted in Yellow : Survey data      Highlighted in Red : illegal dumping or inappropriate treatment      Highlighted in Orange: Total (Estimated)  
Highlighted in Gray : Estimated data based on counterparts' hearing      Underline : calculated amount

(出所) ごみ排出原単位調査(2017)をもとに調査団作成

図 3-1 ごみ処理フロー

### 3.2 廃棄物収集・運搬

#### 3.2.1 廃棄物収集車両の状況

JCC が保有する廃棄物収集車両の保有台数及び稼働状況は下記のとおりである。稼働している車両数は必ずしも一定ではなく、イエローコンパクターやトラックは、故障と修理を繰り返しながら使用されている。

表 3-5 廃棄物収集車両（JCC 保有）の保有台数及び稼働状況

車種	製造元	車両数	稼働している 車両数	ナンバープレート	容量 (m <sup>3</sup> )
Yellow colour Compactors	Mercedes	8	0	No plate number, CEG431A, CEG430A, CEG421, CEF423A, CEG429A, CEG420A, CE435A, CE428A, CE427A	25m <sup>3</sup>
Yellow colour Compactors	Man	2	0		25m <sup>3</sup>
White colour UNICEF donated Compactors	Mitsubishi	3	2	JS 0239, JS 0240	25m <sup>3</sup>
Blue & white strips trucks	Nissan Diesel	2	2	CEG 498 A, CEG 181 A	14m <sup>3</sup>
Tractors	Massey Ferguson	3	1	CEG 525 A	8 m <sup>3</sup>

(出所) JCC 提供資料に一部加筆



写真 3-7 JCC が中古購入したイエローコンパクター  
(10 台中 1 台が稼働していたが、2017 年 10 月現在、  
故障により全ての車両が稼働停止している。)



写真 3-8 ユニセフが供与したコンパクター  
(3 台中 2 台が稼働している。)



写真 3-9 White and Blue (Nissan Diesel)  
(出所) 調査団 (南スーダン国ナショナルスタッフ) により撮影

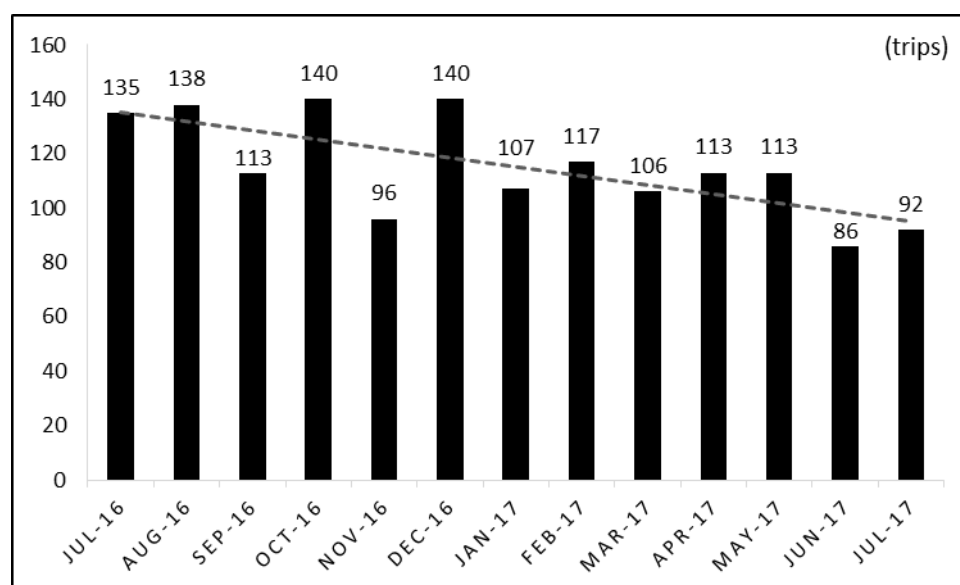


写真 3-10 トラック (8 m<sup>3</sup>)

### 3.2.2 収集状況

#### (1) 収集頻度

JCC の収集車両トリップ数を図 3-2 に示す。収集回数の平均は4回/日であり、コンパクト（25 m<sup>3</sup>）とトラック（8 m<sup>3</sup>）が含まれる。収集車両の整備状況に応じて毎月のトリップ数に変動があるが、記録のある2016年7月以降、収集回数は減少傾向である。



(出所) JCC 提供資料をもとに調査団作成

図 3-2 JCC 収集車両トリップ数 (2016 年 7 月～2017 年 7 月)

#### (2) 収集ルート及び収集方法

南スーダンの舗装率は2.2%（2012年）<sup>5</sup>であり、市内のほとんどは道路が舗装されていない。特に、住宅地は道が狭く、雨季には道路がぬかるんで車両が進入できないことから、JCCによる収集は舗装された（あるいは道が広く整備されている）主要道路に沿って行われている。

道路脇に山積したごみを清掃しながら収集作業を行うため、収集効率が悪い。（写真 3-12 は地面に山積したごみを作業員が手作業で大きな布に乗せてコンパクターに投入している様子。）

<sup>5</sup> African Development Bank (AfDB) Group “South Sudan: An Infrastructure Action Plan” 2013 より



写真 3-11 JCC による収集の様子 (Hai Soujon)



写真 3-12 JCC による収集の様子 (Juba Market)



写真 3-13 メイン道路（舗装された道路）の例  
(2016年のクリーンアップキャンペーン時の様子)

(出所) JCC 提供資料

### (3) 区（ブロック）による一斉清掃キャンペーン

JCC による収集がなされず廃棄物が山積している一部地域で、区（Block Council）主導によるごみの一斉清掃が実施されることがある。ブロックは保健衛生の観点から一斉清掃を実施するため、継続した収集サービスの提供とは異なり、実施は不定期である。一斉清掃に必要な重機の借上げは1トリップで約80USDである。



写真 3-14 市場ごみの撤去の様子(1)

(店舗からのクレームにより、ブロックが重機を借上げ、市場の建物脇に山積するごみの撤去を行った)



写真 3-15 市場ごみの撤去の様子(2)

(ダンプトラックに人力でゴミを持ち上げているところ。人力では終わらず、この後ブルドーザーを借り上げた。)



写真 3-16 市場裏に広がる不法投棄の様子

(出所) カートル区 (Kator Block) 提供資料



写真 3-17 重機による野焼き跡の撤去の様子

### 3.2.3 民間収集業者の状況

#### (1) 民間収集業者の登録状況

JCC には民間収集業者の登録制度があり、収集車両 1 台あたり月 3,000SSP の登録料をジュバ市環境衛生局に対して支払う。登録内容は登録者名、車両ナンバー、収集地域、連絡先の 4 項目であり、登録された地域以外での収集を行うことは認められていない。車両の積載容量や収集運搬量は JCC によって管理されておらず、本調査では確認ができなかった。

民間収集業者の登録状況を表 3-6 に示す。2017 年 10 月に登録業者への確認調査を実施したところ、登録されている 19 台のうち、6 台は車両故障もしくは廃業により稼働していないことが確認された。また、19 社のうち 2 社は今回の確認調査で新たに追加が確認されたものである。

表 3-6 民間収集業者の登録状況

番号	所有者名 (会社名または個人名)	ナンバー プレート	登録料 (SSP)	収集対象地域	連絡先	車両の状態
1	Tedros Bahiby	SSD 975 A	3,000	Munuki block 5, 6	0955387673	Mechanic problem
2	Abraham Kife	CE 207 D	3,000	Altabara	0955013886	Working
3	Daniel Habtesase	CE 915 F	3,000	Hai-Thoura	0954696820	Working
4	Samuel Tewede Michael	CE 299F	3,000	Custom	0955103886	Not working
5	Sedia Sebit	CE 399 Z	3,000	Altabara B	0954105351	Working
6	Habtom Eyob Mehari	CE 236H	3,000	JubaNa Bari	0955673719	Mechanic Problem
7	John Kanuki	CE 809 H	3,000	Juba Na Bari, Munuki Block 8	0955826105	Working
8	Anna CE	SSD 238C	3,000	Munuki Block 9	0955826105	Working
9	Tesfaldes Ohebrihewest	CE 176 G	3,000	Hai- Malakan	0954722964	Working
10	Yohannes Tesfast	CE 731 L	3,000	Hai-Cemina	0955613886	Not working
11	Kebede Ephrem Enew	CE 499H	3,000	Altabara C	0955003003	Not working
12	Muya Daniel Machria	CE 470 B	3,000	Hai-Thouea Hotel	0954608965	Working
13	Meron Afewek	CE 157 B	3,000	Kator Area	0955197036	Not working
14	Solomon Gebrglbher	CE 649 B	3,000	Custom Area	0955369194	Working
15	Nisbirw Goderey	CE 719 H	3,000	Nyankoron	0954722964	Working
16	KIG for waste managment	CE 475 H	3,000	Hai Jalaba Area	No Number	Working

番号	所有者名 (会社名または個人名)	ナンバー プレート	登録料 (SSP)	収集対象地域	連絡先	車両の状態
17	Tesfaldet Ghebrihiwe	SSD 926A	3,000	Munuki Area	0955673819	
18	Abraham	SSD 155 C	3,000	Juba Town	No Number	Working
19	Aferieki Okubazghi	SSD 148 A	3,000	Juba Town	0957109357	Working

※ 網掛けは車両故障もしくは廃業等により登録のみで実際には稼働していない業者

(出所) JCC 提供資料

## (2) 民間収集業者の収集状況

搬入量調査の結果、Juba Controlled Dumping Site への民間収集業者の搬入は無かった。また、グンボ不法投棄場では調査期間中に 44 台の民間車両の搬入が確認されたが、そのうち、民間収集登録業者は 1 社のみであった。このことから、民間収集に関して以下の 3 点が確認された。

- ① 民間収集業者による収集は適正に行われておらず、収集された廃棄物は不法投棄されている。
- ② JCC は民間収集登録業者の適正運搬に関する指導を行っておらず、収集車両や収集量に関する情報を把握していない。
- ③ 民間収集登録業者以外に、未登録の民間収集業者や自己運搬による処理・処分が行われている。

## 3.2.4 多量排出事業者の状況

ジュバ市環境衛生局による収集が行われている多量排出事業者及びごみ処理手数料（ティッピング・フィー）は下記のとおりである。なお、下表は必ずしもジュバ市内の全ての多量排出事業を抽出したものではない。（例えば、国際連合南スーダン派遣団（UNMISS）は廃棄物を自己運搬（処分）しており、ジュバ市環境衛生局との契約関係にないことから、下表には含まれていない。）

表 3-7 ジュバ市環境衛生局による収集が行われているホテル及び施設一覧

番号	施設名	ごみ処理手数料 (SSP/月)	スタンプ (SSP/月)	契約締結日	収集頻度
1	Crown Hotel	12,000	50	15/11/2016	Daily
2	New Sudan Hotel	12,000	50	14/06/2013	Stop contract
3	Dembesh Hotel	12,000	50	29/04/2013	Once a week
4	Quality Hotel	12,000	50	01/05/2013	Once a week
5	Toscana Hotel/Habesh	12,000	50	01/05/2013	Once a week
6	Riviera Hotel	12,000	50	17/01/2016	Once a week
7	Transit Hotel	9,600	50	01/09/2013	Once a week
8	Keren Hotel	9,600	50	03/05/2013	Once a week
9	Star Hotel	9,600	50	01/05/2013	Once a week
10	New York Hotel	9,600	50	01/05/2013	Once a week
11	Concord Hotel	9,600	50	24/05/2013	Once a week
12	Afex hotel	9,000	50	01/5/2013	Once a week
13	Inter Africa Hotel	6,000	50	22/04/2013	Once a week
14	Hamza Inn	6,000	50	14/06/2013	Once a week
15	Oasis Hotel	6,000	50	25/05/2013	Once a week
16	Davinci Hotel	6,000	50	18/04/2013	Once a week

番号	施設名	ごみ処理手数料 (SSP/月)	スタンプ (SSP/月)	契約締結日	収集頻度
17	Juba Raha	6,000	50	14/06/2013	Once a week
18	Bedwein Hotel	6,000	50	01/06/2013	Once a week
19	Sahara Hotel	6,000	50	01/05/2013	Once a week
20	Notos Inn	4,500	50	01/05/2013	Once a week
21	Amos Hotel	3,000	50	22/4/2013	Once a week
22	Commardes	3,000	50	stop	Once a week
①ホテル合計		181,500	1,100		
1	Juba Central Prisons	6,000	50	03/4/2017	Daily
2	Peace Hospital	6,000	50	25/9/2017	Twice a week
3	Egyptian Clinic	3,500	50	22/9/2016	Daily
4	El Sabah Hospital	3,000	50	01/5/2013	Twice a week
5	Mask Company Ltd	4,000	50	Not renewed	Stop contract
6	National Wildlife	4,500	50	03/01/2014	Once a week
7	State Wildlife	4,500	50	03/5/2014	Once a week
8	SPLM House	3,000	50	23/5/2015	Once a week
9	VP Wani Igga House	3,000	50	12/2/2015	Once a week
10	Nunu Kumbo House	3,000	50	01/06/2014	Once a week
②施設合計		373,000	500		
合計 (①+②)		543,100	1,550		

(出所) JCC 提供資料



写真 3-18 ジュバ市内のホテルの例



写真 3-19 ジュバ市内の店舗（市場）の例

(出所) JCC 提供資料

### 3.3 ワークショップの状況

ワークショップ（車両整備工場）は主にガレージ（車庫）として機能しており、うち数台は屋根付きである。簡単な修理設備が隣接しているが、修理できずにガレージ放置された車両も確認できる。



写真 3-20 ワークショップ前に放置された故障車両

(出所) JCC 提供資料



写真 3-21 ワークショップに保管されているイエローコンパクター

### 3.3.1 維持管理能力

ジュバ市ではメカニックの不足及びスペアパーツの不足によって車両の維持管理は困難な状況である。簡単な修理等は可能であるが、修理の程度が大きくなるとジュバ市では実施できず、民間の車両修理会社へ外注していると考えられる。ジュバ市内には一般的な車両を修理する民間修理会社は存在するが、コンパクターのような特殊な車両が修理できるかはスペアパーツの有無や民間修理会社の能力によるため、現実的にはジュバ市内での修理は難しいと考えられる。

### 3.3.2 ワークショップに保管されている其他車両の活用

ワークショップには、現在ごみ収集には活用されていないが稼働可能な車両が数台ある。ジュバ市の廃棄物収集能力が低い現状を考慮すると、これらの車両を収集運搬に利用・転用が有効と考えられる。例えば、小型車両は細い路地や住宅密集地での利用が考えられる。



写真 3-22 バイクコンテナ車

(出所) ワークショップにて調査団 (ナショナルスタッフ) 撮影



### 3.4 最終処分場の状況

#### 3.4.1 最終処分場（Juba Controlled Dumping Site）の状況

最終処分場（Juba Controlled Dumping Site）は衛生管理がなされておらず、治安情勢の悪化により、アクセス道路への不法投棄がなされている状況である。処分場の重機は故障のため稼働しておらず、覆土は行われていない。処分場の主要な課題を以下に列挙する。

- ・ アクセス道路沿いに不法投棄が続き、処分場まで車両が進入できない。
- ・ 処分場周辺の安全が未だ確保されておらず、警察の同行が必要な状況である。
- ・ 異臭やハエにより周辺環境が悪化している。
- ・ ウェストピッカーによる野焼きが行われている。
- ・ ブルドーザーが故障により稼働していない。ラジャフ郡（ラジャフ地区）とジュバ市により修理が行われている。
- ・ 搬入量記録は存在するが、記録方法が統一されておらず、情報も不十分である。日あたりの搬入車両数は3台程度から最大17台程度である。
- ・ スタッフへの給与支払いが滞っており、3～6ヶ月程度滞納している。



写真 3-23 最終処分場全体の様子



写真 3-24 破壊された処分場周辺フェンス



写真 3-25 管理棟は建屋のみが残っている状態  
(出所) 調査団 (ナショナルスタッフ) 撮影



写真 3-26 故障により稼働停止したブルドーザー

### 3.4.2 処分場搬入量

1週間の搬入量調査の結果、処分場における搬入車両数は1週間合計 31 トリップ<sup>6</sup>（1日あたり平均 4.4 トリップ/日）であった。搬入車両は JCC のコンパクター、JCC のオープントラック及び UN 所有のオープントラックの3種類である。JCC の車両インベントリに基づき、コンパクターの積載容量を 12 トン/台、オープントラックの積載容量を 2 トン/台と仮定して搬入量の試算を行った。調査期間中の搬入ごみ量は 252 トン/週であり、1日あたり平均 36.0 トン/日であった。搬入車両数（実績値）及び搬入ごみ量（推計値）の調査結果を表 3-8 に示す。

また、ごみ処理料（ティッピング・フィー）は、調査期間合計で 11,730SSP であり、1日あたり平均 1,676 SSP であった。なお、1トリップあたりの徴収料金はコンパクター210SSP、オープントラック 110SSP であるが、UN 車両のみ1トリップ 6,000 SSP のごみ処理料を徴収している。UN 車両を除いた場合、1日あたりのごみ処理料の平均徴収額は 819 SSP である。

表 3-8 処分場搬入車両数及び搬入ごみ量 (Juba Controlled Dumping Site)

車種	トリップ数	車両積載容量*	廃棄物処分量
Compactor	19 トリップ/週	12 トン	228 トン/週
Tipper	12 トリップ/週	2 トン	24 トン/週
合計	31 トリップ/週	-	252 トン/週

\* 車両積載容量は想定値

(出所) ラジャフ郡 (ラジャフ地区) 提供資料より調査団作成

### 3.4.3 搬入車両の状況

搬入車両の状況を表 3-9 に示す。コンパクターはユニセフより供与された3台のうち2台が稼働しており（車両ナンバー0239、0240）、調査期間中は中古で購入したイエローコンパクターや日産トラックは稼働していなかった。ドライバー別にみると、コンパクターの運転手は3名 (Alex, Ladu Robert, Ruman) であり、2台の車両を3名が交替で利用していた。オープントラックは1名 (Siman K) が専属で運転しており、平均1～3トリップ/日搬入していることが確認された。

表 3-9 車両別・ドライバー別搬入回数 (1週間合計)

ナンバープレート 運転手	0239 (compactor)	0240 (compactor)	671 (UN truck)	GE-4120-A (Tipper)	週あたりの トリップ数
Alex		5			5
Ladu Robert	4	3			7
Ruman	5	1			6
Simun K				12	12
UN			1		1
<b>Total</b>	<b>9</b>	<b>9</b>	<b>1</b>	<b>12</b>	<b>31</b>

(出所) ラジャフ郡庁提供資料より調査団作成

<sup>6</sup> 収集車両1台がごみ収集から処分場への搬入までを行う1サイクルを指す。JCC コンパクターの1日あたりの平均トリップ数は1～2トリップ/日である。

### 3.5 不法投棄の状況

ジュバ市では廃棄物の多くが不法投棄されており、環境汚染や公衆衛生の問題を引き起こしている。不法投棄量は正確には把握されておらず、不法投棄場所は市内外に点在している。その中でも特に被害が深刻なのは、ジュバ市街地に近くアクセスの良い Gumbo の Juba-Kapoeta, Nimule Highway（以下、「Juba-Nimule Highway」という。）沿いで、巨大な不法投棄場が発生していることが確認された。また、Juba Controlled Dumping Site の治安悪化に伴い、処分場のアクセス道路である Juba-Lainya, Yei Road（以下、「Juba-Yei Road」という。）への不法投棄が確認されている。

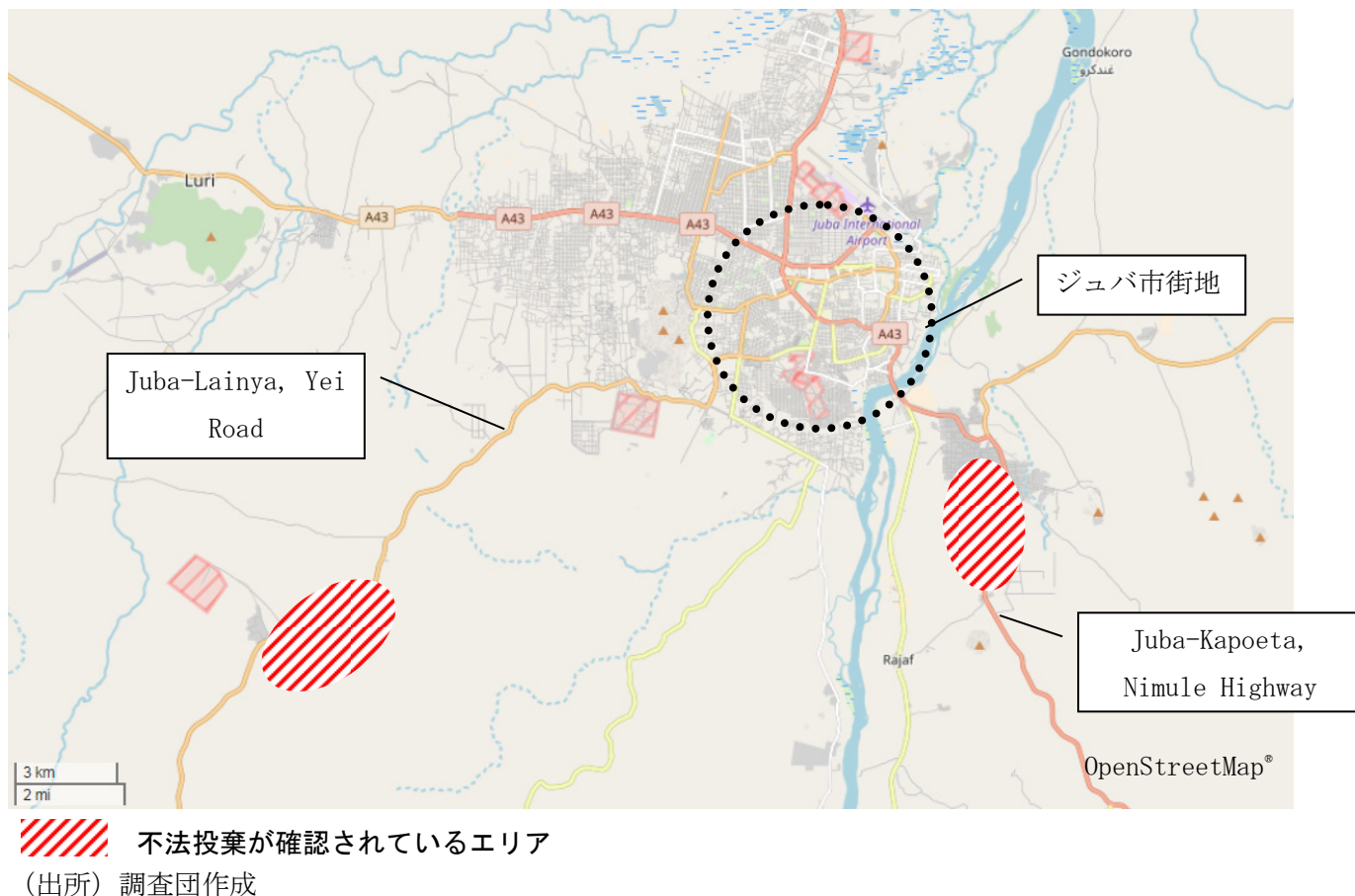


図 3-3 不法投棄が確認されているエリア

#### 3.5.1 ゲンボ不法投棄場（Juba-Nimule Highway）の状況

ジュバ・ニムレ道路脇に巨大な不法投棄場が形成され、周辺環境の著しい悪化を引き起こしている。

- ・ 不法投棄場は目算で約 0.4km<sup>2</sup>（約 1.5km×0.25km）広がっている。
- ・ 主要な市場から近く、道路もアスファルトでアクセスが良いことから、ごみが不法投棄場に持ち込まれるようになり、急激に投棄量が増加している。
- ・ 不法投棄場は川沿いに形成されており、雨季にはごみが川に流れ込んでいる。
- ・ 重機はなくオープンダンプングである。
- ・ 1日あたりの搬入量は約4台から10台程度である。



写真 3-27 主要道路脇に広がる不法投棄場  
(出所) 調査団 (ナショナルスタッフ) 撮影



写真 3-28 民間車両による不法投棄の様子

### (1) 不法投棄ごみ量

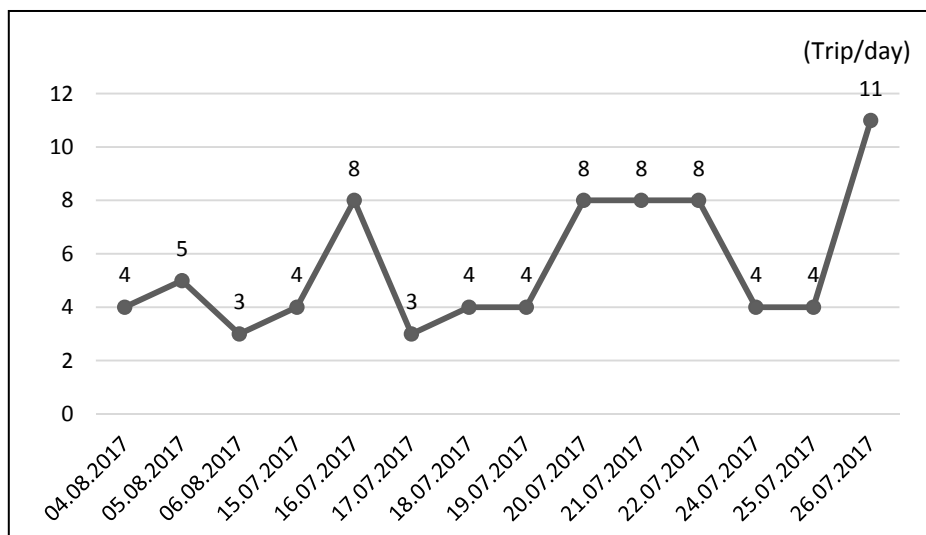
2週間の不法投棄場における現地調査の結果、2週間で44台、78トリップ（1日あたり平均5.6トリップ/日）の不法投棄が確認された。確認された44台の車両のうち、民間収集ライセンスの登録車両は1台のみであった。ラジャフ郡庁では、不法投棄場でのごみ処理料（ティッピング・フィー）の徴収を行っており、大型車に対しては200～500SSP/トリップ、小型車に対しては100～160SSP/トリップを徴収している。大型車を3トン/台、小型車を1トン/台と仮定すると、調査期間中の不法投棄量は120トンであり、1日あたり平均8.6トン/日の不法投棄が確認された。不法投棄車両数及び不法投棄ごみ量の推計結果を表3-10に示す。また、1日あたりの不法投棄車両数の推移を図3-4に示す。

表 3-10 不法投棄車両数及び不法投棄ごみ量 (Juba-Nimule Road)

ごみ処理料金 (SSP/トリップ)	搬入車両数 (トリップ)	車両積載容量* (トン/台)	廃棄物処理量 (トン/2週間)
<b>Big</b>	<b>21</b>	-	<b>63</b>
200	8	3	24
260	1	3	3
300	8	3	24
400	1	3	3
500	3	3	9
<b>Small</b>	<b>57</b>	-	<b>57</b>
100	7	1	7
150	24	1	24
160	26	1	26
<b>Total</b>	<b>78 Trips/two weeks (44 vehicles)</b>	-	<b>120 ton /two weeks (8.6 ton/day)</b>

\* 車両積載容量は想定値

(出所) ラジャフ郡 (ラジャフ地区) 提供資料より調査団作成



(出所) ラジャフ郡庁提供資料より調査団作成

図 3-4 1日あたりの不法投棄車両数の推移 (Juba-Nimule Road)

## (2) 不法投棄場におけるごみ処理料金の徴収額

不法投棄場におけるごみ処理料 (ティッピング・フィー) の徴収額は、調査期間合計で 14,620 SSP であり、1日あたり平均 1,044 SSP であった。なお、1 トリップあたりの徴収料金は大型車と小型車で区別されているものの、正確な金額は決められておらず、料金徴収担当員が車両の大きさや積載量を目視で確認し、判断しているものと考えられる。不法投棄場におけるごみ処理料金の徴収額を図 3-5 に示す。

図 3-5 不法投棄場におけるごみ処理料金の徴収額 (Juba-Nimule Road)

車両サイズ	ごみ処理料金 (SSP/ 2 週間)
Big	6,160
Small	8,460
Total	14,620

(出所) ラジャフ郡 (ラジャフ地区) 提供資料より調査団作成

## 3.5.2 アクセス道路 (Juba-Yei Road) の不法投棄の状況

Juba Controlled Dumping Site の治安悪化や重機の故障によるオペレーション不足により、収集車両が処分場に進入できず、アクセス道路への不法投棄が行われている。ジュバ・イエイ道路は、市街地からチェックポイントまで舗装されているが、チェックポイント以降は舗装されていない。

- ・ アクセス道路への不法投棄を行う車両数は正確に記録されていないが、民間収集登録業者や JCC のコンパクターが含まれている。(写真 3-29 は JCC のコンパクターがアクセス道路で不法投棄を行っている様子)
- ・ アクセス道路でのウェストピッカーの活動が確認された。



写真 3-29 アクセス道路での投棄の様子  
(出所) 調査団 (ナショナルスタッフ) 撮影

### 3.6 データ検証

#### 3.6.1 家庭ごみ量の妥当性検証

家庭ごみ排出量はごみ排出量原単位に都市人口を乗じて算出する。人口センサスが不確かである為、またごみ排出量原単位調査を継続して実施することが困難である為、本調査期間内では、「3.1.3 廃棄物発生量」及び「3.1.4 ごみ処理フロー」に示す以上のデータ精度を求めることは困難である。

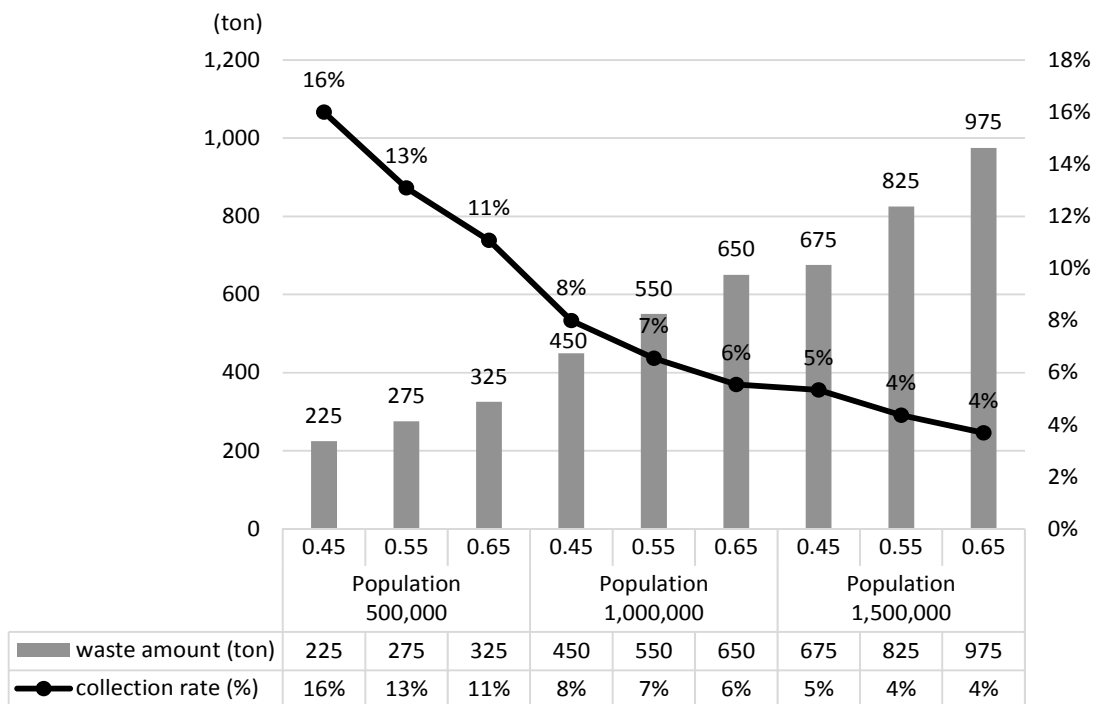
そこで、ジュバ市人口を 50 万人、100 万人、150 万人、ごみ排出量原単位を 0.45kg/人/日、0.55 kg/人/日、0.65 kg/人/日と仮定し、家庭ごみ量及び収集率の推計結果に対する影響を確認した。また、ケース別のごみ収集率を算出した。

人口別、原単位別の家庭ごみ量及び収集率の推計結果を表 3-11 及び図 3-6 に示す。設定条件下での家庭ごみ量は 225 トン/日～975 トン/日、収集率は 3.7%～16%と推計された。現時点ではジュバ市によるごみ収集の絶対量が極めて少ないことから、人口流出やごみ量データの不確実性が収集率の推計結果に与える影響を考慮しても、収集率の低さは顕著である。

表 3-11 人口別、原単位別の家庭ごみ量及び収集率の推計結果

Unit (kg/capita/day)	Population 500,000		Population 1,000,000		Population 1,500,000	
	waste amount (ton)	collection rate (%)	waste amount (ton)	collection rate (%)	waste amount (ton)	collection rate (%)
0.45	225	16.0%	450	8.0%	675	5.3%
0.55	275	13.1%	550	6.5%	825	4.4%
0.65	325	11.1%	650	5.5%	975	3.7%

(出所) 調査団作成



(出所) 調査団作成

図 3-6 人口別、原単位別の家庭ごみ量及び収集率の推計結果 (グラフ)

## 第4章 廃棄物管理に関する財務状況

### 4.1 ジュバ市の財務状況

ジュバ市ではジュバブロック議会 (JBC)、カートルブロック議会 (KBC)、ムヌキブロック議会 (MBC)、環境衛生局の4つの特別会計があり、ジュバ市議会 (JCC) の一般会計から会計を独立させている。2011/12年度～2014/15年度のジュバ市の決算額を表4-1に示す。

2014/15年度のジュバ市の決算総額は48,185千SSP (約3,830万円) である。廃棄物関連費/清掃費は、環境衛生局の特別会計から支出されており、2014/15年度の決算総額は6,643千SSP (約530万円) である。環境衛生局の決算額がジュバ市全体に占める割合は、約14%である。

表4-1 ジュバ市の決算総額 (2011/12 - 2014/15年度)

	2011-12	2012-13	2013-14	2014-15
JCC Headquarters	5,524,262	7,537,712	11,503,402	8,570,109
Juba Block Council	2,511,480	6,686,520	9,199,899	9,815,459
Kator Block Council	2,017,140	6,383,300	9,828,946	14,307,401
Munuki Block Council	2,505,800	6,322,730	7,875,655	8,847,679
Dept. of Environment & Sanitation			1,585,800	6,643,950
<b>Grand Total of Revenue</b>	<b>12,558,682</b>	<b>26,930,262</b>	<b>39,993,702</b>	<b>48,184,599</b>

(出所) JCC 提供資料

### 4.2 財務管理体制

財務管理は期初の財務計画に従い、料金徴収と支出が行われる。財務計画は単年でのキャッシュフロー計算書のような役割を果たしており、年に一度、中央政府の歳入・歳出報告フォーマットを以て歳出を報告し、翌年度の財務計画の承認を受ける。

出納管理は毎週行われており、財務委員会 (Financial Committee) の週例会議にて支出項目と支出額を決定し、中央政府の会計課に提案する。提案が承認されると中央政府の会計課より現金が手渡される。承認された支出額に対して前週の収入額に過不足がある場合は、差額を銀行口座から補てん (または預金) される。しかし、実態としては、昨今の経済状況の悪化により銀行口座は利用されておらず、他局・ブロック・JCC間の差額援助が行われている。

監査役は業務内容を確認し、支出に対する成果が十分でない場合、財務関連書類を確認する。資金運用の透明性を確認する外部の監査役は配置されていない。

#### 4.2.1 環境衛生局の財務状況

##### (1) 歳入

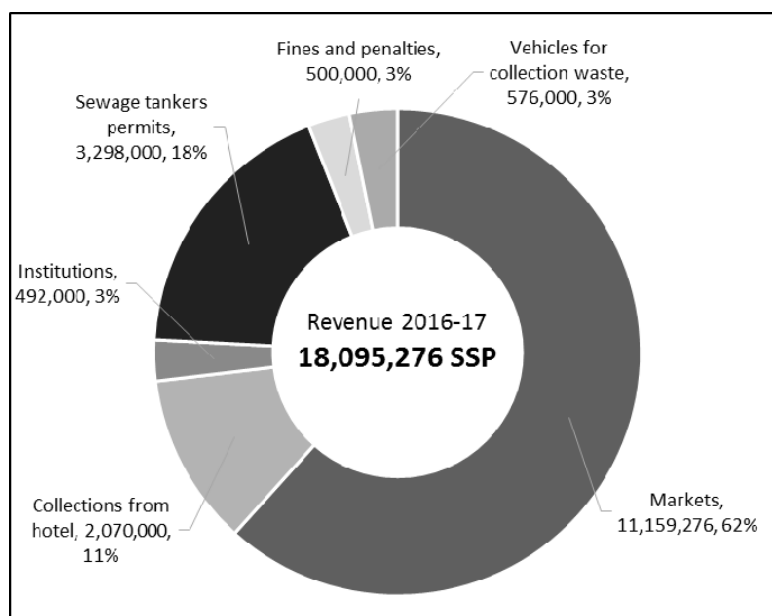
ジュバ市の廃棄物管理活動に要する経費の収入源は、主に①ごみ収集料金、②一般廃棄物・汚泥処理に係る車両運行許可証発行料金、③罰金の3項目である。大部分がごみ収集料金の徴収により賄われており、なかでもマーケットからの料金徴収は全体の62%を占めている。



表 4-2 環境衛生局の収入額 (FY 2016/17) (SSP)

	収入源	当初計画額	実際の収入額
1	Market	27,150,650	11,159,276
2	Hotel	2,404,500	2,070,000
3	Institution	527,000	492,000
4	Issuing Permission to Sewerage Tanker	1,535,000	3,298,000
5	Issuing Permission to Waste Collection Vehicle	660,000	576,000
6	Fine and Penalties	454,500	500,000
	<b>Total</b>	<b>32,731,650</b>	<b>18,095,276</b>

(出所) 2016/17 年度決算報告書 (JCC)



(出所) 2016/17 年度決算報告書 (JCC)

図 4-1 環境衛生局の収入内訳 (FY 2016/17)

(2) 歳出

JCC 環境衛生局の 2016/17 年度の総支出額は 18,095 千 SSP (約 1,440 万円) である。支出内訳は表 4-3 のとおりである。

表 4-3 環境衛生局の支出 (FY 2016/17)

コード	支出項目	支出額 (SSP)
21	<b>Wages &amp; Salaries</b>	<b>8,382,186</b>
211	Wages & Salaries	2,671,699
212	Incentives and over time	5,583,350
214	Social benefits	127,137

コード	支出項目	支出額 (SSP)
<b>22</b>	<b>Use of goods and services</b>	<b>9,100,290</b>
221	Travel	95,000
222	Staff training	330,000
223	Contracted Services	3,559,576
224	Repairs and Maintenance	1,917,905
225	Utilities and Communications	294,910
226	Supplies, Tools and Materials	2,606,809
227	Other operating expenses	296,090
<b>28</b>	<b>Capital Expenditure</b>	<b>612,800</b>
281	Infrastructure and lands	612,800
282	Vehicles	0
283	Specialized Equipment	0
	<b>合計</b>	<b>18,095,276</b>

(出所) 2016/17 年度決算報告書 (JCC)

### (3) 独立会計口座

JCC 環境衛生局は清掃費管理用に銀行口座を所持する。JCC の Executive Director が当口座を管理し、環境衛生局が口座からの出金を必要とする場合、財務委員会の週例会議において承認する。しかし、昨今の経済状況悪化を受け、銀行口座からの出金は難しいため、実態としては収集した料金を口座へ入金せずに運用している。

また、ジュバ市の清掃費は独立採算制であり、市の一般会計とは経済活動を別にするとされているものの、実際には中央政府/州/JCC から一部職員の給与の交付を受けているほか、他部局・ブロック・JCC の週予算が計画活動費に満たない場合には援助支出を行っており、財務の独立性及び透明性が担保されていない。

### (4) 財務委員会メンバー

環境衛生局の財務委員会のメンバーを表 4-4 に示す。

表 4-4 環境衛生局の財務委員会メンバー

氏名	役職
Martin Manasse Lemi	Director of Environment & Sanitation
Rosemary Venansio	D/Director of Environment
Peter Ezibon	D/Director for operation
Sally Jadalla	D/Director for Revenue
Clement Wani	Finance Manager
Andrew Taban	Logistic Manager

(出所) JCC ヒアリング結果に基づき調査団作成

### 4.3 処分場運営に係る財務状況

ラジャフ郡（ラジャフ地区）は、2013年に最終処分場の独立口座を開設した。独立口座の収入は主に最終処分場のごみ処理手数料であり、資金は処分場の運営管理のために利用される。独立口座への預入及び引出には、ラジャフ郡庁の所長決裁が必要であり、会計担当職員のみが資金の出し入れを行う。処分場の監督機関がラジャフ地区（Rejaf Payam）からラジャフ郡（Rejaf County）へ移管したことを受け、現在、独立口座の名称は” Rejaf controlled dumping site account” に変更されている。

### 4.4 データ検証

#### 4.4.1 ごみ処理フローに基づく支出の妥当性検証

2016/17年度のトンあたりの清掃コストは13,534 SSP/トン（約10,757円）である。単純な比較はできないが、参考として日本の清掃コストを見ると、トンあたりの清掃コストは約44,326円/トン（平成27年度）<sup>7</sup>である。ジュバ市における清掃コストの大半が収集運搬費であると仮定し、収集運搬費のみを抽出すると、日本のトンあたり清掃コスト（収集運搬費）は約21%にあたる約9,149円/トンである。

（計算式）

$$\frac{\text{環境衛生局の決算額（2016/17年度）18,095,276 SSP}}{\text{廃棄物発生量1日あたり1,334 トン}} = 13,534 \text{ SSP/トン}$$

#### 4.4.2 廃棄物管理コストの確認

##### (1) 項目別コストの整理

廃棄物管理コストを確認するため、2016/17年度の歳出を「人件費」、「運転管理費」、「メンテナンス費」、「ごみ処理費（ティッピング・フィー）」、「事務処理費」、「その他費」のカテゴリに整理を試みたが、データが不足しており、項目別コストを検証することはできなかった。

<sup>7</sup> 環境省「日本の廃棄物（平成27年度）」を元に算出

(2) 人件費

廃棄物管理に携わる現場作業員の人件費の妥当性について、表 4-5 に示す前提条件に基づき必要な人件費の試算を行い、2016/17 年度の決算額との比較検証を行った。結果を表 4-6 に示す。

表 4-5 人件費試算の前提条件

給与支払額	8,382,186 SSP (2016/17 年度の決算額)	①
給与単価	運転手：1,250 SSP/month/person	②
	作業員（運転手以外）：1,000 SSP/month/person ※社会保障、手当等を含む	③
雇用者数	運転手：5 名	④
	作業員：278 名	⑤
雇用期間	12 ヶ月	⑥

(出所) 調査団作成

表 4-6 試算結果 (人件費)

	想定される給与支払額	実際の給与支払額
計算式	$⑦ = \{ (② \times ④) + (③ \times ⑤) \} \times ⑥$	①
試算結果	3,411,000 SSP	8,382,186 SSP

(出所) 調査団作成

検証の結果、JCC へのヒアリングに基づき算出した給与支払額と実際の給与支払額に大きな乖離（差額 4,971,186 SSP）が見られた。差額の用途は不明である。実際の給与額から割り戻した作業員一人あたりの月給は 2,400 SSP である。昨今の急激な物価上昇に鑑み、作業員の待遇改善（給与の見直し）がなされるべきである。

(3) 燃料費

燃料費の妥当性について、表 4-7 に示す前提条件に基づき必要な燃料費の試算を行い、2015/16 年度の決算額との比較検証を行った。結果を表 4-8 に示す。

表 4-7 燃料費試算の前提条件

燃料費支払額	938,076 SSP (2015/6 年度決算額)	①
燃料単価	22 SSP/L	②
燃費	6 km/L と仮定	③
走行距離	40km/trip と仮定	④
1 日のトリップ数	4 trips/day (2016 年実績)	⑤
収集車両稼働日数	365 days/year	⑥

(出所) 調査団作成

表 4-8 試算結果（燃料費）

	想定される燃料費	実際の燃料費
計算式	⑦=②×(④×⑤×⑥)/③	①
試算結果	211,200 SSP	938,076 SSP

(出所) 調査団作成

決算額に収集車両以外の車両（料金徴収車両等）の燃料費が含まれているため、正確な比較はできないが、想定される燃料費と実際の燃料費に乖離が見られた。乖離の原因として、収集の非効率さに起因する燃費効率の悪化なども考えられるが（実際の燃料費支払額から逆算される燃費は 1km/L）、その他に燃料不足による燃料単価の上昇や燃料費の不正利用などが影響しているのではとないかと考えられる。

また、JCC の記録では、2015 年にコンパクターが消費した燃料（ディーゼル）は 2,340 リットル/週であり、2015 年 12 月の衝突以降は 1,500 リットル/週を購入しているとの記述がある。一方、2015/16 年度の決算額から逆算される燃料の量は約 830 リットル/週であり、記録の整合性が見られない。

#### (4) ごみ処理費（ティッピング・フィー）

ごみ処理費について、表 4-9 に示す前提条件に基づき、2015/16 年度の決算額との比較検証を行った。結果を表 4-10 に示す。

表 4-9 ごみ処理費の前提条件

ごみ処理費支払額	231,000 SSP (2015/16 年度決算額)	①
ごみ処理料単価	210 SSP/trip	②
搬入車両台数	4 trips/day (2016 年実績)	③
収集車両稼働日数	365 days/year	④

(出所) 調査団作成

表 4-10 試算結果（ごみ処理費）

	想定されるごみ処理費支払額	実際のごみ処理支払額
計算式	⑤=②×③×④	①
試算結果	306,600 SSP	231,000 SSP

(出所) 調査団作成

実際のごみ処理支払額から推察されるトリップ数は 3trips/day であり、搬入記録よりも若干少ないものの、ごみ処理支払額と想定されるごみ処理費に大きな乖離が無いことが確認された。

## 第5章 調達事情（第三国調達）

無償資金協力を実施する場合に調達が想定される機材・消耗品等の原産国、調達先、スペアパーツの調達可能性等を考慮し、調達方法の検討を行った。対象とする機材に関しては「廃棄物収集車輛」「最終処分場用重機」を想定した。

### 5.1 日本国内での調査結果

将来のジュバ市への将来の無償資金協力業務を考慮し、日本の商社2社へ南スーダン案件の無償資金協力への参入可能性についてヒアリングを実施した。概要は下記のとおりである。

#### 5.1.1 無償資金協力業務での機材供与の可能性

機材の原産国は日本製、海外製のどちらでも参入可能とのことであった。ただし、現在の南スーダンジュバ市の治安状況を考慮すると、日本人のジュバ現地派遣は難しく、必要に応じて隣国ケニア等での初期操作指導等を実施することは可能とのことであった。

#### 5.1.2 機材及びスペアパーツの調達先

代理店の所在地、在庫状況にもよるが、ケニア、エチオピア、UAE、南アフリカ、日本から調達可能である。将来的には隣国のケニアから調達可能な機材を調達することが望ましい。

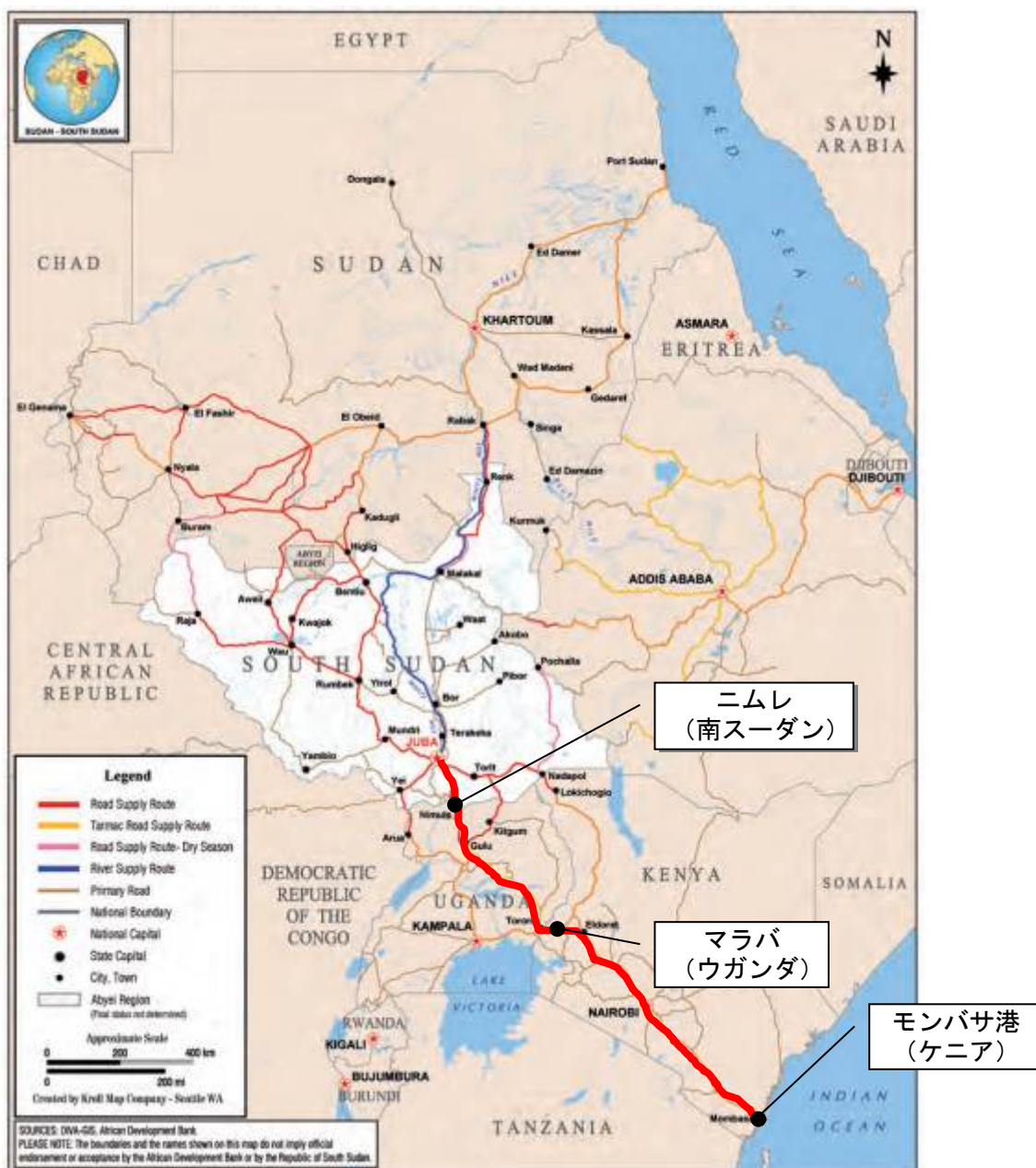
#### 5.1.3 現地までの輸送ルート

機材の原産国に関わらず、以下のルートが有力とのことである。

表 5-1 ジュバ市までの調達ルートと留意事項

<b>輸送ルート</b>	海外輸送：原産国→モンバサ港（ケニア） 内陸輸送：モンバサ港（ケニア）→マラバ（ケニアとウガンダの国境） →ニムレ（ウガンダと南スーダン国境）→ジュバ市
<b>留意事項</b>	<ul style="list-style-type: none"> <li>・ 内陸輸送は自走を想定</li> <li>・ ニムレで襲撃対策の為護送車を付ける必要があり、時間とコストが多少かかる可能性あり</li> <li>・ 雨季は道路状況が悪化するためウガンダの大雨季3～5月と小雨季9～11月の輸送は避けた方が好ましい</li> </ul>

（出所）調査団作成



(出所) African Development Bank (AfDB) Group “South Sudan: An Infrastructure Action Plan” 2013 を基に調査団作成

図 5-1 南スーダンと近隣国との位置関係と幹線道路

## 5.2 南スーダンでの調査結果

現在、ジュバ市では廃棄物収集機材としてコンパクターを所有している。簡単な修理は実施可能であるが、大規模な修理はメカニックの能力不足やスペアパーツの供給が不十分で実施できていない。スペアパーツの供給は民間の自動車関連会社から可能であるが、コンパクターや重機等の特殊な部品等は海外調達となり入手が難しい状況である。

また、ラジャフ郡（ラジャフ地区）では 2013 年に技術協力プロジェクトで供与した最終処分場用重機（ブルドーザー）を所有しているが、メンテナンス能力は高くなく、2015 年中頃から故障したままである。JCC 同様、大規模な修理はメカニックの能力不足やスペアパーツの供給が不十分で実施できていない。

### 5.3 近隣国での調査結果

ウガンダ国で自動車中古車販売を実施している会社へヒアリングを実施した。同社は南スーダンでの中古車事情等にも精通しており、南スーダンにおける車輛の販売、メンテナンス状況について下記のような情報を得た。

表 5-2 ウガンダ国での中古車販売会社へのヒアリング結果

南スーダン(ジュバ)の自動車流通事情	<ul style="list-style-type: none"> <li>南スーダン(ジュバ)における新車販売については、TOYOTA が空港近くのホテルに店舗を構えている。</li> <li>南スーダン(ジュバ)向けの中古車では、ダンプトラックやピックアップトラックが人気である。</li> </ul>
南スーダン(ジュバ)への輸送ルート	<ul style="list-style-type: none"> <li>中古車はケニア経由で南スーダンへ輸入されているものが多い。これはウガンダを経由すると検査費用が高額(約 USD 300)となるためである。</li> </ul>
南スーダン(ジュバ)での車輛整備	<ul style="list-style-type: none"> <li>ジュバでは普通車が多く走っており、通常のメンテナンスを実施する能力はジュバ市内の車輛修理会社は有している。ダンプ車の維持管理能力も有する。ただし、特殊な部品を必要とする車輛は難しい可能性がある。廃棄物収集車輛については、車輛部分は基本的に修理可能と考えるが、電子制御部分は制御盤なので難しい可能性がある。(例：コンパクターの操作スイッチ等の電子制御)</li> <li>南スーダン(ジュバ)での車輛整備に関して、割高となる場合や法外な金額を要求される場合がある。その場合、カンパラから仮止めの部品を持参し、車両をカンパラまで運んで修理をすることも経験上可能であると言える。</li> </ul>

(出所) 調査団作成

### 5.4 まとめ

将来の無償資金協力考慮すると下記のことを中心に検討すべきである。

- ・メカニックの能力不足が懸念されるため、故障しにくい簡単な構造の機材(車種)とする。
- ・例えば、廃棄物収集機材ではダンプトラックとコンパクターを中心に、ジュバ市での適用可能性を比較検討する。
- ・未舗装地帯が多いジュバ市の道路事情を勘案したスペックとする(4WDの導入等)。
- ・スペアパーツが入手しやすい機材(車種)とする(隣国から調達可能等)。



## 第6章 マスタープランの方針

### 6.1 ジュバ市の廃棄物管理の問題点

本調査業務を通じて確認されたジュバ市の廃棄物管理の主な問題点を以下に列挙する。

- ・ JCC による定期的なごみ収集が行われておらず、収集率は3%以下である。
- ・ 収集されないごみは道路脇や河川、市場裏の広場などに不法投棄されるかまたは野焼きされている。
- ・ コレラの流行等の公衆衛生の問題が生じており、廃棄物の適正管理の必要性が高まっている。
- ・ 定期的な収集に必要な収集車両が不足している。収集車両の維持管理能力が低く、所有している10台のコンパクターは全て故障し、UNICEFが2016年9月に供与した3台のコンパクターのうち、1台が既に故障により稼働停止している。
- ・ 民間収集登録業者19社のうち、活動が確認されたのは13社である。いずれの会社も最終処分場への搬入を行っておらず、収集されたごみは道路脇や河川に不法投棄されている。ゲンボ不法投棄場では無許可による収集もしくは自己運搬による搬入車両が43台確認されている。
- ・ ジュバ市内から Juba Controlled Dumping Site までは約13kmと必ずしも長距離ではないが、治安や道路状況の悪化、燃料費の高騰等によりアクセスが困難となり、不法投棄を助長している。

### 6.2 ジュバ廃棄物管理基本計画（マスタープラン）の考え方と具体的方策

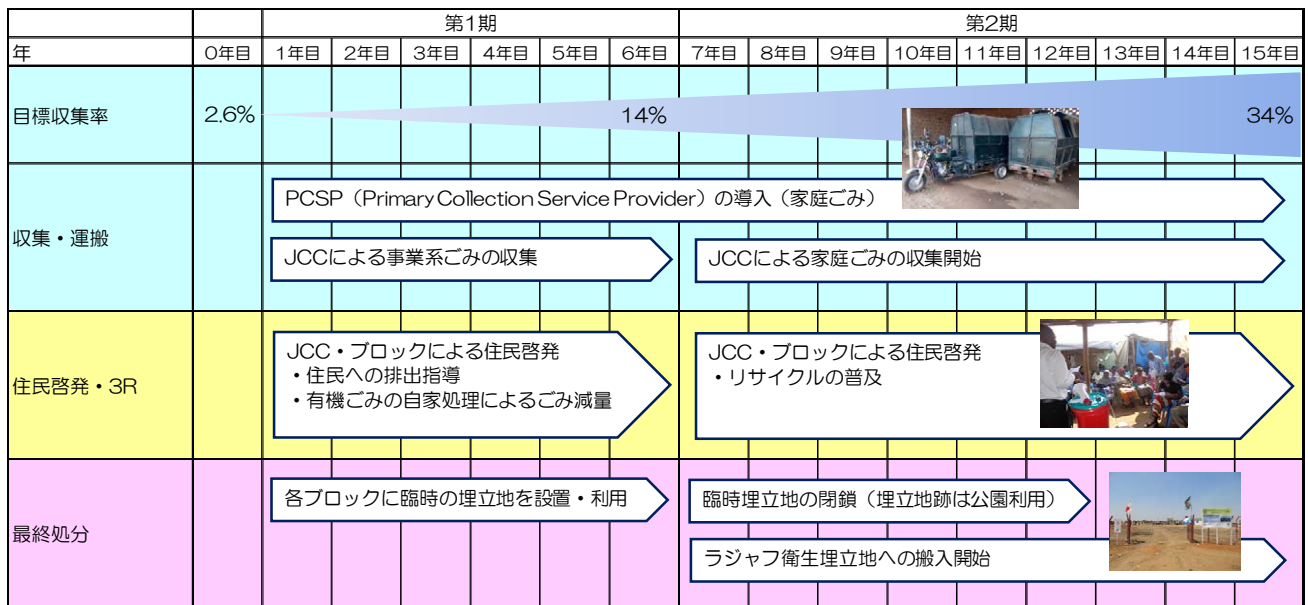
本格的なマスタープランを策定するための基礎情報や組織基盤が整っていないと判断されることから、実現可能な方策として、マスタープランを2段階に分けて策定することを提案する。

第1期は6～8年間を対象期間とし、収集車両の不足や不法投棄が増えている状況を解決するために、各家庭からのごみ収集を行う一次収集業者（Primary Collection Service Provider, 以下「PCSP」という）による収集システムを導入する。PCSPが使用する収集機材は自転車付きリヤカーやトラクターなどであり、ジュバ市内の道路が整備されていない住宅地への収集サービスの提供が可能である。PCSPの担い手は、地元の若者で廃棄物に関わりのある人々（ウェストピッカーなど）を想定しており、各ブロックによって適任者が選定される。ジュバ市では定職につくことができない人々が働き口を探しており、一次収集は地元の新たな雇用創出の機会になり得る。

一方で、PCSPの運搬能力は限定的であり、Juba Controlled Dumping Site までPCSPが収集ごみを運搬することは現実的ではない。そのため、マスタープラン第1期には、5～8年程度活用できる臨時の埋立地を各ブロックに作り、輸送距離の短縮と収集コストの削減を図る。臨時埋立地は、緊急措置として、建設コストを可能な限りかけずに、汚染が広がらない程度の分散型のコントロール埋立地を作る。PCSPの導入と臨時埋立地の設置・利用による収集改善により、収集目標率14%の達成を目指す。

収集率の向上には、収集サービスの改善だけでなく、排出抑制が重要である。住民による生ごみの自家処理やリサイクルの普及によって排出量を抑えることができる。マスタープラン第1期の実現のために、施策の推進と同時並行で組織づくりを行う。PCSPや臨時中継所の管理は各ブロックが行い、JCCが監督機関として、各ブロックの収集や住民啓発の指導を行う。これらの活動は段階的に拡大していくことから、ブロックをさらに5-10分割し、清掃行政が管理しやすい人口5～10万人程度の単位で管理する。

第2期は9～15年後を対象として、一次収集と二次収集の連携、臨時埋立地の閉鎖と Juba Controlled Dumping Site の利用再開により、「廃棄物管理計画」の中で目標としていた収集率34%を目指す。



(出所) 調査団作成

図 6-1 マスタープラン (第 1 期・第 2 期) の基本的な考え方と具体的方策

**【類似案件の知見・教訓の活用 1：ハルツーム州における清掃行政の分権化】**

スーダン国の首都ハルツームは「ハルツーム州」のことで、約 600～800 万人の人口を擁する。2010 年当時、ハルツーム州には清掃公社 (Cleaning Project) があり 3 カ所のごみ中継所、3 カ所の埋立処分場を運営していた。また、ハルツーム州には 7 つの区 (Locality) があり、各区にはごみ収集を担当する清掃公社 (Cleaning Corporation) があった。しかし各機関の業務所掌が明確でなく、ごみ収集もうまくいっているとは言い難かった。

このような状況下、JICA はスーダン国に対して 2010 年 10 月から 2013 年 2 月まで環境管理専門家を派遣し、2014 年 6 月から 2017 年 3 月まで技術協力プロジェクトを実施、並行して 2014 年から無償資金協力プロジェクトを実施し、廃棄物管理向上を支援してきた。

清掃行政を円滑に実施するためには、適正な規模の都市の大きさがある。ハルツーム州では教育・保健分野の行政区分を 105 の AU に分割して管理を行う構想があったが、プロジェクト開始当時は実質的には機能していなかった。AU の管轄する人口は 8～10 万人程度であり、清掃行政の管理に適切な規模であることから、収集事業の実施主体として AU に着目し、定時定点収集が実現した。

南スーダン国ジュバ市では 100～150 万人の人口を一括管理することが目指されていたが、ハルツームの教訓を活かし、マスタープランでは 3 つのブロックをさらに 5～10 分割し、清掃行政に適切な人口規模で管理を行うこととした。

**【類似案件の知見・教訓の活用2：ダッカ市における一次収集業者(PCSP)との連携】**

バングラデシュ国ダッカ市では各家庭のごみをコンテナまでの運搬を一次収集、コンテナから埋立地までの運搬を二次収集と呼び、一次収集を民間収集業者(PCSP)が有料で実施している。技術協力プロジェクトや無償資金協力の援助により、コンパクターによる二次収集とPCSPの一次収集との連携により、定時定点収集が定着し、収集エリアの拡大や収集率の改善に成功した。

収集車両が不足しているジュバ市で導入可能な収集システムとしてPCSPの導入を検討し、パイロット・プロジェクトの計画を進めることとなった。

**6.3 マスタープランの骨子及び目次案**

マスタープランの目次案を表6-1に示す。

表 6-1 マスタープラン目次案

項目	内容
第1章 計画策定の基本的事項	1.1 計画策定の背景と目的 1.1.1 目的 1.1.2 計画対象地 1.2 計画対象 1.2.1 計画対象ごみ 1.2.2 計画目標年次 1.2.3 目標収集率
第2章 ジュバにおける廃棄物管理の現状	2.1 ジュバ市及びブロック(区)の概要 2.1.1 人口 2.1.2 財政 2.1.3 ジュバ市及びブロック(区)の行政組織 2.1.4 ジュバ市の行政区分 2.2 廃棄物の排出状況 2.2.1 組成及び原単位 2.2.2 排出量と処理フロー 2.2.3 廃棄物排出量データ管理システム 2.3 収集・運搬 2.3.1 収集・運搬 2.3.2 中継所 2.3.3 車両修理工場 2.4 最終処分場 2.5 法制度・組織 2.5.1 関連法令・制度 2.5.2 廃棄物管理組織(利害関係者と役割分担) 2.6 現状の課題
第3章 ジュバ市廃棄物管理マスタープラン	3.1 マスタープランのシナリオ 3.1.1 諸外国からの援助が無い場合 3.1.2 日本からの援助を想定した場合 3.2 ごみ量の将来予測 3.3 廃棄物管理組織の強化 3.3.1 廃棄物管理組織の役割 3.3.2 法整備 3.3.3 ジュバ市及びブロック(区)の組織力向上 3.3.4 事業執行能力の強化 3.3.5 ジュバ市及びブロック(区)の財政基盤の改善 3.3.6 人材教育

項目	内容
	<ul style="list-style-type: none"> <li>3.3.7 民間活用の方針</li> <li>3.4 収集・運搬 <ul style="list-style-type: none"> <li>3.4.1 収集システム</li> <li>3.4.2 中継所</li> <li>3.4.3 作業場と維持管理システム</li> </ul> </li> <li>3.5 最終処分場 <ul style="list-style-type: none"> <li>3.5.1 最終処分計画の基本概念</li> <li>3.5.2 最終処分場の運転管理システム</li> <li>3.5.3 最終処分場ごとの計画</li> </ul> </li> <li>3.6 リサイクル及び中間処理</li> <li>3.7 PRと普及啓発 <ul style="list-style-type: none"> <li>3.7.1 制度設計</li> <li>3.7.2 PR及び普及啓発の目的</li> <li>3.7.3 PR及び普及啓発の方法</li> <li>3.7.4 各種ツール</li> </ul> </li> </ul>
第4章 財政的 要件	<ul style="list-style-type: none"> <li>4.1 必要な資本金及び運転費用 <ul style="list-style-type: none"> <li>4.1.1 一般管理費</li> <li>4.1.2 廃棄物収集運搬</li> <li>4.1.3 最終処分</li> <li>4.1.4 中間処理及びリサイクル</li> <li>4.1.5 PR及び啓発</li> </ul> </li> </ul>
第5章 結論と 提言	<ul style="list-style-type: none"> <li>5.1 結論</li> <li>5.2 将来のジュバ市廃棄物管理の実施に向けた提言</li> </ul>

(出所) 調査団作成

## 第7章 パイロット・プロジェクトの実施

### 7.1 パイロット・プロジェクト概要

マスタープランの実現性を検証するため、一次収集の導入及び臨時中継所・臨時処分場の建設による収集改善のパイロット・プロジェクトを実施することとした。パイロット・プロジェクトの概要を表 7-1 に示す。また、役割分担を表 7-2 に、スケジュール案を図 7-1 に示す。

表 7-1 パイロット・プロジェクト概要

対象地域	1. Juba Block (Hai commercial) 2. Kator Block (Atlabara C) 3. Munuki Block (Munuki Block B)
対象家庭数	120 家庭
対象人口	960 人 (1 家庭 8 人と仮定)
収集するごみ量	624 kg/day (0.65kg/人×960 人)
収集頻度	2 回/週
PCSP 数	4 PCSP
ごみ処理料金	50 SSP/回
想定される収入額	48,000 SSP/月 (1 区あたり 16,000 SSP/月)
想定される PCSP あたりの収入額	4,000 SSP/月/PCSP
コミュニティ会議	毎週土曜日

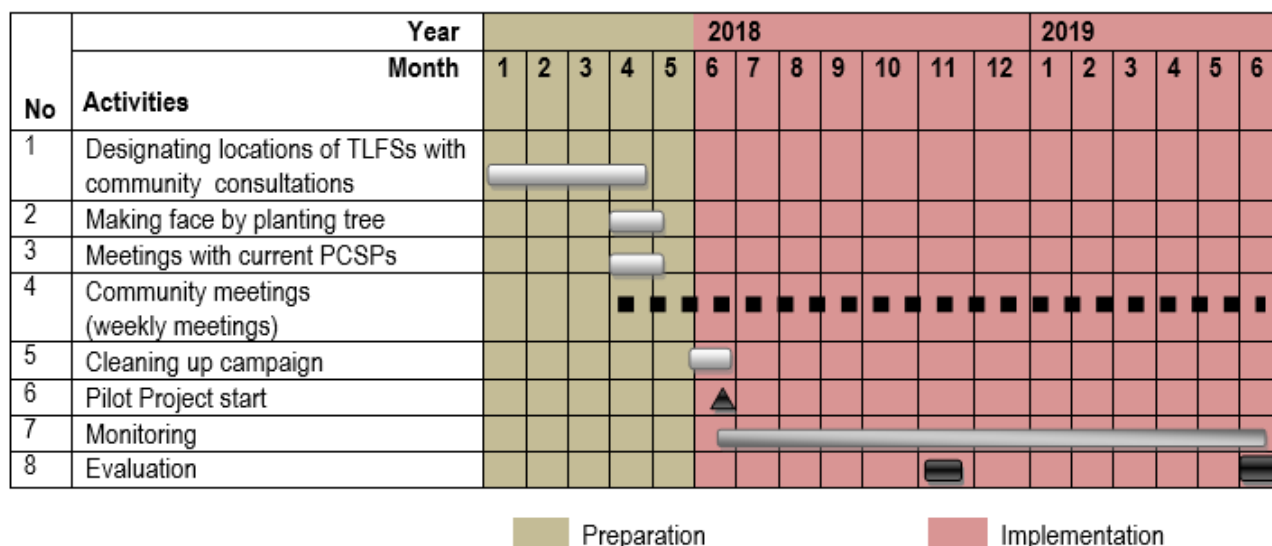
(出所) 調査団作成

表 7-2 パイロット・プロジェクトに向けた役割分担

活動	役割分担 (担当機関)
パイロット・プロジェクトの全体計画及び実施とりまとめ	● ジュバ・ラジャフ廃棄物管理グループ
1. 対象家庭の選定とコミュニティ会議の開催	● 区長 ● 自治会長 (Quarter Council) ● ゾーン行政職員 ● コミュニティ
2. 臨時中継所の場所の確保	● 区長 ● 自治会長 (Quarter Council) ● ゾーン行政職員 ● コミュニティ
3. 臨時処分場の場所の確保	● 環境省 ● 州政府 ● 周辺の郡部 ● ジュバ市役所 ● コミュニティ ● ジュバ・ラジャフ廃棄物管理グループ
4. 一次収集人 (PCSP) の選定	● 区長 ● 自治会長 (Quarter Council) ● 商工会議所

5. 一次収集人 (PCSP) との覚書締結準備及び説明会の開催	<ul style="list-style-type: none"> <li>● 区長</li> <li>● 自治会長 (Quarter Council)</li> </ul>
6. 一次収集車両の調達・製作	<ul style="list-style-type: none"> <li>● 区長</li> </ul>
7. 臨時中継所の建設	<ul style="list-style-type: none"> <li>● 区長</li> </ul>
8. 臨時処分場の整備	<ul style="list-style-type: none"> <li>● ラジャフ郡 (ラジャフ地区)</li> </ul>
9. 家庭ごみの収集	<ul style="list-style-type: none"> <li>● 区長</li> <li>● 自治会長 (Quarter Council)</li> <li>● コミュニティ</li> <li>● PCSP</li> </ul>
10. 一次収集人 (PCSP) への支払い	<ul style="list-style-type: none"> <li>● 区長 (※ 3 か月の試行期間中の支払い)</li> </ul>
11. 一次収集人 (PCSP) の監督	<ul style="list-style-type: none"> <li>● ゾーン行政職員</li> <li>● 自治会長 (Quarter Council)</li> <li>● 環境担当職員</li> <li>● 公衆衛生担当職員</li> <li>● コミュニティ</li> </ul>

(出所) パイロットプロジェクト計画より抜粋



(出所) 調査団作成

図 7-1 パイロット・プロジェクト工程表

## 7.2 パイロット・プロジェクトの結果

2017年12月にパイロット・プロジェクト（一次収集の導入及び臨時処分場の設置）の実施が話し合われた後、2回のパイロット・プロジェクトの進捗モニタリング会議がスーダンにて開催された。

2018年6月、当初予定から3ヶ月の遅れではあるが、パイロット・プロジェクトのキックオフがジュバ市の3つの区で開催された（ムヌキブロック 2018年6月12日、ジュバブロック 2018年6月13日、カートルブロック 2018年6月14日）。パイロット・プロジェクトの開始式日程は以下のとおりである。

表 7-3 パイロット・プロジェクト開始式の日程

ブロック名	キックオフ日程	当日の様子
ムヌキ地区	2018年6月12日	 
ジュバ地区	2018年6月13日	 
カトール地区	2018年6月14日	 

(出所) 調査団作成

### 7.3 パイロット・プロジェクトで得られた成果

調査団が直接、資金面や運営面の支援を行っていない中で、カウンターパートが自らパイロット・プロジェクトを計画し、資機材を準備し、キックオフ実施まで至った点は評価すべきである。また、パイロット・プロジェクトが、新たに再結成されたジュバ・ラジャフ廃棄物管理グループ (JRWSMG) によって主導され、この組織が機能した点も特筆すべきであろう。

パイロット・プロジェクトで得られた主な成果を以下に列挙する。

- ・ JRWSMG の週例会議が定期的開催された (2018年1月～6月の間に22回開催)。
- ・ 一次収集用の7台の手押し車を製造した。
- ・ 臨時中継所を2か所建設した (カトール地区は建設中)。
- ・ 臨時埋立地に関して近隣住民 (Mogoro Village) への説明会を開催し、ラジャフ郡 (ラジャフ地区) とコミュニティの間でMOUが締結された。
- ・ 臨時処分場の設計図が作成された。また、関係者間で建設に係る役割分担が決められた。
- ・ ジュバ市役所とラジャフ郡 (ラジャフ地区) の意思決定者によるコミットメントが得られた。
- ・ JICA が供与した埋立地管理用のブルドーザーを修理し、臨時処分場の建設に利用できるようになった。
- ・ コミュニティ会議が定期的開催され、PP対象地域のコミュニティから協力を得た。また、PSCPへのごみ処理料金の支払い意志が確認された。

- ・ JRSWMG の活動に対して、ジュバ市役所とラジャフ郡（ラジャフ地区）から財政的支援が受けられるようになった。
- ・ 12 人の PCSP が quarter council chairpersons によって選出された。
- ・ 臨時処分場整備の予算確保のための提案が、ジュバ市長に承認された。
- ・ PP 対象家庭（120 世帯）と PCSP の顔合わせのためのコミュニティ会議が開催された。

#### 7.4 パイロット・プロジェクトの課題・教訓

パイロット・プロジェクトの実施によって多くの成果が得られた一方で、課題や教訓も浮き彫りになった。パイロット・プロジェクトの実践を通じて明確になった課題及び教訓を以下に列挙する。

- ・ PP 実施のための予算確保に時間を要し、キックオフが予定通りに開催できなかった。
- ・ 意思決定者の交代やキーパーソン不在などにより、意思決定者から PP への理解が得られなかったことが、地区ごとの進捗の差となった。
- ・ カトール地区のブロック長が交代になったことが影響し、同地区の臨時中継所はキックオフまでに建設が完了しなかった。
- ・ 南スーダンの経済状況の不安定さが影響し（燃料費や材料費の高騰など）、調達機材を減らす等によって予算のやりくりをする必要が生じた。
- ・ ラジャフ郡（ラジャフ地区）は、予算確保のためジュバ市長への提案が必要であったこと、また、所長が海外研修のため長期間不在であったことから、臨時埋立地の建設準備が遅れ、キックオフまでに臨時処分場の建設が完了しなかった。

なお、本調査期間中に確認できたのは PP のキックオフまでであり、PP を継続していく中で直面する課題やその改善策の確認までは至っていない。パイロット・プロジェクト開始直後は、ジュバ市役所（及び区役所）の資金的援助によって一次収集が実施されるが、住民からの料金徴収が始まる時期が一つのターニングポイントになると考えられる。

#### 7.5 マスタープランの実現性の検証結果と反映事項

想定されるマスタープラン目次案に従い、本調査で得られた教訓を整理した。組織面では、ジュバ・ラジャフ廃棄物管理グループ（JRSWMG）を正式な実施機関とするため、約款（Executive Body と Implementing Body の役割など）の内容が議論された。また、実現可能な廃棄物管理の将来像として、一次収集を民間の一次収集人（PCSP）に任せること、家庭ごみの収集運搬をブロックの責任とすること、事業系ごみや産業廃棄物の収集を環境衛生局の責任とすること、などが話し合われた。将来像を実現するため、料金徴収や収集に関するルールを規定した廃棄物管理条例案の原形が示された。

マスタープランの目次案に沿って、マスタープランへの反映内容を整理した結果を表 7-4 に示す。



表 7-4 マスタープランへの反映内容

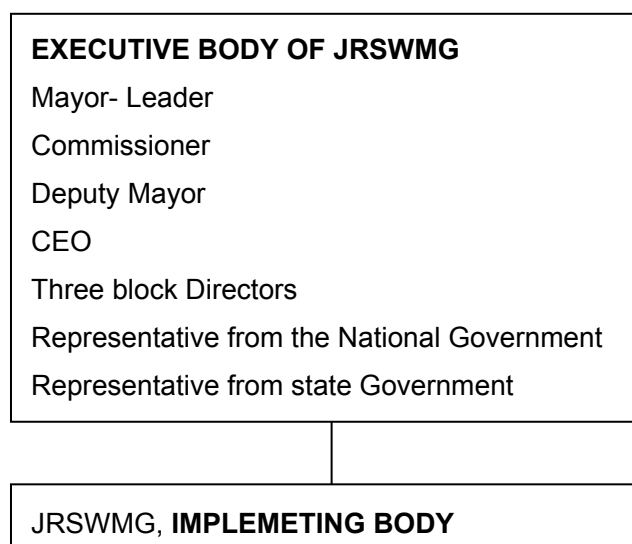
章	項	マスタープランへの反映内容
第3章 ジュバ市廃棄物管理マスタープラン	3.1 マスタープランのシナリオ 3.1.1 諸外国からの援助が無い場合 3.1.2 日本からの援助を想定した場合	<ul style="list-style-type: none"> <li>● MPは「3.1.1 諸外国からの援助が無い場合」を想定して作成する。</li> <li>● その結果を踏まえて「3.1.2 日本からの援助を想定した場合」を検討する。</li> </ul>
	3.2 ごみ量の将来予測	<ul style="list-style-type: none"> <li>● 本調査にて、家庭ごみの排出原単位を確認している。</li> <li>● 人口が流動的であることから、人口の将来推計データを取得することは困難である。</li> </ul>
	3.3 廃棄物管理組織の強化 3.3.1 廃棄物管理組織の役割 3.3.2 法整備	<ul style="list-style-type: none"> <li>● PPの実施にあたって、①ブロックが大きな力を発揮し、②JRSWMGがジュバ市廃棄物管理の核として機能した。</li> <li>● PPの実施体制を基本として、将来の廃棄物管理組織や仕組みを再構築する必要性が認識された。</li> <li>● JRSWMGをジュバ市の正式な組織とすることの必要性が認識された。</li> </ul>
	3.3.3 ジュバ市及びブロック（区）の組織力向上	<ul style="list-style-type: none"> <li>● 住民啓発等によってコミュニティの協力を得る。</li> <li>● 組織内でコンセンサスを得るための説明・協議を行う。</li> </ul>
	3.3.4 事業執行能力の強化	<ul style="list-style-type: none"> <li>● 関係者を整理する。意思決定者から理解を得るため、実施計画（アクションプラン）を作成し、財政支援を受ける。</li> <li>● コミュニティの協力を得る。</li> <li>● 実務組織を強化する。</li> </ul>
3.3.5 ジュバ市及びブロック（区）の財政基盤の改善	<ul style="list-style-type: none"> <li>● JRSWMGのImplementation bodyが予算案を準備し、Executive bodyに提出する。</li> <li>● Executive bodyは市長を議長とするリーダーシップ会議を開催し、予算案を承認する。</li> <li>● PPで上述の方法の実効性が確認された。予算確保プロセスは正式化されるべきである。</li> </ul>	
3.3.6 人材教育	<ul style="list-style-type: none"> <li>● ジュバ市の収集能力に鑑み、民間活用は必須である。</li> </ul>	
3.3.7 民間活用の方針	<ul style="list-style-type: none"> <li>● PCSP希望者が多くおり、SWMビジネスへの参画意志を有する民間企業及び個人が多くいることが分かった。</li> </ul>	
3.4 収集・運搬 3.4.1 収集システム	<ul style="list-style-type: none"> <li>● JCC環境衛生局、ブロック、PCSPが協働しなければならない。</li> <li>● ポスター、メディア、コミュニティ会議、ワークショップ、ラジオ、学校での環境教育などを通じて住民啓発を行う。</li> </ul>	
3.4.2 中継所	<ul style="list-style-type: none"> <li>● 一次収集を実現するため、臨時中継所が必要である。</li> <li>● 中継所はJCC環境衛生局の監督のもと、ブロックが管理する。</li> <li>● 中継所は、一次収集の拡大やコンパクターの能力に応じて、追加を検討する。</li> </ul>	
3.4.3 作業場と維持管理システム	<ul style="list-style-type: none"> <li>● PPからは、ワークショップや維持管理に関する追加情報は得られなかった。</li> </ul>	
3.5 最終処分場 3.5.1 最終処分計画の基本概念 3.5.2 最終処分場の運転管理システム	<ul style="list-style-type: none"> <li>● ジュバ市内には埋立地に適する土地が無いことから周辺自治体との連携が必要である。</li> </ul>	

章	項	マスタープランへの反映内容
	3.5.3 最終処分場ごとの計画	<ul style="list-style-type: none"> <li>● 新たな埋立地の建設は資金的・技術的に困難であり、既存埋立地の改善を目指す。</li> <li>● 埋立地の適切な管理のためには、専用の重機が必要である。</li> </ul>
	3.6 リサイクル及び中間処理	<ul style="list-style-type: none"> <li>● リサイクルや中間処理施設は、長期計画の中で検討する。</li> </ul>
	3.7 PRと普及啓発 3.7.1 制度設計 3.7.2 PR及び普及啓発の目的 3.7.3 PR及び普及啓発の方法 3.7.4 各種ツール	<ul style="list-style-type: none"> <li>● コミュニティ会議は有効である。クリーンアップキャンペーンは効果的であり、継続して実施を検討する。</li> </ul>

(出所) 調査団作成

## 7.6 ジュバ・ラジャフ廃棄物管理グループ

パイロット・プロジェクトを通じて、ジュバ・ラジャフ廃棄物管理グループ（JRSWMG）の有効性が確認された。組織構成案を以下に示す。



(出所) JRSWMG 作成資料

図 7-2 JRSWMG の組織構成

表 7-5 JRSWMG の役割

役割	内容
監督機関 (ROLE OF THE EXECUTIVE BODY)	<ul style="list-style-type: none"> <li>● 実施機関の監督</li> <li>● パイロット事業の資金的援助</li> <li>● 廃棄物関連法令の制定</li> <li>● インフラ整備（中継所や処分場）のための土地取得</li> <li>● 州知事等への事業報告</li> </ul>
実施機関 (ROLE OF IMPLEMENTING BODY)	<ul style="list-style-type: none"> <li>● パイロット事業の計画・実施</li> <li>● 監督機関等への予算要求</li> <li>● 廃棄物関係機関のコーディネート</li> <li>● 廃棄物管理に係る活動計画の策定及び実施</li> </ul>

役割	内容
	<ul style="list-style-type: none"> <li>● マスタープランの策定・実施及び評価</li> <li>● 廃棄物管理データの記録・管理</li> <li>● 廃棄物管理データの集計・分析</li> <li>● パイロット事業のモニタリング</li> <li>● 監督機関への活動報告</li> </ul>
ジュバ市役所と一次収集人 (PCSP)	<ul style="list-style-type: none"> <li>● 一次収集人 (PCSP) との覚書に、ジュバ市役所 (環境衛生局及び区)、PCSP 及び各家庭の責任を下記のとおり明記した。</li> <li>● 【各家庭】プラスチック袋に入れてごみを排出する。ごみ処理料金として1回収あたり 50SSP を支払う。</li> <li>● 【PCSP】家庭ごみを収集し、指定された場所 (臨時中継所又は臨時処分場) まで運搬する。</li> <li>● 【区】一次収集車を製造する。臨時中継所から臨時処分場までごみを運搬する。徴収人によってごみ処理料金を徴収する。</li> <li>● ごみ処理料金は、1回収あたり 50SSP であり、各家庭からはその都度集金する。PCSP に対しては1週間に1度まとめて支払う。</li> <li>● 覚書は、パイロット事業開始から5年間有効である。</li> </ul>

(出所) JRSWMG 作成資料

## 7.7 廃棄物管理規則の素案

パイロット・プロジェクトの結果を受けて、JRSWMG にて廃棄物管理規則の素案が話し合われた。主な内容は表 7-6 のとおりである。

表 7-6 廃棄物管理規則の素案

役割・ルール	内容
ジュバ市環境衛生局の役割	<p><b>商業ごみ・市場ごみの収集・処分</b></p> <ul style="list-style-type: none"> <li>● ジュバ市役所は、以下のごみ収集に係る実施及び監督を行う。 <ol style="list-style-type: none"> <li>① 市場・レストラン・ホテルから排出されるごみ</li> <li>② 政府機関や事務所から排出されるごみ</li> <li>③ 建設現場から排出されるごみ</li> <li>④ 主要な道路沿いの小規模店舗から排出されるごみ</li> </ol> </li> <li>● 商業ごみ・市場ごみに係るごみ処理料金の徴収を行う。</li> <li>● 将来的には、医療系廃棄物の収集・処理を行う。</li> </ul>
区役所の役割	<p><b>家庭ごみの収集・処分</b></p> <ul style="list-style-type: none"> <li>● 区役所は、家庭ごみの収集運搬に係る実施及び監督を行う。</li> <li>● 一次収集に係るごみ処理料金の徴収を行う。(徴収した料金は、PCSP に支払う。)</li> </ul>
収集運搬に係るルール	<ul style="list-style-type: none"> <li>● ごみ収集は週2回行う。</li> <li>● PCSP は決められた地域の一次収集を行う。</li> <li>● ごみ収集の時間は午前9時から正午までとする。</li> <li>● PCSP によって収集されたごみは、指定された場所 (臨時中継所又は臨時処分場) まで運搬し、保管又は投棄しなければならない。</li> <li>● 臨時中継所の管理は区役所の責任で行う。臨時中継所に保管されたごみは、区の責任で臨時処分場まで運搬しなければならない。</li> <li>● ごみは衛生的な方法 (プラスチック袋、ポリバケツ、紙袋、コンテナ等) によって排出されなければならない。</li> </ul>
ごみ処理料金に係るルール	<ul style="list-style-type: none"> <li>● 一次収集に係るごみ処理料金は1回あたり 50SSP である。</li> <li>● 区役所は、パイロット事業の3か月間 (試行期間) は、一次収集に係る料金を支払う (1区あたり 16,000SSP/月)。</li> <li>● この期間、各家庭はごみ処理料金を支払わずに、一次収集サービスを受けることができる。</li> <li>● 3か月を過ぎてから一次収集サービスを利用する場合、各家庭は回</li> </ul>

役割・ルール	内容
	<p>収ごとに 50SSP を支払わなければならない。ごみ処理料金は、区役所の料金徴収人に支払う。</p> <ul style="list-style-type: none"> <li>● 区役所は、週ごとに PCSP にごみ処理料金を支払う。</li> <li>● 商業ごみのごみ処理料金は、事業形態・規模によって定められており、既存の料金体系を踏襲する。</li> </ul>
<p>建設・維持管理に係るルール</p>	<ul style="list-style-type: none"> <li>● 中継所の建設及び維持管理は、区役所の責任で行う。</li> <li>● 処分場の建設及び維持管理は、ラジャフ郡（ラジャフ地区）の責任で行う。</li> <li>● 収集車両の維持管理は、以下の責任によって行う。 <ul style="list-style-type: none"> <li>① コンパクター等収集車両（一次収集車両を除く）：環境衛生局</li> <li>② 一次収集車両：区役所</li> <li>③ 処分場の重機：ラジャフ郡（ラジャフ地区）</li> </ul> </li> </ul>

(出所) JRSWMG 作成資料

## 第8章 キャパシティ・ディベロップメント

### 8.1 スーダン国ハルツーム州でのスタディツアーの実施

本プロジェクトでは、スーダン国ハルツーム州にて2回のスタディツアーを実施した。スタディツアーでは、①廃棄物事業や廃棄物行政を実施するにあたって、どのように市民や社会と関わりを持ちながら進めて行くかを体験する、特に市民組織が廃棄物行政に大きな影響を及ぼすことを体感する、②ハルツーム州で進めた一連の廃棄物事業の改革を学ぶことで、ジュバ市の現在のキャパシティにあった清掃事業形態をイメージし、現実的なマスタープランの考え方を検討することを目標とした。この点で、ハルツーム州においてスタディツアーを実施したことは最適な選択であった。

ハルツーム州の近年の改善は、JICA 専門家、技術協力プロジェクト及び無償資金協力によって変わっていった。ハルツームで実施した技術協力プロジェクトの目指したことが、これからジュバ市が目指す事業形態の参考になる。ハルツームの廃棄物事業改善において達成した主な成果を以下に列挙する。

- ・ 実質的な清掃の実施組織が作れたこと、それが廃棄物管理の実施能力を向上させたこと
- ・ ハルツーム州は 105 の AU に分割したので、現場レベルの清掃事業の強化をして、収集事業を AU で実施することにしたこと
- ・ 住民の力が必要であり、参加型廃棄物管理を目指したこと
- ・ 収集料金徴収率を上げたこと
- ・ 埋立地に運営組織を作り、収集車両のデータを本部に集めて、データ管理で清掃事業を進めたこと
- ・ 埋立地及び AU に事務所を作り、現場レベルでも組織的に管理できるようにしたこと
- ・ 職員の安全対策を行い、作業環境を改善したこと

上記のことを理解できるようなプログラムを実施した（プログラムは後述）。研修内容は、施設見学だけではなく、現場職員との意見交換や、実際に清掃事業を進めている或いは清掃事業を支えている関係者からの講義を行った。具体的には、連邦環境天然資源開発省の廃棄物政策担当者、ハルツーム州清掃企業局局長・職員、中継所・埋立地管理職員等の関係者と意見交換を行った。また、連邦環境天然資源開発省所長、ハルツーム州清掃企業局局長、職員、大学教授などからの講義によって、清掃事業の進め方や考え方の指導を行った。

これらの一連のスタディツアーを通じて、カウンターパートは①データ収集による廃棄物事業の進め方、②清掃事業実施組織の意味、③ジュバの現在の力にあった清掃事業形態をイメージして、ジュバのマスタープランのイメージを作ること、を実施できた。



写真 8-1 AU 事務所視察の様子



写真 8-2 中継所の見学

## 8.2 ジュバ市カウンターパートのオーナーシップ

TICAD (Tokyo International Conference on African Development) では、アフリカの「オーナーシップ（自助努力）」と国際社会の「パートナーシップ（協調）」という2つの理念のもと、アフリカ地域の開発援助が推し進められている。本調査は遠隔にて実施する特性上、特にキャパシティ・ディベロップメントによってジュバ市カウンターパートのオーナーシップを高めることに注力した。先のスーダン国でのスタディツアーの開催によって、お互いに支え合う仲間ができたことや、パイロット・プロジェクトの実践が自主性や自信の醸成につながったことが、オーナーシップの向上に繋がった。加えて、講義では我が国の清掃行政の変遷に関して説明を行い、ジュバ市の実態に即した具体策を議論できる土壌ができた。

### 8.2.1 我が国の経験に学ぶ変革期の廃棄物管理

清掃行政の考え方やその発展形態を知るために、我が国の明治から昭和にかけての廃棄物管理の変遷に関する講義を行った。我が国では、1900年の汚物掃除法に始まり、1954年の清掃法、1971年の廃棄物の処理及び清掃に関する法律（廃掃法）と、廃棄物管理に係る法律が整備されてきた。かつて、日本でも住民が川や道路脇にごみを捨て、不法投棄が常態化し、街が不衛生な時代があった。1954年の清掃法で、初めて住民の責任が謳われ、自家処理やリサイクルの必要性が認識され始めた。自家処理とは、生ごみを庭に埋めるなど、各家庭でごみ減量に努める行為であり、衛生的に廃棄物を管理するための工夫である。一次収集の方法も、各戸の前に備え付けのごみ箱を設置する、住民が直接手押し車にごみを投入する、袋に入れて回収するなど、様々な段階を経て、定時定点収集に発展してきた。

清掃行政の変革期における我が国の歴史は、ジュバ市の清掃行政にとって多くの示唆に富んでおり、ジュバ市において実現可能な改善策を議論する土台となった。

## 第9章 本調査から得られた教訓

本調査では、ジュバ市の治安上の問題から、日本人専門家がジュバ市内に入って現地調査を行わず、遠隔調査により業務を実施した。治安の悪化や内政不安定な社会情勢を背景に、人口動態さえ正確に把握できない中で、現地の実態を反映したデータを収集することは、当初想定された以上に困難であり、データ収集・検証のために様々な工夫や試行錯誤が必要であった。本調査を通じて得た知見やノウハウは、今後、同様の状況下で遠隔調査を実施するにあたり、参考となる教訓を多く有していると考えられるところ、いくつかの要素を下記に列挙する。

### 9.1 遠隔での調査実施の困難さ

#### 9.1.1 既存データの欠如

ジュバ市は長く続く武力衝突で疲弊しており、前回技プロで整備した処分場のインフラは破壊され、JCCによる収集サービスを継続できず、不法投棄と野焼きが常態化している状況である。調査開始当初は、ジュバ市が有する既存データを収集し、確認・分析する計画であった。そのため、データの集まりが悪い原因をカウンターパートの意欲や能力不足によるものと考え、カウンターパートに繰り返し情報提供を求めた。

しかし、実際には社会情勢の不安定さなどから廃棄物管理がほとんど実施されておらず、そのために廃棄物管理に係るデータが存在していないことが徐々に判明した。また、不足するデータを補完するために、既存データの組み合わせにより推計を行うことを検討したが、廃棄物管理データに限らず、人口動態や地理情報などあらゆる基礎情報や統計データが不足しており、データ解析に耐えうる情報を得ることができなかった。

遠隔調査を実施する国・地域の場合、現地には十分なデータが存在しない可能性があることを認識すべきであった。

#### 9.1.2 カウンターパートの清掃行政及び廃棄物管理に係るデータや用語の理解不足

本調査では日本人専門家が現地に入ることができないため、他案件以上にジュバ市のカウンターパートによる主体的なデータ収集が必要であった。主体的なデータ収集のため、ウガンダで開催したキックオフ・ワークショップでは、カウンターパート全員にジュバ市の現地情報についてプレゼン発表をもらった。しかし、プレゼン内容は現地の実態を反映しているとは考えにくく、データの信憑性が低かった。例えば、収集率は60%であると示されたが、根拠となるデータが全く無かった。また、提示された収集ルートは、住宅地と巨大マーケットが混在しており、非現実的な内容であった。

このような状況を受けて、カウンターパートに正しい情報を提示するように求めたが、状況は改善しなかった。データが不足している以前に、カウンターパートが清掃行政の概念や廃棄物管理データの基礎知識を有していないことから、同じ用語を使っても日本側とジュバ側で認識に大きな隔たりが生じていた。例えば、先に挙げた「収集率」では、当初、カウンターパートは肌感覚で60%程度は運んでいるつもりだと思ってデータを提示し、調査団の指摘に対して、収集率データは既に取得済みとの理解を示していた。一方、調査団は、想定される排出量に対して適切に収集運搬されている廃棄物量の比率を

指して収集率と呼んでおり、想定される排出量、収集車両の運行記録、処分場への搬入量などの基礎情報無しに収集率が提示されていることに対して疑問を投げかけていた。また、適正な処理・処分という概念も異なっており、カウンターパートは収集された廃棄物が不法投棄されている場合でも収集率に数字を含めるものだと考えていた。収集された廃棄物が不法投棄されることは適正な処理・処分とは見なせず、調査団は収集された廃棄物がどのように処分されているかまで考慮し、処分場まで適切に運搬された廃棄物量をもとに収集率を考えるべきだと説明を繰り返した。

このように、用語一つをとっても認識の違いが大きく、「正しいデータとは何か」ということをゼロから伝える必要があった。そのため、清掃行政の仕組みや考え方を伝え、データの意味や算出方法を理解してもらうことに力を注いだ。

### 9.1.3 データの信憑性の確認方法

遠隔調査では、日本人専門家が目で見て確認し、手で情報を集めることができない。そのため、データ収集よりもデータの信憑性を確認し、精度の高いデータを取得することに多くの時間と労力を費やした。データの信憑性を確かめるためには、根拠となる記録や文書を確認していくことが必要であるが、上述のように根拠のないデータが多く、信頼に足る情報を得ることは難しかった。

そのため、調査の方針を「既存データの確認」から「新たに現地調査を実施」する方向に軌道修正し、調査方法をカウンターパートに徹底して指導した。

## 9.2 キャパシティ・ディベロップメントを中心とした遠隔での調査実施の工夫

### 9.2.1 カウンターパートと共にデータを“作る”姿勢への転換

「カウンターパートの清掃行政及び廃棄物管理データに対する理解不足」を補完し、「データの信憑性の確認方法」を新たな現地調査の実施に切り替えるためには、カウンターパートへのキャパシティ・ディベロップメントが不可欠である。カウンターパートの認識は簡単に変わらないので、他国の多くの事例をDVDや写真を使って工夫して解説した。

現地調査では、まず処分場での搬入量調査を行い、その結果を中心にゴミ処理フローを作成した。ここで作成したゴミ処理フローは、ジュバ市の廃棄物管理の全体像を関係者間で共有することに大きく貢献した。より正確なゴミ処理フローとするため、次に現地で1週間のごみ量調査（家庭ごみ排出量原単位調査）を実施した。搬入量調査はカウンターパートとナショナルスタッフが自ら実施できたが、ごみ量調査は初めての取り組みであり、カウンターパートだけでは適切な実施が困難であった。そのため、ごみ量調査の経験を有するスーダンのナショナルスタッフをジュバ市に派遣し、調査準備や現場での指導を行った。

このように、カウンターパートと共にデータを“作る”姿勢に転換したことが、本調査の課題を打開する大きな変化であった。



## 9.2.2 計画策定への段階的なデータ利用による共通認識の醸成

本調査では、カウンターパートにデータの意味を知ってもらうことを重視した。マスタープランには、現状把握と将来計画が含まれており、カウンターパートには現時点では内容が複雑であった。そのため、まずは現状把握に焦点を絞り、ジュバ市の廃棄物管理の年次報告書(Annual report)を作成してもらい、データの位置付けを理解してもらうようにした当初、年次報告書をもとに次年度の年次計画書を作成し、短期計画、中長期計画と計画期間を拡大させていく想定であったが、第1回、第2回、第3回と何度もカウンターパートに年次報告書を提出してもらったが、過去の技プロの報告書の焼き直しや根拠のないデータが多く、計画策定には至らなかった。そのため、年次報告書をさらに細分化し、具体的な内容に絞って一緒に作成していった。

作成にあたっては、用語の定義に対する理解が異なることに考慮し、「収集率」などの抽象的な表現を避け、「JCC コンパクターの1日の収集回数」や「処分場の搬入車両の台数」など、カウンターパートがイメージできる具体的なデータを収集するように努めた。

## 9.2.3 実現可能なマスタープランに向けた徹底的な議論

マスタープランは理想を追求するものではなく、カウンターパートが実現可能なものとなるよう、徹底的に議論を重ねた。身の丈にあったマスタープランが重要であることを理解してもらう必要があったが、カウンターパートに現実的かつ論理的な思考を持ってもらうことは簡単なことではなかった。

現在、インターネットでも最新情報を取得することは容易である。国際会議などで語られる先進的なイメージが強く根付いているカウンターパートも多いが、そこまで至る過程や優先順位を理解していなかった。カウンターパートの中には、ジュバ市の廃棄物管理を話す際に、現実と乖離した、埋立地のバイオガス回収やリサイクルの導入、ダイオキシンの危険性などを話題にする人もいた。

現実には、収集車両がほとんどどなく、壊れても修理できない状況であった。収集車両の存在を前提にマスタープランを構成させることさえ難しいなかで、不法投棄を改善する方法を模索する必要があった。

そこでマスタープランの考え方を換え、包括的なマスタープランではなく、不法投棄をどのように改善するか絞ってマスタープランを検討し、実現性を高めるため、パイロット・プロジェクトの実施計画をカウンターパートと話し合った。先方のレベルに合わせて計画づくりを行い、計画に必要なデータを段階的に整えていく柔軟性が重要である。研修の後半にはカウンターパートを2グループに分け、現実的な議論ができるメンバーと話し合っ議論の土台を作り、その他のメンバーに彼らが説明をするような工夫を行ったことも有効であった。

## 9.2.4 隣国スーダンでのスタディツアー実施と連携体制

スタディツアーをハルツームで行ったことは効果的であった。ハルツームの廃棄物処理は、日本の援助による専門家派遣・指導、技術協力プロジェクトによる清掃の改善、無償資金協力による支援が効果的な改善に繋がった好事例である。ジュバ市のカウンターパートの中にはハルツーム滞在経験がある者も多く、隣国スーダンで南スーダンのカウンターパートが研修を行うことの意義は大きかった。

また、現在のチームメンバーの中には7年間ハルツームの廃棄物改善に従事したものがおり、ハルツ

ームの改善効果がどのようになされたかを熟知していた。また、ハルツームの廃棄物関係者に人脈を持ち、活動のアレンジがしやすかったことから、効果的なスタディツアーが実施できた。

プロジェクトを実施するためにハルツームでナショナルスタッフを雇用し、ジュバで雇用したナショナルスタッフとの連携体制が有効に機能したことも、特徴の1つである。ハルツームで雇用したスタッフ2名がいることで、スタディツアーのアレンジを周到に準備でき、また、ジュバへの現地調査指導を行うことが可能となった。ジュバ市で雇用したナショナルスタッフは、現地のカウンターパートに連絡を取り、現地調査や関係者会議のため積極的に動き、調査実施をサポートしてくれた。ハルツームとジュバの連携体制が有効に機能したことが成功の一因になった。

### 9.3 活動の組織化によるオーナーシップの醸成

パイロット・プロジェクトは、新たに再結成されたジュバ・ラジャフ廃棄物管理グループ（JRSWMG）によって主導された。JRSWMGの特徴は、清掃関係者を、現場で実働を担うメンバー（Implementing Body）と、各組織で意思決定権を持つメンバー（Executive Body）に分けて、それぞれの役割を整理した。これにより、個人では発言力の弱い現場メンバーの意見を反映した現実的な計画が議論できるようになり、また、その計画に対して、組織の上層部から活動の承認や予算が得やすくなる体制が整った。

## 第10章 今後の支援の方向性

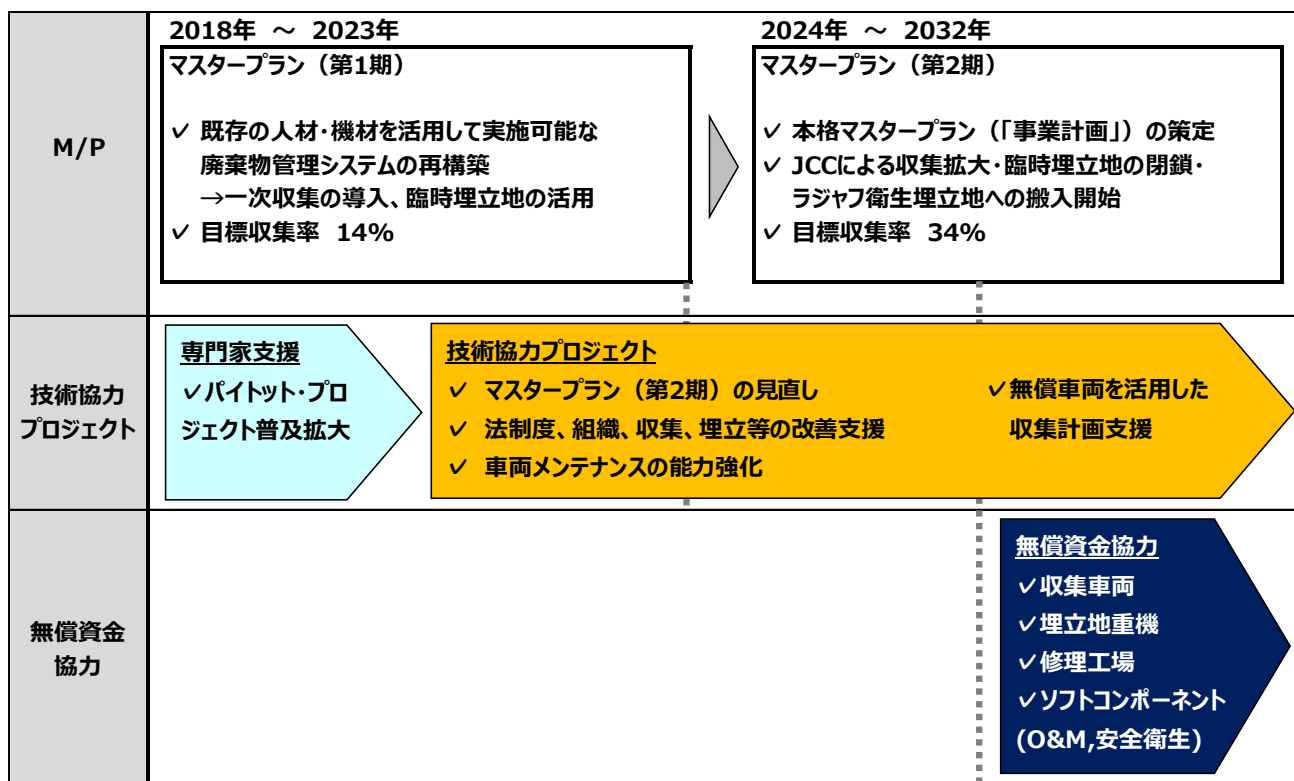
### 10.1 ジュバ市廃棄物管理の改善に向けた支援の方向性

2012年から2014年の技術協力プロジェクトの成果を振り返ると、以下の6つに整理される。

- ① 住宅地収集：4か所の住宅地において、各地域週2回の定時定点収集を開始した。
- ② マーケット収集：2か所のマーケットにおいて、1日2回、週6日の定時収集を開始した。
- ③ 埋立地管理：25haの用地を獲得し埋立地を作り、施設建設を行い、管理組織を設立した。重機をJICAから供与し、定期覆土による管理を実施した。
- ④ 清掃組織：JCCに清掃部門を作り、3つの区（パヤム）で収集を行う体制を整えた。
- ⑤ 人材育成：国の環境省、JCC、区（パヤム）の職員に清掃事業の指導をした。また、市民を対象にバスツアーなどを実施し住民啓発・環境教育を行った。
- ⑥ 廃棄物管理計画作成：15年のマスタープランを作成した。

本調査によって、現在は上記の活動が継続して行われていないことが分かった。ジュバ市における廃棄物の適正管理を推進するためには、長期的な経済・社会の安定性、人材の確保、行政の安定性、治安の確保などの条件が整う必要がある。

これらを前提として、今後の支援のあり方を検討し、技術協力プロジェクト及び無償資金協力のスコープ案を図10-1のように整理した。



（出所）調査団作成

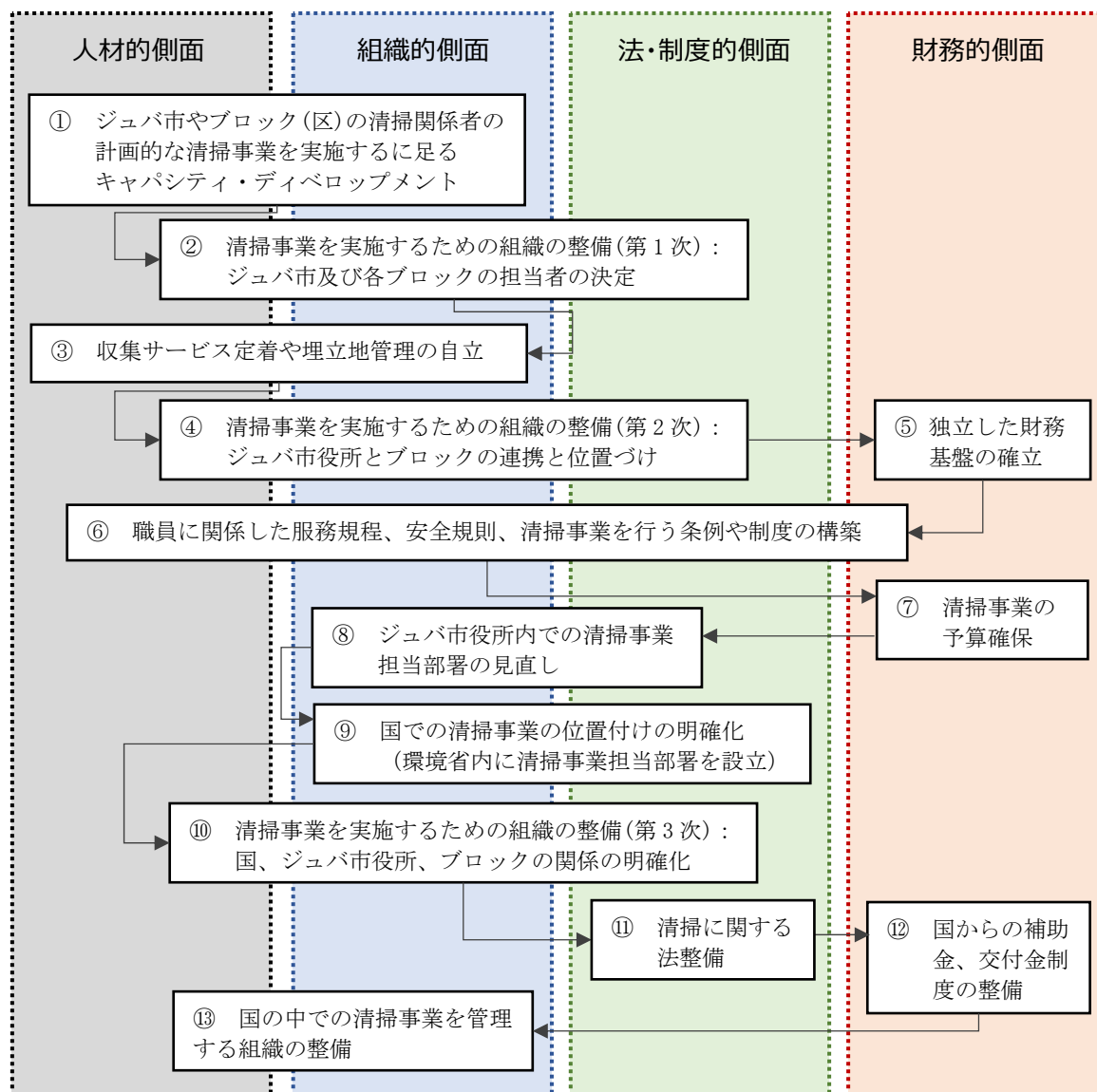
図10-1 技術協力プロジェクト及び無償資金協力のスコープ案

## 10.2 ジュバ市廃棄物管理の定着に向けた活動の優先順位

ジュバ市廃棄物管理における最大の課題は、①行政職員の事業執行能力の低さ、②技術者の技術力不足、③「公共サービス」の概念の欠如である。行政職員や清掃員、住民など清掃事業に関わる人々の間で公共サービスに取り組む考え方を共有し、収集サービスや埋立地管理の実践と並行してキャパシティ・ディベロップメントを行うことが最優先である。

ジュバ市廃棄物管理の定着に向けた活動の優先順位を図 10-2 に示す。本調査では、6 回の第三国会議と 2 回のスーダンでのスタディツアー、パイロット・プロジェクトの実施支援を通じて、①～⑩の活動に係るジュバ市カウンターパートの計画・実施能力を検証し、ジュバ市廃棄物管理の将来像を話し合った。また、本調査で得た教訓を反映し、廃棄物管理マスタープランの骨子を整理した。

今後の活動の優先順位としては、ジュバ・ラジャフ廃棄物管理グループ (JRSMWG) を正式に組織化し、パイロット・プロジェクトを継続し、そして「⑪清掃に関する法整備」以降の取り組みを JRSMWG が主導して推進していくことが理想である。



(出所) 調査団作成

図 10-2 ジュバ市廃棄物管理の定着に向けた活動の優先順位

### 10.3 技術協力プロジェクトの方向性

本調査によって、2012年技術協力プロジェクトで構築した廃棄物管理システムの多くが崩壊しており、収集がほとんど行われていない（収集率3%）ことや、埋立地が使われておらず、不法投棄が常態化していることが判明した。また、清掃事業を推進できる人材や収集を行う機材も致命的に不足している状況である。

可能であれば、技術協力プロジェクトの前に、現地で強力に清掃事業強化を推進できる専門家の派遣によって、ジュバ市の廃棄物管理の基盤を整備しておくことが望ましい。長期専門家は、現在実施しているパイロット・プロジェクトの普及拡大を中心に支援する。この活動がある程度軌道に乗った段階で技術協力プロジェクトが入ることで、マスタープラン第1期から第2期への移行を効果的に後押しすることができると思う。マスタープラン第2期は、本格的な「事業計画」を検討しており、無償資金協力による収集能力の飛躍的向上に耐えうる受入体制を整えることが使命となる。技術協力プロジェクトと無償資金協力の連携により、目標としている収集率34%の達成に向け、相乗効果が期待される。

### 10.4 無償資金協力の方向性

無償資金協力プロジェクトは収集車両、埋立地用重機と簡易な修理工場のコンポーネントを想定する。ジュバ市において機材不足の解消が切望されているところではあるが、問題は機材が供与されても清掃事業を行うだけのマネジメント能力がなく、また車両に修理能力が低いことである。現状では、無償資金協力によって機材を供与しても適切な管理ができずに故障等により放置されるリスクが高いため、専門家派遣や技術協力プロジェクトが先行すべきだと考えるが、一方で、機材が無ければキャパシティ・ディベロップメントも難しく、現地の状況を見て適切なタイミングで無償資金協力を実施することが重要である。そうなるという時点で行うかという問題が起こるが、現時点では、上述したマスタープラン第2期（「事業計画」）が安定して遂行できるようになり、組織的な修理能力が培われた時点が適切ではないかと考えられる。

## 第11章 活動実績

### 11.1 キックオフミーティング（ウガンダ国カンパラ市）

#### PREPARATION

日程	時間	プログラム内容
11 <sup>th</sup> June	-	Flight
12 <sup>th</sup> June	-	Flight (Arrive to Uganda)
13 <sup>th</sup> June	9:00- 16:00-	1. Preparation of kick-off workshop 2. Visit JICA South Sudan office
14 <sup>th</sup> June	9:00- 14:00-	1. Preparation of kick-off workshop 2. Pick-up Sudan National Staffs (2)
15 <sup>th</sup> June	9:00- 12:00-	1. Preparation of kick-off workshop 2. Pick-up Counterparts (7) and South Sudan National Staffs (2)
16 <sup>th</sup> June	9:00- 15:00	1. Outline of serious of JICA assistance for South Sudan in the field of solid waste management 2. Technical assistance to Juba solid waste management from 2012 to 2014 & DVD 3. Purpose of this mission 4. Group discussion and preparation of presentation: To prepare PPT & paper documents for kick off workshop
17 <sup>th</sup> June	9:00- 15:00	1. Outline of series of Sudan solid waste activities from 2010 to 2017 Master plan of Khartoum state 2017 2. Discussion on Sudan site visit schedule & participants 3. Group discussion and preparation of presentation: To prepare PPT & paper documents for kick off workshop
18 <sup>th</sup> June	9:00- 16:00	1. Solid waste management in Japan (DVD) 2. Presentation: - Policy, institution & regulation group - Financial group - Collection group - Landfill site group 3. Draft minutes of meeting

#### PRE WORKSHOP: 19th June (Mon)

時間	プログラム内容	登壇者
9:00 - 10:30	1. [Lecture-1] History of Juba Waste Management	Akio Ishii, John Waran Michael
10:30 - 11:00	2. [Lecture-2] Explanation of Work Plan of the Project	Akinori Seino
11:00 - 12:00	3. Presentation: Data collection progress report	John Waran Michael
12:00 - 13:30	(Lunch time)	
13:30 - 14:30	[Discussion-1] Clarify missing data & additional data survey	Akio Ishii & Rikae Kodani John&Johnson
14:30 - 17:00	Preparation time	

#### PROGRAM DAY-1: 20th June (Tue)

時間	プログラム内容	登壇者	所属先
9:00 - 9:05	1-1. Orientation	Akio Ishii	Yachiyo Engineering Co., Ltd.
9:05 - 9:15	1-2. Short speech by JICA	Tsuyoshi Yamamoto	JICA Headquarters
9:15 - 9:30	2. Introduction of attendance	Akio Ishii John Waran Michael	Yachiyo Engineering Co., Ltd.

時間	プログラム内容	登壇者	所属先
	3. Presentation: data collection survey	Akio Ishii John Waran Michael	Yachiyo Engineering Co., Ltd.
9:30 - 10:20	(1) National Policy on solid waste management (SWM) in South Sudan	Aban Akutker Joknyal	Acting Director General, Directorate of Env. Management, Ministry of Environment
10:30 - 11:20	(2) Profile of JCC and outline of SWM in Juba	Thomas Stephen Kenyi	Deputy Chief Executive Officer, JCC
11:30 - 13:00	(Lunch time)		
13:00 - 13:50	(3) Current situation of waste collection in Kator Block	Timon Wani Marcellino Dere	Director, Kator Block
14:00 - 14:50	(4) Waste collection system & regulation, JCC	Diseremo Sebit John Amin	Director for Env. & Sanitation, Dept. of Env. & Sanitation, JCC
		Martin Manasseh Lemi Lukadi	Director, Dept. of Env. & Sanitation, JCC
15:00 - 15:50	(5) Budget for SWM, JCC	Hillary Dada Woderif Limuka	Director of Planning & Budget, JCC
16:00 - 16:50	(6) Current situation and operation history of final disposal	Joseph Loro Tombe Laku	Director, Rajaf Payam
17:00 - 17:50	(7) Summary of data collection survey	John Waran Michael	Yachiyo Engineering Co., Ltd.
17:50 - 18:00	4. Brief summary	Akio Ishii John Waran Michael	Yachiyo Engineering Co., Ltd.

PROGRAM DAY-2: 21st June (Wed)

時間	プログラム内容	登壇者
9:00 - 9:10	1. Brief summary of Day-1	Akio Ishii John Waran Michael
9:10 - 11:00	2. [Lecture-3] Explanation of Technical Cooperation Project (2014)	Akio Ishii John Waran Michael Johnson Tito Kawa Legge
	3. [Lecture-4] Concept and methodology of Master Plan(M/P) and Capacity Development(CD) *including DVD	
11:00 - 12:00	4. [Discussion-2] How to apply the concept of M/P into Juba	Akio Ishii Rikae Kodani John Johnson
	4-1. [Lecture-5] Contents of M/P and data collection method	
12:00 - 13:30	4-2. [Discussion-3] Remaining issues on data collection	Akio Ishii Rikae Kodani John Johnson
	(Lunch time)	
13:30 - 15:30	5-1. [Lecture-6] SWM and M/P in Sudan	Kanako Katayama Gosai Ahmed Adam Eissa Gasim
	5-2. Explanation of study tours in Sudan	
	5-3. [Discussion-3] How to apply Sudan experience into Juba	
15:30 - 16:00	(Short break)	
16:00 - 16:30	6. Next Steps (schedule & activities)	Akinori Seino
16:30 - 17:00	7. Summary of kick-off meeting (Day1 & Day2)	Akio Ishii
17:00 - 17:30	8. Closing (Short speech by JICA)	Jun Murakami

## 11.2 第1回スタディツアー（スーダン国ハルツーム州）

### PREPARATION

日程	時間	プログラム内容
4-Aug (Fri)	-	Flight
5-Aug (Sat)	-	Flight
6-Aug (Sun)	9:00 - 11:00 12:00 - 13:00 14:00 - 16:00	Internal Meeting Meeting with under secretary, Ministry of Environment JICA Sudan Office
7-Aug (Mon)	9:00 - 11:00 12:00 - 14:00 14:00 - 16:00	Internal Meeting Preparation of sturdy tour (Issue request letter for KCC) Pick-up of national staffs
8-Aug (Tue)	9:00 - 17:00	Internal Meeting Meeting with KCC & JOCV
9-Aug (Wed)	9:00 - 14:00 14:00 - 16:00	Meeting with KCC JICA Sudan Office (w/Mr. Murakami) & Environmental Day
10-Aug (Thu)	9:00 - 11:00 11:00 - 16:00	Internal Meeting Preparation of sturdy tour & Data analysis with Mr. John
11-Aug (Fri)	9:00 - 15:00 15:00 - 17:00	Preparation of sturdy tour & Data analysis Pick up of counterparts

### ORIENTATION & DATA COLLECTION PROGRESS

日程	時間	プログラム内容	登壇者
12-Aug (Sat)	9:00 - 9:30	1. Orientation: Outline of study tour	Mr. Seino
		2. 1 <sup>st</sup> Assessment Sheet	Mr. Adam
	9:30 - 10:00	3. Reflection on Kick-off meeting	Mr. Ishii
	10:00 - 11:30	4. Progress check of data collection	Mr. John
	12:00 - 15:00	5. Discussion	C/P
13-Aug (Sun)	9:00 - 11:00	1. Policy of data collection survey & Discussion	Mr. Ishii Mr. Gosai
	11:30 - 14:00	2. Preparation for Site Visit (point of view of data collection)	
	14:00 - 15:00	3. Lecture on Annual Plan and Annual Report by Planning Department, KCC 4. Report: current situation of Kator block	Planning Dep. KCC Mr. Gamardine
14-Aug (Mon)	9:00 - 9:30	1. Summary of 1 <sup>st</sup> Assessment Sheet	Ms. Kodani
	9:30 - 10:30	2. Report: current situation of Kator block	Mr. Stephen
	10:30 - 11:00	3. Lecture: How to make Action Plan	Mr. Gosai
	11:30 - 12:00	4. Lecture on Annual Plan/Report and Financial Plan in South Sudan	Ms. Katayama Ms. Kodani
	12:00 - 15:00	5. Discussion: How to organize data	Mr. Ishii
		6. Group Work: How to make an annual report	Mr. Gosai



### STUDY TOUR (LECTURE & SITE VISIT)

日程	時間	プログラム内容
15-Aug (Tue)	9:00 - 11:00 12:00 - 15:00 15:00 - 17:00	1. Ministry of Environment, Natural Resources and Physical Development 2. Minister / Higher Council, Khartoum State 3. Lunch
16-Aug (Wed)	9:00 - 11:00 12:00 - 15:00	1. Khartoum Cleaning Corporation (KCC) 2. AU Office (Karary)
17-Aug (Thu)	9:00 - 11:00 12:00 - 15:00	1. Omdurman Landfill Site 2. Omdurman Transfer Station
18-Aug (Fri)		Preparation of the report
19-Aug (Sat)	8:00 - 11:00 12:00 - 15:00	1. Fixed-Time Fixed-Point Collection (Karary) 2. AU Office (Khartoum) 3. Fixed-Time Fixed-Point Collection (Khartoum)
20-Aug (Sun)	9:00 - 14:00	1. Central Workshop (Soba)

### SUMMARY & NEXT STEPS

日程	時間	プログラム内容	登壇者
21-Aug (Mon)	9:00 - 11:00 12:00 - 13:00 13:00 - 15:00	1. Summary of Study Tour 2. Explanation of 2 <sup>nd</sup> Study Tour 3. 2 <sup>nd</sup> Assessment Sheet & Discussion 4. Lecture on Waste flow 5. Next Steps - Waste unit generation survey - Newsletter & TV conference in Juba	Mr. Ishii Mr. Seino Ms. Kodani Mr. Johnson Mr. Gosai Mr. John
22-Aug (Tue)	9:00 - 11:00 12:00 - 15:00	1. Next steps (Cont.) - Annual Report with additional Data 2. Conclusion	Mr. Ishii Ms. Kodani Mr. John Mr. Ishii

### Reporting

日程	時間	プログラム内容
23-Aug (Wed)	4:30 - 5:30 9:00 - 17:00	Airport drop off (C/P) Develop a report
24-Aug (Thu)	-	Flight
25-Aug (Fri)	-	Flight

### 11.3 第2回スタディツアー（スーダン国ハルツーム州）

#### DETAIL ANALYSIS OF FINANCIAL DATA AND WASTE MANAGEMENT DATA (GROUP-A)

日程	時間	プログラム内容	登壇者
21-Oct (Sat)	9:00 - 9:30	1. Orientation	Mr. Seino
	9:30 - 10:00	2. Background of data collection	Mr. Ishii
	10:00 - 12:00	3. Reflection on Juba - Rejaf Solid Waste Management Committee Meeting	Mr. Seino Mr. Sebit
22-Oct (Sun)		(Day Off)	
23-Oct (Mon)	9:00 - 11:00	4. Presentation of Annual Report	Ms. Kodani, Mr. John
	11:30 - 15:00	5. Discussion on Annual Report	Mr. Ishii, Mr. John
24-Oct (Tue)	9:00 - 11:00	6. Data Confirmation of Waste Unit Generation Survey	Ms. Kodani Mr. Gosai
	11:30 - 15:00	7. Data Confirmation of Financial information	Ms. Katayama
25-Oct (Wed)		8. Blush-up of Annual Report	

#### STUDY TOUR (LECTURE & SITE VISIT) (GROUP-A&B)

日程	時間	プログラム内容	登壇者
26-Oct (Thu)	9:00 - 9:30	1. Orientation	Mr. Seino
	9:30 - 10:00	2. Summary of Juba - Rejaf Solid Waste Management Committee Meeting	Mr. Sebit Mr. Gamardin
	10:00 - 11:00	3. Presentation of Annual Report	
	11:30 - 13:00	[Lecture-1] TICAD conclusion & Sudan action	Mr. Gosai
	13:00 - 15:00	[Lecture-2] African Clean Cities Platform	
27-Oct (Fri)	9:00 - 11:00	[Lecture-3] Main Concept of Master Plan & Discussion	Mr. Ishii
	11:30-14:00		
	14:00 - 15:00	[Lecture-4] How to elaborate data collection	
28-Oct (Sat)	9:00 - 12:00	[Lecture-5] KCC changing and history [Lecture-6] After Japan Grant Aid project and technical cooperation project	Mr. Jafar, KCC Mr. Gosai
	12:00 -	(Half Day Off)	
29-Oct (Sun)		(Day Off)	
30-Oct (Mon)	9:00 - 11:00	[Visit-1] Landfill Site (Tayba)	KCC Mr. Gosai
	12:00 - 15:00	[Visit-2] Transfer station of Khartoum -Lecture: Workers training & safety and sanitation training	
31-Oct (Tue)	9:00 - 11:00	[Visit-3] Umbadah & new Bahari	Mr. Musharaf, KCC Mr. Gosai
	12:00 - 15:00	[Visit-4] Community awareness raising activities - Lecture: Relationship between Locality and AU	
1-Nov (Wed)	9:00 - 11:00	[Lecture-7] Environmental course in Khartoum University: learning higher education on SWM	Dr. Bushura, Khartoum State MENRPD, KCC MENRPD, KCC
	11:30 - 13:00	[Lecture-8] MENRPD strategy, KCC vision [Lecture-9] Realization of Clean Khartoum Master Plan & SWM annual plan	
	13:30 - 15:00	[Lecture-10] Environmental education of MENRPD in Sudan	
2-Nov (Thu)	9:00 - 11:00	2 <sup>nd</sup> Study tour summary	Mr. Ishii Mr. Seino
	11:30 - 15:00	Discussion & Next steps	

## 11.4 最終ワークショップ（スーダン国ハルツーム州）

### 11.4.1 全体スケジュール

日付	活動内容
12月8日(金)	(往路)
12月9日(土)	(往路)
12月10日(日)	Preparation for the workshop
12月11日(月)	Group A 到着
12月12日(火)	Preparation for the workshop: Discussion on Pilot Project Action Plan
12月13日(水)	Preparation for the workshop: Discussion on next step activities
12月14日(木)	Preparation for the workshop: Additional data collection & practice for a presentation
12月15日(金)	Group B 到着
12月16日(土)	Preparation for the workshop: Discussion on Pilot Project Action Plan
12月17日(日)	Preparation for the workshop: Discussion on next step activities & practice for a presentation
12月18日(月)	スーダンワークショップ参加： 州における廃棄物管理状況確認調査の報告
12月19日(火)	最終ワークショップ
12月20日(水)	(復路)
12月21日(木)	(復路)

### 11.4.2 最終ワークショップ プログラム

**Date:** Tuesday 19th December, 2017

**Venue:** Meeting room in Regency Hotel

**Chairperson:** Mr. Diseremo Sebit/ Mr. Gamardin Mogga

**Facilitator:** Mr. John Waran

**Agenda:**

- |               |   |   |
|---------------|---|---|
| 9:00 - 9:10   | 1. Opening Remarks                      | (Ms. Eiko Kojima, JICA Headquarters)          |
| 9:10 - 10:00  | 2. Result of the Data Collection Survey | (JICA Project Team)                           |
| 10:00 - 10:30 | 3. Action Plan on the Pilot Project     | (Juba-Rejaf Solid Waste Management Committee) |
| 10:30 - 11:00 | <i>Tea Break</i>                        |   |
| 11:00 - 11:20 | 4. Summary and Outcome of the Project   | (JICA Project Team)                           |

- 11:20 - 12:10 5. Discussion  
 12:10 - 13:30 *Lunch Break*  
 13:30 - 13:50 6. Future Vision of JICA cooperation to Juba  
 (Mr. Jun Murakami, JICA South Sudan Office)  
 13:50 - 14:20 7. Next Steps to improve solid waste management in Juba  
 (Mr. Akio Ishii, the leader of JICA Project Team)  
 14:20 - 14:30 8. Closing Remarks  
 (Mr. Aban Akutker, Ministry of Environment and Forestry)  
 14:30 - 14:40 9. Closing Remarks (Mr. Gosai Ahmed, NENRPD)  
 14:40 - 15:00 10. Closing Ceremony

## 11.5 パイロット・プロジェクト進捗モニタリング（１）（スーダン国ハルツーム州）

### 11.5.1 全体スケジュール

日程	C/P	活動内容
2018年 3月6日（火）		移動日
3月7日（水）		移動日
3月8日（木）		C/P 受入準備 JICA スーダン事務所訪問
3月9日（金）	○	C/P スーダン到着（ジュバ→ハルツーム） オリエンテーション
3月10日（土）	○	パイロット・プロジェクト（PP）進捗報告 【ディスカッション】PPの成果と課題 【講義】我が国の歴史から学ぶ廃棄物処理（１）
3月11日（日）	○	【ディスカッション】PP実施計画の見直し 【講義】課題別研修の報告（Mr. Sebit）
3月12日（月）	○	【講義】我が国の歴史から学ぶ廃棄物処理（２） 【ディスカッション】①本プロジェクトから得た教訓、 ②PPとJRSWMGの将来像
3月13日（火）	○	報告ワークショップ（JRSWMGによる発表＋質疑応答）
3月14日（水）	○	C/P スーダン出国（ハルツーム→ジュバ） 移動日
3月15日（木）		移動日

## 11.5.2 進捗報告ワークショップ プログラム

### Workshop in 13<sup>th</sup> March, 2018

- 9:00 - 9:10 1. Opening Remarks (by Mr. Ishii)
- 9:10 - 10:00 2. Progress, Achievement and Challenges of the Pilot Project with revised action plan
- 10:00 - 10:40 3. Opinion, Sustainability and expansion of the Pilot Project/Summary of discussion
- 10:40 - 11:10 *Tea Break*
- 11:10 - 11:20 4. Lessons Learnt and way forward from Japanese SWM history video
- 11:20 - 12:10 5. Discussion
- 12:10 - 13:30 *Lunch Break*
- 13:30 - 14:20 6. Next Steps (Sudan meeting in June)
- 14:20 - 14:30 7. Closing Remarks (JRSWMG)
- 14:30 - 14:40 8. Closing Remarks (Mr. Gosai Ahmed, NENRPD)

## 11.6 パイロット・プロジェクト進捗モニタリング（２）（スーダン国ハルツーム州）

### 11.6.1 全体スケジュール

日程	C/P	活動内容
6月16日(土)		(往路)
6月17日(日)		10:00 JICA スーダン事務所訪問 C/P フライト手配・ワークショップ準備
6月18日(月)	○	C/P 到着・オリエンテーション
6月19日(火)	○	(1) Progress Report on Pilot Project by C/P (2) Discussion 16:00 大使館訪問
6月20日(水)	○	(3) Courtesy visit to Khartoum State&MENRPD (4) Preparation of the presentation
6月21日(木)	○	(5) Summary of the Project (6) Way forward
6月22日(金)	○	C/P 出国
6月23日(土)		(復路)
6月24日(日)		(復路)

## 11.6.2 PP モニタリング最終ワークショップ プログラム

**Date:** Thursday 21st June, 2018

**Time:** 9:00 - 14:30

**Venue:** Meeting room in Regency Hotel

**Participants:**

Juba Counterparts: Mr. Sebit, Mr. Gamardin, Mrs. Rosemary

JICA Sudan Office: Mr. Takahashi, Ms. Harima and JOCV

JICA South Sudan Office: Mr. Murakami

JICA Project Team: Mr. Ishii, Ms. Kodan, Mr. Gosai, Mr. Johnson, Mr. John

**Program:**

- 9:00 - 9:10 1. Opening Message
- 9:10 - 10:30 2. Summary of the Project (JRSMWG)
- (1) Result of Pilot Project
- (2) Lessons learnt of PP
- (3) How to reflect the lessons learnt to M/P
- 10:30 - 11:30 3. Discussion
- 11:30 - 13:00 *Lunch Break*
- 13:00 - 14:00 4. Way forward: Next steps to improve SWM in Juba (JRSMWG & Akio Ishii)
- 14:00 - 14:20 5. Closing Remarks (JRSMWG&Mr. Gosai Ahmed, NENRPD)
- 14:20 - 14:30 6. Closing Ceremony

## 11.7 カウンターパートリスト

氏名	所属先	役職
Aban Akutker Joknyal Agyou	Ministry of Environment and Forestry	Acting Director General, Directorate of Environmental Management
Daniel Lado Matayo Lobojo	Advisor, Ministry of Environment	Jubek State
Thomas Stephen Kenyi Lowong	Juba City Council	Deputy Chief Executive Officer
Hillary Dada Woderif Limuka	Juba City Council	Director of Planning and Budget
Diseremo Sebit John Amin	Department of Environment and Sanitation, Juba City Council	Director for Environmental Sanitation
Martin Manasseh Lemi Lukadi	Department of Environment and Sanitation, Juba City Council	Director
Rose Mary Venansio Loro	Department of Environment and Sanitation, Juba City Council	
Joseph Loro Tombe Laku	Rajaf Payam	Director
Stephen Vijilio Kose Gumbe	Munuki block Council	Director
Timon Wani Marcellino Dere	Kator Block Council	Director
Gamardin Mogga Sebit Didi	Kator Block Council	Junior Public Officer
Mogga Ngwangki Laki Morbe	Juba Block Council	

## 添付資料

(添付資料は電子データで格納)

添付資料 1 : キックオフ会議議事録

添付資料 2 : 第 1 回スタディツアー議事録

添付資料 3 : 第 2 回スタディツアー議事録

添付資料 4 : 最終ワークショップ議事録

添付資料 5 : National Environmental Protection Bill (Draft)

添付資料 6 : National Environment Policy 2015-2025 (Draft)

添付資料 7 : National Policy on Medical Waste Management (First Draft)

添付資料 8 : JCC By-law (2013)

添付資料 9 : Rejaf County By-laws (2018)

添付資料 10 : ごみ量調査記録報告書

添付資料 11 : JCC コンパクターの運行記録例

添付資料 12 : パイロット・プロジェクト実施計画書

Minutes of Meeting  
Kick-off workshop of Juba solid waste management  
project in Kampala

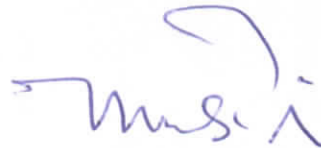
June 21<sup>st</sup>, 2017

Project: Data collection survey on solid waste management in Juba



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Aban Akuhtker Joknyal  
Acting Director General, Directorate of  
Environmental Management  
Ministry of Environment



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Thomas Stephen Kenyi  
Deputy Chief Executive Officer  
Juba City Council



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Tsuyoshi Yamamoto  
Deputy Director, Environmental  
Management Team2, Environmental  
Management Group  
Japan International Cooperation Agency  
(JICA)



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Akio Ishii  
JICA Expert Team Leader  
Urban Environment System Department  
Yachiyo Engineering Co., Ltd.



## MINUTES OF MEETING

**Project name:** Data collection survey on solid waste management in Juba

### I. PARTICIPANTS

#### A. South Sudan participants

1. Mr. Aban Akutker Joknyal - Acting Director General, Directorate of Environmental Management, Ministry of Environment
2. Mr. Thomas Stephen Kenyi - Deputy Chief Executive Officer, JCC
3. Mr. Hillary Dada Woderif Limuka - Director of Planning & Budget, JCC
4. Mr. Diseremo Sebit John Amin - Director for Environmental & Sanitation, Department of Environment & Sanitation, Juba City Council
5. Mr. Martin Manas, Director, Department of Environment & Sanitation, Juba City Council
6. Mr. Joseph Loro Tombe Laku, Director, Rajaf Payam
7. Mr. Timon Wani Marcellino Dere, Director, Kator block

#### B. Japanese and Sudanese participants

1. Mr. Tsuyoshi Yamamoto - Deputy Director, Environmental Management Team2, Environmental Management Group, Japan International Cooperation Agency
2. Mr. Jun Murakami - Representative, South Sudan Office, Japan International Cooperation Agency
3. Mr. Hiroto Kondo - Assistant Director, Africa Division1, Africa Department, Japan International Cooperation Agency
4. Mr. Tombe Sebit Laku - South Sudan Office, Japan International Cooperation Agency
5. Mr. Akio Ishii - Chief expert/solid waste management, Yachiyo Engineering Co., Ltd.
6. Mr. Akinori Seino - Organization structure analysis, Yachiyo Engineering Co., Ltd.
7. Ms. Kanako Katayama - Economic and financial analysis, Yachiyo Engineering Co., Ltd.
8. Ms. Rikae Kodani - Solid waste collection and transportation structure analysis, Yachiyo Engineering Co., Ltd.
9. Mr. Adam Eissa Gasim - Yachiyo Engineering Co., Ltd.
10. Mr. Gosai Ahmed Menrpd - Yachiyo Engineering Co., Ltd.
11. Mr. Johnson Tito Kawa Legge - Yachiyo Engineering Co., Ltd.
12. Mr. John Waran Michael - Yachiyo Engineering Co., Ltd.

### II. SUMMARY RECORD OF MEETING:

#### 1. Summary of kick-off workshop

Three days of kick-off workshop was held from 19th June to 21st June at Fairway hotel in Uganda. The purpose of the workshop is 1) to be agreed on the work plan, 2) to grasp the current situation of solid waste management (hereinafter referred to as "SWM") in Juba, South Sudan, and 3) to obtain a deep understanding of master plan (hereinafter referred to as "M/P").

Concerning of the current situation of SWM in Juba, the following four issues are mentioned as the biggest challenges.

- Waste collection should be improved to provide good service for residents, which leads to secure financial source.
- Illegal dumping must be prohibited immediately.
- Policy and regulation should be harmonized with the present solid waste management activities.
- Institution and organization should be more stable.

#### 2. Pre-workshop in 19<sup>th</sup> June.

Mr. Ishii explained the technical cooperation project activities in South Sudan from 2012 to 2014. After that, Mr. Seino explained the work plan of “Data collection survey on solid waste management in Juba” (hereinafter referred to as “the Project”).

Discussion points are shown as below:

- 1) Comparison of the current situation to the past
- 2) The condition of Grand Aid Project
- 3) How to improve financial situation

All South Sudan side participants agreed on the work plan.

### **3. Kick-off workshop Day-1 in 20<sup>th</sup> June**

The purpose of the Project is to collect basic information of SWM which will be a foundation of the new M/P of SWM in Juba. Project team aims to develop the new M/P together with South Sudan side.

Participants in South Sudan side gave a presentation as below:

- 1) National Policy on solid waste management(SWM) in South Sudan - Aban Akutker Joknyal
- 2) Profile of JCC and outline of SWM in Juba - Thomas Stephen Kenyi
- 3) Current situation of waste collection in Kator Block - Timon Wani Marcellino Dere
- 4) Waste collection system & regulation, JCC - Diseremo Sebit & Martin Manas
- 5) Budget for SWM, JCC - Hillary Dada Woderif Limuka
- 6) Current situation and operation history of final disposal - Joseph Loro Tombe Laku
- 7) The progress report of data collection survey (Summary) - John Waran Michael

Discussion points are shown as below:

- 1) General
  - ✓ It is necessary to devise the solution to deal with the current challenges.
- 2) Waste collection
  - ✓ Demarcation between JCC and Kator block council
  - ✓ Current situation of waste collection by private company
  - ✓ How to overcome the lack of compactors
  - ✓ Difficulties of maintenance: lack of ability (needs of staff training), lack of spare parts
  - ✓ The definition of primary collection
  - ✓ Waste collection ratio (65%) is required to be analyzed more carefully
  - ✓ Community participation is necessary
  - ✓ Responsibility on treatment of liquid waste should be clear
- 3) Final disposal
  - ✓ Daily record of incoming trucks is necessary to be inspected
  - ✓ Fee collection form should be renewed and used on a daily basis
  - ✓ Illegal dumping site must be clear
  - ✓ Reconstruction of access road is needed
  - ✓ To figure out the actual cause of malfunction of broken down bulldozer
  - ✓ Runaway of repair company (bulldozer provider: Ezentus)
  - ✓ Control office in the dumping site is not working
  - ✓ Number of waste picker has decreased from 150 to 50 because of decrease of incoming vehicles
  - ✓ Security condition is worse
- 4) Institutional system (Organization, Law and regulation)
  - ✓ There is no regulation. Approval process is delay because of frequent changes of the minister
  - ✓ Draft regulation on SWM has already submitted, which should be studied by the next meeting
  - ✓ Staff number of each organization should be more clear
- 5) Finance

- ✓ Actual expenditure records is needed
- ✓ JCC budget is recommended to be analyzed so as to compare to SWM budget in Juba
- ✓ Income source should be specified by organization (HQ, JCC, Blocks, Rajaf payam)
- ✓ How to increase income sources

#### 4. Kick-off workshop Day-2 in 21<sup>st</sup> June

Main purpose of Day-2 workshop is to understand the core idea and contents of M/P. Mr. Ishii explained what M/P is and how to formulate it. Outline of M/P formulated in 2014 was explained by showing DVD which described SWM project in Juba at that time. Main discussion points are shown as below:

- 1) How to coexist with waste picker and how to manage/train them
- 2) Signboards of JCC are all removed

Ms. Kodani explained the data collection method and proposed the action plan to obtain further data. The additional survey mentioned in *Attachment-3* was agreed to be done under the respective responsibilities by the end of July 2017. Mr. Hillary and Mr. Sebit of JCC manage the progress of data collection supported by JICA South Sudan office if it's necessary.

Mr. Gosai and Adam explained the history of JICA assistant in Khartoum from 2010 to 2017 and the outline of Khartoum master Plan. The following questions raised from participants.

- 1) Institutional system
  - ✓ Decentralization of solid waste management
  - ✓ Communication tools to convince the high-level official to support SWM
  - ✓ Challenges caused by the frequent changes of the manager
- 2) Waste collection and transportation
  - ✓ Training to maintain the new Grant Aid trucks
  - ✓ Topographic survey before selection of collection trucks
  - ✓ Operation of fixed time -fixed point collection system
  - ✓ Transfer station and the long trailer
  - ✓ How to distribute equipment
  - ✓ Weekly/Monthly wage payment system for cleaners
  - ✓ Waste collection and transportation plan including a selection of vehicles was developed through JICA technical cooperation
- 3) Final disposal
  - ✓ Community consultation in a planning phase of a new landfill site
  - ✓ Landfill site operation (Frequency of soil cover)
  - ✓ How to decide the location of landfill site
  - ✓ How many waste pickers there are in the landfill sites
  - ✓ Penalty for illegal dumping
- 4) Finance
  - ✓ Calculation of tipping fee
- 5) Others
  - ✓ Service continuity on holiday

Ms. Katayama explained the idea of study tour in Sudan. Tentative schedule and attendees of study tour was agreed as below:

- 1) 1<sup>st</sup> study tour: From 14<sup>th</sup> Aug. to 25<sup>th</sup> Aug. (12days)
- 2) 2<sup>nd</sup> study tour: From 23<sup>rd</sup> Oct. to 3<sup>rd</sup> Nov. (12 days)
- 3) Attendees: All participants of kick-off workshop (7) and Mr. Stephen, the director of Munuki Block, Mr. Mogga, the director of Juba Block, Mrs. Rose, Deputy Director of Department of Environment & Sanitation, Juba City Council and Mr. Gamardin, Public health officer of Kator block (total 4) will attend. \*if not, proxy should be assigned.

State Ministry of Health and Environment is one of the important stakeholders.

Mr. Seino explained the next steps and schedule.

- |                             |  |
|-----------------------------|--|
| 1) June(6)(This time)       | Kick Off Meeting(Kampala)  |
| 2) July(7)                  | Further data collection  |
| 3) 14th Aug(8)- 25th Aug(8) | 1 <sup>ST</sup> Study Tour(Khartoum)/Discussion of collecting data |
| 4) September(9)             | Collect basic data(Juba)   |
| 5) End of October(10)       | 2 <sup>nd</sup> study tour/Discussion of collecting data           |
| 6) November(11)             | Collect basic data(Juba)   |
| 7) Middle of December(12)   | Final Workshop(Khartoum)   |

## **5. Conclusion**

JICA South Sudan office gave a comment and the workshop was closed.

## **III. SIGNING IN MINUTES OF MEETING:**

The kick-off workshop finished in positive tone. All participants agreed with the aforesaid contents and signed on the Minutes.

## **Attachment**

- 1) Kick-off workshop agenda
- 2) Attendance list
- 3) Check list of additional data collection survey
- 4) Presentation materials

## Kick-off Workshop Program

1. Project name: Data Collection Survey on Solid Waste Management in Juba
2. Date: June 19<sup>th</sup> – 21<sup>st</sup>, 2017
3. Participants: see attachment 2.
4. Program

[Pre Workshop: 19<sup>th</sup> June (Mon), Committee room B]

Time	Contents	Speaker name	Organization
9:00 – 10:30	1. [Lecture-1] History of Juba Waste Management	Akio Ishii & John Waran Michael	Yachiyo Engineering Co., Ltd.
10:30 – 11:00	2. [Lecture-2] Explanation of Work Plan of the Project	Akinori Seino	Yachiyo Engineering Co., Ltd.
11:00 – 12:00	3. Presentation: Data collection progress report	John Waran Michael	Yachiyo Engineering Co., Ltd.
12:00 – 13:30	(Lunch time)		
13:30 – 14:30	[Discussion-1] Clarify missing data & additional data survey	Akio Ishii & Rikae Kodani John&Johnson	Yachiyo Engineering Co., Ltd.
14:30 – 17:00	Preparation time		

[Program Day-1: 20<sup>th</sup> June (Tue), Viewpoint]

Time	Contents	Speaker name	Organization
9:00 – 9:05	1-1. Orientation	Akio Ishii	Yachiyo Engineering Co., Ltd.
9:05 – 9:15	1-2. Short speech by JICA	Tsuyoshi Yamamoto	JICA Headquarters
9:15 – 9:30	2. Introduction of attendance	Akio Ishii & John Waran Michael (Facilitator)	Yachiyo Engineering Co., Ltd.
	3. Presentation: data collection survey	Akio Ishii & John Waran Michael (Facilitator)	Yachiyo Engineering Co., Ltd.
9:30 – 10:20	(1) National Policy on solid waste management(SWM) in South Sudan	Aban Akutker Joknyal	Acting Director General, Directorate of Environmental Management, Ministry of Environment
10:30 – 11:20	(2) Profile of JCC and outline of SWM in Juba	Thomas Stephen Kenyi	Deputy Chief Executive Officer, JCC
11:30 – 13:00	(Lunch time)		
13:00 – 13:50	(3) Current situation of waste collection in Kator Block	Timon Wani Marcellino Dere	Director, Kator Block
14:00 – 14:50	(4) Waste collection system & regulation, JCC	Diseremo Sebit John Amin	Director for Environmental and Sanitation , Department of Environment & Sanitation, JCC
		Martin Manasseh Lemi Lukadi	Director, Department of Environment & Sanitation, JCC
15:00 – 15:50	(5) Budget for SWM, JCC	Hillary Dada Woderif Limuka	Director of Planning & Budget, JCC
16:00 – 16:50	(6) Current situation and operation history of final disposal	Joseph Loro Tombe Laku	Director, Rajaf Payam

Time	Contents	Speaker name	Organization
17:00 – 17:50	(7) Summary of data collection survey	John Waran Michael	Yachiyo Engineering Co., Ltd.
17:50 – 18:00	4. Brief summary	Akio Ishii & John Waran Michael (Facilitator)	Yachiyo Engineering Co., Ltd.

[Program Day-2: 21<sup>st</sup> June (Wed), Viewpoint]

Time	Contents	Speaker name	Organization
9:00 – 9:10	1. Brief summary of Day-1	Akio Ishii & John Waran Michael (Facilitator)	Yachiyo Engineering Co., Ltd.
9:10 – 11:00	2. [Lecture-3] Explanation of Technical Cooperation Project (2014) 3. [Lecture-4] Concept and methodology of Master Plan(M/P) and Capacity Development(CD) *including DVD 4. [Discussion-2] How to apply the concept of M/P into Juba	Akio Ishii John Waran Michael & Johnson Tito Kawa Legge	Yachiyo Engineering Co., Ltd
11:00 – 12:00	4-1. [Lecture-5] Contents of M/P and data collection method 4-2. [Discussion-3] Remaining issues on data collection	Akio Ishii Rikae Kodani John&Johnson	Yachiyo Engineering Co., Ltd.
12:00 – 13:30	(Lunch time)		
13:30 – 15:30	5-1. [Lecture-6] SWM and M/P in Sudan 5-2. Explanation of study tours in Sudan 5-3. [Discussion-3] How to apply Sudan experience into Juba	Kanako Katayama, Gosai Ahmed Mohammed Hamdalla & Adam Eissa Gasim Taher	Yachiyo Engineering Co., Ltd.
15:30 – 16:00	(Short break)		
16:00 – 16:30	6. Next Steps (schedule & activities)	Akinori Seino	Yachiyo Engineering Co., Ltd.
16:30 – 17:00	7. Summary of kick-off meeting (Day1 & Day2)	Akio Ishii	Yachiyo Engineering Co., Ltd.
17:00 – 17:30	8. Closing (Short speech by JICA)	Jun Murakami	JICA South Sudan Office

Attendance List of Kick-off Workshop in 19<sup>th</sup> -21<sup>st</sup> June

Name	Organization	Position	Role
Aban Akutker Joknyal Agyou	Ministry of Environment and Forestry	Acting Director General, Directorate of Environmental Management	C/P
Thomas Stephen Kenyi Lowong	Juba City Council	Deputy Chief Executive Officer	C/P (on behalf of Juba Mayor)
Hillary Dada Woderif Limuka	Juba City Council	Director of Planning and Budget	C/P
Diseremo Sebit John Amin	Department of Environment & Sanitation, Juba City Council	Director for Environmental Sanitation	C/P
Martin Manasseh Lemi Lukadi	Department of Environment & Sanitation, Juba City Council	Director	C/P
Joseph Loro Tombe Laku	Rajaf Payam	Director	C/P
Timon Wani Marcellino Dere	Kator Block Council	Director	C/P
Tsuyoshi YAMAMOTO	JICA	Deputy Director, Environmental Management Team2, Environmental Management Group	JICA
Jun MURAKAMI	JICA South Sudan Office	Representative	JICA
Hiroto KONDO	JICA	Assistant Director, Africa Division1, Africa Department	JICA
Tombe Sebit Laku	JICA South Sudan Office	Assistant Program Officer	JICA
Akio ISHII	Yachiyo Engineering Co., Ltd.	Chief Expert/Solid Waste Management	JET
Akinori SEINO	Yachiyo Engineering Co., Ltd.	Organization Structure Analysis	JET
Rikae KODANI	Yachiyo Engineering Co., Ltd.	Solid Waste Collection and Transportation Structure Analysis	JET
Kanako KATAYAMA	Yachiyo Engineering Co., Ltd.	Economic and Financial Analysis	JET
Adam Eissa Gasim	Yachiyo Engineering Co., Ltd.	Sudan National Staff	National Staff
Gosai Ahmed Menrpd	Yachiyo Engineering Co., Ltd.	Sudan National Staff	National Staff
Johnson Tito Kawa Legge	Yachiyo Engineering Co., Ltd.	South Sudan National Staff	National Staff
John Waran Michael	Yachiyo Engineering Co., Ltd.	South Sudan National Staff	National Staff

## Check list of additional data collection survey

Items		Responsibility
<b>1. General information of Juba City &amp; Block</b>		
1.1	Population (Juba city & Block)	Mr. John will combine the data collected by each block (CEO/Director of Block councils)
1.2	Area (Juba city & Block)	71km2 should be double checked by JET
1.3	Organization chart with name (to identify key person, ex. Section Director)	Each organization will prepare the revised organization chart with key person 's name (MoE, JCC, Department, Kator, Rajaf)
1.4	Staff No. of temporary/permanent by category	
1.5	Demarcation among JCC / Block / Zone / QC (roles & responsibility)	Mr. Martin will make a report supported by Mr. John
<b>2. Waste Generation</b>		
2.1	Unit Generation Rate (and Composition)	Fact-finding survey in landfill sites(2) by Mr. John & Mr. Johnson *Mr. Joseph of Rajaf payam promises to dispatch police officers for their security
2.2	Waste Generation Amount	
2.3	Waste management flow	
<b>3. Waste Collection and Transportation</b>		
3.1	Driving record sheet (actual data)	Mr. Sebit & Mr. Martin will give us the data by the next meeting in Aug.
3.2	Collection fee record (actual data)	
3.3	Frequency of waste collection	
3.4	Current situation of collection by private company (waste collection amount, vehicle capacity etc.)	Mr. Sebit & Mr. Martin renew the permission form for a private company and get the information of each vehicle's capacity.
3.4	Daily maintenance menu for a compactor	N/A
3.5	Causes malfunction of compactors/trucks	Mr. Sebit & Mr. Martin will ask engineers and answer.
3.6	Current situation of workshop (stock of equipment)	Not operational
<b>4. Final Disposal</b>		
4.1	Demarcation between County & Payam	DONE
4.2	Receiving records of tipping fee (actual data)	Mr. Joseph will start records supported by Mr. John & Mr. Johnson
4.3	Daily operation records (Number of incoming vehicle)	
4.4	Area of illegal dumping site (how badly)	Fact-finding survey in the illegal landfill site by Mr. John & Mr. Johnson
4.5	How many and which vehicle is dumping illegally	
<b>5. Institutional System</b>		
5.1	Relevant Law and Regulation	Soft copy of the original law and regulation will be given by the following organization.
5.1.1	The National Environment Policy, 2015-2025	Mr. Aban, MoE
5.1.2	National Waste Management Bills (draft)	
5.2	By-law of Juba city (revised)	Mr. Sebit & Mr. Martin, JCC
5.3	By-law of Rajaf payam(on process)	Mr. Joseph, Rajaf payam
<b>6. Finance</b>		
6.1	Initial Budget of Revenue (projection) on SWM (FY 2012/13 to FY 2017/18)	Mr. Hillary will check and send a data.
6.2	Result of Revenue on SWM (FY 2012/13 to FY 2016/17)	
6.3	Initial Budget of Expenditure (plan) on SWM (FY 2012/13 to FY 2017/18)	
6.4	Result of Expenditure on SWM (FY 2012/13 to FY 2016/17)	



<b>Items</b>		<b>Responsibility</b>
6.5	Initial Budget of Revenue (projection) of JCC (FY 2012/13 to FY 2017/18)	Mr. Hillary will check and send a data.
6.6	Result of Revenue of JCC (FY 2012/13 to FY 2016/17)	
6.7	Initial Budget of Expenditure (plan) of JCC (FY 2012/13 to FY 2017/18)	
6.8	Result of Expenditure of JCC (FY 2012/13 to FY 2016/17)	
6.9	Result of Revenue of Rajaf Payam (FY 2012/13 to FY 2017/18)	Mr. Joseph will check the existence of records and send a result supported by Mr. John & Mr. Johnson
6.10	Initial Budget of Expenditure (plan) of Rajaf Payam (FY 2012/13 to FY 2017/18)	
6.11	Result of Expenditure of Rajaf Payam (FY 2012/13 to FY 2016/17)	
6.12	Initial Budget of Revenue (projection) on SWM of Rajaf Payam (FY 2012/13 to FY 2017/18)	
6.13	Result of Revenue on SWM of Rajaf Payam (FY 2012/13 to FY 2017/18)	
6.14	Initial Budget of Expenditure (plan) on SWM of Rajaf Payam (FY 2012/13 to FY 2017/18)	
6.15	Result of Expenditure on SWM of Rajaf Payam (FY 2012/13 to FY 2016/17)	
6.16	Result of Revenue of Rajaf Payam (FY 2012/13 to FY 2017/18)	
<b>7. Procurement</b>		
7.1	Agency of import/export	Mr. Thomas, Mr. Sebit & Mr. Martin will ask the Mayor and engineers and answer.
7.2	Procurement process	
7.3	Type of vehicle suitable for Juba	
<b>8. Others</b>		
8.1	Photo book 2017	Mr. Johnson will organize photo book

## **Presentation materials**

1. National Policy on solid waste management(SWM) in South Sudan - Aban Akutker Joknyal
2. Profile of JCC and outline of SWM in Juba - Thomas Stephen Kenyi
3. Current situation of waste collection in Kator Block - Timon Wani Marcellino Dere
4. Waste collection system & regulation, JCC - Diseremo Sebit & Martin Manas
5. Budget for SWM, JCC - Hillary Dada Woderif Limuka
6. Current situation and operation history of final disposal - Joseph Loro Tombe Laku
7. The progress report of data collection survey (Summary) - John Waran Michael

**Republic of South Sudan  
Ministry of Environment and Forestry**

Presentations on;

**The National Environment Policy, 2015-2025 on  
Solid Waste Management of South Sudan**

Presented by:  
**Aban Akutker Joknyal**  
[abankutkerj@gmail.com](mailto:abankutkerj@gmail.com)

20<sup>th</sup> June, 2017

Kampala- Uganda.

Table of Content

1. Introduction
2. Organization Chart of Ministry of Environment and Forestry
3. The need for an Environmental Policy
4. The National Environment Policy of Solid Waste Management
5. Conclusion

**1. Introduction:**

**•What is Solid Waste?**

Solid Waste is defined as any solid material in the material flow pattern that is rejected by society. Other authors define solid wastes as all the waste arising from Human and animal activities that are normally solid and that are discarded as useless or unwanted. It is all inclusive and encompasses the heterogeneous mass of throwaways from residence and commercial activities as well as the more homogenous accumulation of single agricultural or industrial activity.

**• Types of Solid Waste**

Solid waste are usually one of the three types, namely:  
Municipal wastes, Industrial wastes and hazardous wastes.

**A) Municipal Wastes**

Classification of Materials comprising municipal solid wastes are:

- Garbage
- Rubbish
- Ashes
- Bulky wastes
- Demolition/ construction
- Special wastes
- Treatment plant wastes

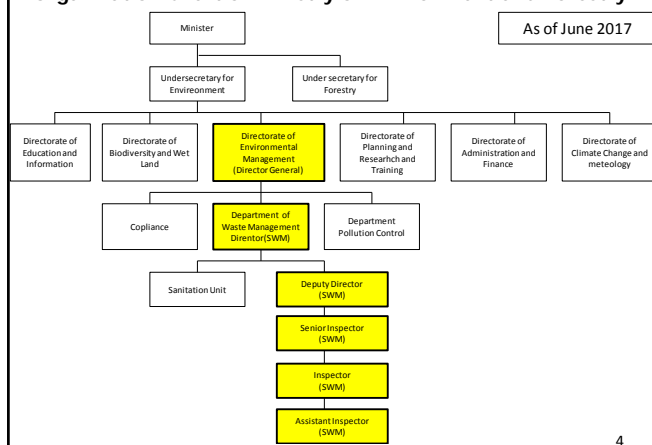
**B) Industrial Wastes**

Industrial wastes are wastes arising from industrial activities, they include rubbish, process wastes and hazardous wastes.

**C) Hazardous Wastes:**

Hazardous wastes are classified as wastes that pose a substantial danger, either immediately or over a period of time to human plant or animal life.

**2. Organization Chart of Ministry of Environment and Forestry**



**3. The need for an Environmental policy**

The need for an environmental policy frame work is illustrated by the following:

- The huge upcoming investments and developmental activities following the attachment of South Sudan's independence.
- Emerging environmental management challenges pertinent to impudent land use system, urban sprawl, improper oil exploration activities, loss of biodiversity, poor waste management and many others.
- Ineffective environmental management due to inadequate human and institutional capacities as well as limited government budgetary allocation.
- The need to harmonize and coordinate the environmental legal frameworks, guidelines and programs with all stakeholders at the three level of the government.

- The need to decentralize and develop management of the environment to the lowest levels of government within the framework of a decentralized system of governance.
- The current state of environmental degradation as manifested in widespread pollution by improper oil exploration activities, increasing degradation of environment and desert encroachment south wards in the northern part of South Sudan, and;
- Lack of reliable information and baseline data the environment as well as limited research capacity.

6

#### **4. The National Environment Policy of Solid Waste Management ,2015-2025**

**The National Environment Policy of South Sudan, on Solid Waste Management aim to:**

- Regulate and improve management of solid waste in South Sudan
- Promote reduction and categorization of solid waste prior to disposal
- Encourage private sector investment in solid waste management
- Legislate for the prohibition of littering and ensure the provision of adequate and affordable facilities for all
- Develop a holistic and integrated strategy for the management of municipal, septic or pharmaceutical, electronic waste, industrial and hazardous waste
- Promote public private partnership in solid waste management
- Implement international and regional laws related to management of solid waste including the Bamako convention;

7

- Encourage community participation in solid waste management
- Promote good hygiene practices through general cleaning such as storage and safe disposal of faeces.
- Promote education and awareness programs on solid waste management.
- Formulate laws to prevent and control environmental pollution in South Sudan.
- Control the use, transportation and storage of solid waste in South Sudan; and
- Ban the burning of rubbishes and grass to prevent pollution and protect the environment.

8

#### **5. Conclusion:**

- Solid Waste Management problem range from categorization, segregation systems, incompetent and unqualified personnel, low collection rate of both non-degrade and biodegradable or organic waste.
- Other problem is that the Bill Draft(Law) is not authorized so there is no legal procedure that is authorized for environmental activities at the moment.

9

**Thank you**

10

## Part one: Profile of Solid Waste Management

## Republic of South Sudan

Jubek State

### Presentation on Profile of Juba City Council and Solid Waste Management

By: *Thomas Stephen Kenyi*  
Deputy Chief Executive Officer

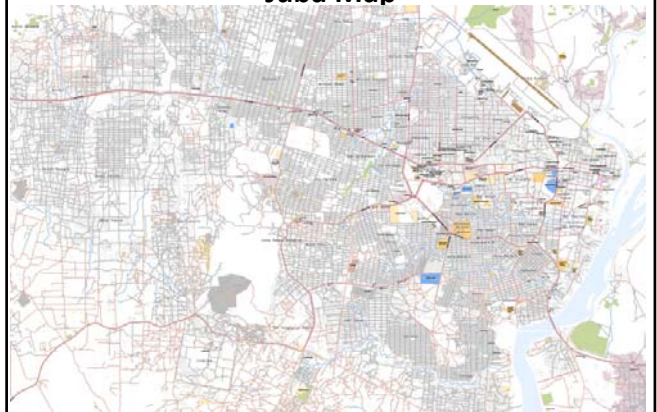
**Juba City Council**  
June 15th – 22nd 2017

Kampala, Uganda

### Profile of Juba City Council

- Juba City Council was established in March 2011. It has an area of approximately 71.22 km<sup>2</sup> and an estimated current population of 1.5 million inhabitants in and around the city. It is the capital of the newly created state of Jubek as well as the capital city of the Republic of South Sudan. The City Council has three important organs of the government the executive council which is headed by H. W. the Mayor and the Legislative which is headed by Chairman and the Judiciary.
- The vision of the City Council is to lay a strong socio-economic foundation for a prosperous council and the mission is to build a strong institutional as well as a strong administrative system that is capable of facilitating and fulfilling the development programs of the council. The City Council employs more than 2000 both classified and unclassified.

### Juba Map

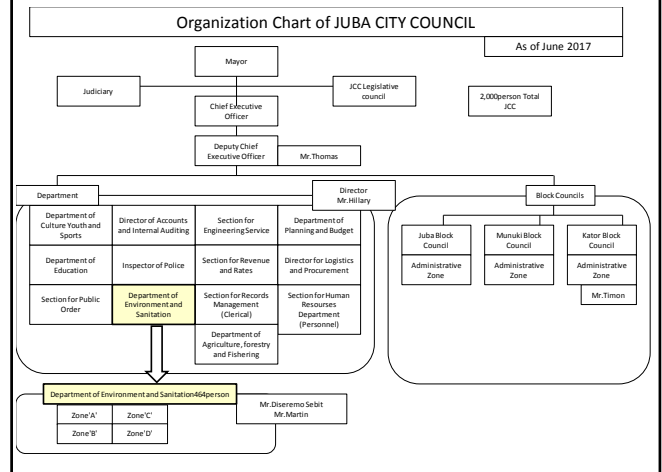


### Juba City Council responsibilities

Juba City Council provides its services to the population through three Blocks councils: Juba, Kator, and Munuki:

- **Basic social service delivery:** Health Centers, basic education (primary and kindergartens) etc
- **Infrastructure development:** Roads, bridges, traffic lights, etc
- **Environmental and sanitation services:** Provision of equipments, materials, collection of sewage and garbage etc.
- **Man power development:** Recruitment of skilled trained competent workers but generally the classified staff are seconded from the state government to manage the various departments and sections of the City Council such as Education, Public health, Accountants, Clerks and Local Government Administrative Officers. These employees usually serve for a limited and specific periods of time and are subject to transfer to the other new locations within the state

### Organization Chart of JUBA CITY COUNCIL



## Solid waste management

- ❑ The Department of Environment and Sanitation was established in 2012 with the support of JICA. It started with only (10) ten second hand compactors. Now there are only four (4) operational compactors, three (3) hired Lorry trucks, and one (1) tractor for solid waste collections.



## Solid waste management

- ❑ The rest were grounded due to lack of spare parts and financial ability to order them from outside. The dramatic increase in the population of Juba City Council due to the crises has resulted into an abnormal increase of waste generated now stands at around 250,000 tons per year. This is a challenge to Juba City Council although it is operating under capacity yet it endeavors to meet the standard of maintaining the city clean.



## Challenges encountered in JCC Waste management

- ❑ Weak infrastructure in general has direct negative impact on waste management
- ❑ Policies regarding solid waste management are under developed and not approved at all government levels
- ❑ Lack of related suitable identified equipments for timely collection of waste on daily routine
- ❑ Lack of technical skilled personnel to manage the waste operations in the entire of Juba City Council
- ❑ Insecurity in the areas which are designated as the dumping sites hinders plans for effective service delivery to the citizens
- ❑ Lack of permanent fuel storage facility within Juba City Council premises for constant supply and effective solid waste removal
- ❑ Lack of adequate finances to cater for constant provision of spare parts, other necessary equipments, payment of skilled and non skilled workers etc
- ❑ Lack of financial support from both national and state governments.

## Recommendation and way forward

- ❑ Improve infrastructure at any financial cost and import relevant equipments and machinery for easy solid waste management
- ❑ Agitate and speed up the processes for approval of the relevant waste bills
- ❑ Train the personnel through skill transfer
- ❑ Open opportunities for private sector related to solid waste management

Thank You

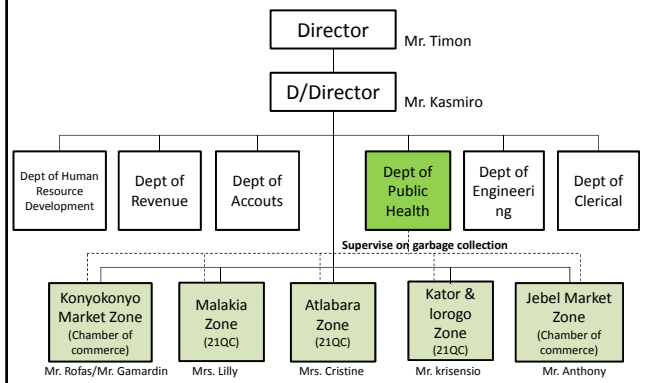
Republic of South Sudan  
 Jubeck State Juba City Council  
 Kator Block Council  
 Presentation on:  
 Current situation of waste collection  
 in Kator Town Block Council.  
 Presented by:  
 Timon Wani Marcellino Dere  
 19<sup>th</sup> June 2017  
 Kampala-Uganda

Contents:  
 1-Introduction  
 2-Profile of Kator Block Council  
 3-Previous collection system  
 4-Current collection system  
 5-Challenges  
 6-Way forward  
 7-Conclusion

## Introduction

- Kator Block Council is one of the three coordinative units besides Juba and Munuki Blocks Council, of Juba City Council (JCC) that was founded after the independence of the Republic of South Sudan in 2011.
- Kator block is comprised of five zones which are the basic administrative units namely
  - Malakia zone .
  - Konyokonyo zone .
  - Atlabara zone .
  - Kator and Lologo zone.
  - Jebel Zone .
- The block has 21 Quarter Councils, with a total population of 110,000 inhabitants according to our Statistical Year Book for South Sudan .

## Organization chart of Kator Block Council



## Profile of Kator Town Block Council

- Kator Block main sources of revenue is Konyokonyo market, Jebel market, Malakia market and the residential areas.
- The local government councils are authorized by the law to generate revenue from the following sources :-
  - License fee.
  - Administrative fines.
  - Royalties.
  - Permits.
  - Contract fees.
  - Auction fees
  - Any other fees and charges as may be authorized by the law, rules and regulations .
- The block is authorized to undertake public cleaning and disposal of refuse, human and animal's solid waste and remains of agriculture and industry, for prevention of pollution of the environment .
- Health supervision of houses and industrial facilities ,and monitoring the execution thereof, in accordance with the health specifications of buildings .
- Kator Block council, established solid waste management system in all the zones. This is to assist in regular garbage collection.
- The Block regulate its citizens to keep their environment clean through enacting regulations that impose penalties on those who don't obey these regulations.

## Cont.

- The Block has appointed Public Health workers to facilitate in cleaning the markets, main roads ,residential areas, NGOs ,and other private sectors ,NGOs ,.
- Kator Block Council is applying these Public and Environmental Health Regulations through its Public Health Officers who are deployed to the five zones.

### Cont.

- They carry out awareness regarding garbage collection, storage, transportation and the disposal of solid to the dumping site.
- The Director of Kator Block closely supervises the implementation of these regulations and it's headed by the D/Director of Public Health to ensure that the right implementation of the rules and regulations are carried out.

### Previous collection system

- Kator Block Council was the first block that selected for the JICA SWM Pilot Project to enhance garbage collection system in Juba 2013.
- This Pilot Project continued for almost one year, but it was interrupted by the 2013 December crises.
- By then JICA use to hire vehicles ,workers, purchased tools to carry out daily or weekly, garbage collection from Konyokonyo market, Jebel Market and Malakia market and some residential areas of Kator, Atlabara, Hai Kosti and Kelibalak .

### Cont.

- The support enabled Kator to carry out 6 trips per week , from the markets and, 4 trips per week , from the residential areas, Atlabara, Malakia,Kator and Lologo , and Jebel Market.

### Current collection system

- Due to the two incidents which happened in Juba (Dec.2013 & Jul.2016) Garbage collection system was badly affected .
- The residents started, bringing their waste to the main roads and the JCC trucks come and collect it from the main roads or open spaces.
- The rest of the garbage which is not brought to the main roads is burnt or dumped in the nearby streams.

### Challenges

- The collection points were abandoned by the residents and the business community, this affected the efficiency of garbage collection.
- Rent for garbage collection vehicles became very expensive and the Block cannot afford to hire enough vehicles.
- Fuel is in scarcity in Juba City and trucks sometimes are grounded.

### Cont.

- Kator Block Council, lacks trucks of its own for SW collection.
- Lack of awareness to the residents and the business community.
- The devaluation of South Sudanese currency affected the budget allocated to the Block.



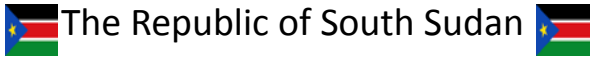
## Recommendation and way forward

- Restoration of the collection points in the Markets and residential areas.
- Medium solid waste, sorting and recycling system is required to minimize garbage transported to the land field .
- The block is to disseminate health awareness among the citizens by all means including HIV/AIDS.
- Provision of new garbage collection Vehicles by the government for the block.
- The block is to regulate and guide the civil society organizations providing health services .
- Regular community meetings should be conducted by the Block and the Environmental and Sanitation Department of JCC.
- More legal measures must be imposed to ensure that no garbage is burnt in residential areas and no dumping by the road side and the streams .

## Conclusion

- We appreciate the support JICA SWM Project exerted in the past, with a high hope that this support will continue for the welfare of the people of south sudan .
- We hope that the challenges facing Kator Block Council will be overcome or transformed into opportunities, when we work as a group towards achieving one goal.

• Thank You ,



# The Republic of South Sudan

## Presentation on Solid waste Collection System & Regulations

By **Diseremo Sebit John Amin**  
& **Martin Manasse**  
Juba City Council

Kampala, Uganda

June 15<sup>th</sup> – 22<sup>nd</sup> 2017

## Content of Presentation

- 1) The presentation is aiming to address solid waste collection system based on policy designed to govern its general operation in Juba City Council jurisdiction
- 2) It is covering 22 routes daily collection points, collection through four zones; and Collection by private companies;
- 3) It also provides seconded staff and workers responsible for waste collection in the department of Environment and Sanitation in Juba City Council

- 4) Effective ways of Solid Waste management Plan of Juba City Council
- 5) Revenue Collection sources of Juba City Council
- 6) Overview of challenges facing solid waste management in JCC
- 7) Achievements so far made by Juba City Council
- 8) Action to be taken for better performance by Juba City Council
- 9) Proposed solid waste Projects Expected through cooperation with partners
- 10) Technical Proposal on Solid Waste expected to be adapted
- 11) Current status of trucks of Juba City Council department of Environment and sanitation
- 11) In conclusion

## The Overview of Juba City to Date



### Daily waste collection Routine Plan for the Department of Environment Juba City Council January 2017 – December 2017

Common Routes	Names of the Driver	Truck type and number	Trips done	Areas to be covered daily
Route 1 zone "B"	Richard John	Compactor CEG 430 A	1	Orbit Bank, Malakia roundabout, Juba teaching Hospital, Muduria, Airport road, Kololo, Ministries, seventh Day roundabout, to dumping site
Route 2 zone "B"	Scander Angelo	Compactor CEG 423 A	1	Mudarasat Bridge, Mosque of Mahad, Harbour, Old freedom square, road, through, Hai Cenima, New Bus Station, Hamamat, to dumping site
Route 3 zone "B"	George Alfayo	Compactor CEG 428 A	1	Malakia Police station, Solomon Barkery, Kokora road, UNDP, Buluk round about, Hai Shaura, Juba University, roundabout, back to Malakia Police station, to dumping site
Route 4 zone "B"	Wilson Matthew	Blue and White CEG 181 A	1	Muduria roundabout, Local government, Traffic Police, to dumping site
Route 5 zone "B"	To be filled	Truck hired	1	Junction of Malakia, Grave yard, Football stadium, Immigration, Juba Raha, now to dumping site
Route 6 zone "B"	To be filled	Truck hired	1	Viva cell, Kololo road, American Embassy, Juba Na Bari Market to dumping site
Route 7 zone "B"	Gasim Langi	Tractor CEG 118 A	1	Contracted premises: 2 Restaurants at Hai Malakal, Norwegian Embassy.
Route 8 zone "B"	Salah Mawa	Tractor CEG 117 A	1	Contracted premises: Hai Jalaba National Security, Hai Cenima, Komoyangi, victor to dumping site

### Daily waste collection Routine Plan for the Department of Environment Juba City Council January 2017 – December 2017

Route 9 zone "A"	To be filled	Compactor	1	Mudarasat bridge, Konyonyo market, Malakia Police, Atalabara, Juba University roundabout, road to Military Head quarters, Suk Sita, to dumping site
Route 10 zone "B"	To be filled	Truck hired	1	*Seventh Days roundabout, Rainbow football stadium, to new Site Border with Northern Bari Payam now to dumping site
Route 11 zone "A"	Alex Latio	Compactor CEG 421 A	1	*Bor station, Konyonyo inside road, orbit Bank, to dumping site
Route 12 zone "A"	To be filled	Truck 1	1	*Juba University roundabout, Johnny shop opposite road, Atalabara Market, through Yei road, Green Hotel, to dumping site
Route 13 zone "A"	To be filled	Truck 2	1	*Konyonyo road, between Hai Kosti and Malakia, Alabino bridge, B court roundabout, to dumping site
Route 14 zone "A"	To be filled	Truck 3	1	*River Nile bridge, St. Theresa Church, "B" Court roundabout, Tambura road to dumping site
Route 15 zone "C"	Simon Lagu	Compactor CEG 420 A	1	*Suk Militia Zinc, Equity Bank, Suk Libya, St. Kizito, to dumping site
Route 16 zone "C"	Gabala Musa	Blue and white	1	*Seventh days, Custom Roundabout, Yei road, to dumping site
Route 17 zone "C"	To be filled	Truck hired 1	1	*Hai Mauna, Custom Markets to dumping site

**Daily Waste Collection 22 Routes Plan for the Department of Environment Juba City Council January 2017 – December 2017**

Route	Zone	Truck hired	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
Route 17 zone "C"		Truck hired 1	1																						Seventh days round about St. Kizito, Lou Junction, through to Northern Bari Payam border
Route 18 zone "C"	To be filled	Truck hired 2	1																						Juba University round about, Jaburona, Jebel Market, to dumping site
Route 19 zone "D"	To be filled	Truck hired 1	1																						Junction to National Security, Gbongoroki, National Security office, Jebel Market to dumping site
Route 20 zone "D"	To be filled	Truck hired 2	1																						UNHCR, Police, presidential road, Kololo, Radio dumping site
Route 21 zone "B"	Musa Lukudu	Tipper	1																						Muduria roundabout, Buluk Police, New South Sudan Hotel, Juba Raha Hotel, Samar Hotel, Hamma INN, Natos Hotel, Royal Hotel, Juba Bridge, New York, Juba Grand Hotel, and others
Route 22 zone "B"	Sebit John	Compactor CEG 428 A	1																						Multi-purposes

**Collection of waste by two (2) zones "A" & "C"**

**Zone A: Kator Town Block -11 points**

- Konyokonyo Market
- Mudaraat Bridge
- Malakia police station
- Atalabara
- University of Juba roundabout
- Suk Sita
- Kator B-Court
- Alibino Bridge
- Malakia Health Centre
- Atalabara Market
- St. Teresa Church Aba Lifo corner

**Zone "C" Muniki Town Block - 9 points**

- Seventh Day Roundabout, to St. Kizito
- St. Kizito to Lou
- Lou to Doha
- Seventh Day Roundabout to Equity Bank
- Equity Bank to Suk Militia
- Kator B-Court
- Suk Militia to Suk Libya
- SUK Libya to St. Kizito
- Suk Libya to Miya Saba
- Suk Militia to New Site

**Collection of waste by zones "B"**

**Zone "B": Juba Town Block- 30 points**

- Mina old harbor
- Hai Malakal
- Grave Yard
- Hai Cenima
- Juba Market
- Hai Jalaba
- MTN
- Jik Supermarket
- Muduria Roundabout,
- Hai Jalaba Security
- Sahara Hotel
- Juba Airport
- Airport road to OCHA
- Benjiin Hotel,
- UNDP
- Kokora Road
- Malakia Bakery
- El Saba Hospital
- All Saint Cathedral
- SPLM House
- Supiri Secondary school
- Muduria Roundabout to Ministries Road
- National Parliament
- Garang Moselium
- University Roundabout to Custom
- University of Juba to Hai Saura to Buluk Police station
- Custom to Seventh Day roundabout
- Seventh Day Round about to Pilpam road
- Kololo Road to Juba Na Bari,
- UN Embassy

**Collection of waste by zones "D" and "E" Quarter Councils at Residential Areas**

**Zone "D": Jebel Market; Kator Town Block- 10 points**

- Lou Junction to Seventh Day roundabout
- Seventh Day Roundabout to Custom
- Custom Roundabout to National Security Junction
- National Security Junction to National Security
- National Security Junction to Grave Yard to Blue Flag
- Rockcity Market
- National Security to Yei Road
- Jebel Market area
- Jebel Market to Joborona
- University of Juba Roundabout to Military Barack

**Quarter Council Residential areas**

- 55 residential areas within Juba City Council due to collect garbage on daily basis according to their weekly plan
- Each area is to identify collection points for easy collection of Garbage and transport to the dumping site
- Each Quarter Council will bring number of collection points for further addition to this plan of Main Roads
- Hotels, Restaurants, etc

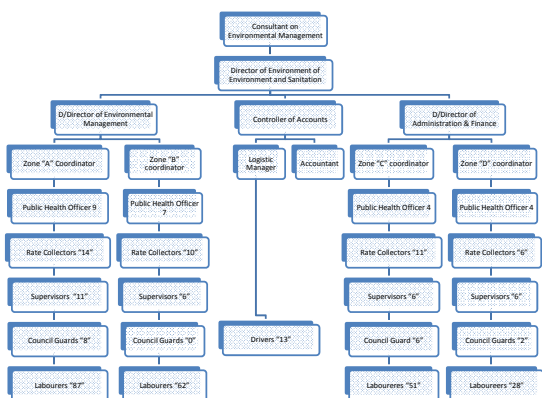
**18 Private trucks for Garbage collection within Juba City council designated to some residential Areas**

SN	Particulars of the Private Truck – companies	Truck numbers	Operation areas
1	Safl Limited	CE 689 D	Hai Nimr tatal, Hai Amarat, Hai Malakal.
2	KIG for waste management	CE 475 H	Hai Jalaba area
3	Two Seghic	CE 124 G	Hai Thoura
4	Solomon Gebregibher	CE 649 B	Custom
5	Juba Grabage	CE 486F	Juba Nabari
6	John Kariuki	CE 828 A/ CE 865 A	Munuki block 8, Munuki block 9
7	Abraham Isaaee Gremichael	CE 435 F	Hai Cemina
8	Ali Makumbi Sakusi	CE 865A	Atalabara A
9	Kebede Ephrem Enyew	CE 499 H	Atalabara C
10	Nsibirwa Godfrey	CE 719 H	Nanykoron area
11	Miherteab Russon Debas	CE 700H	Juba Nabari East
12	Tedro Bahltby	CE 897 H	Munuki block 5,6

SN	AS M Executive CO-LD	CE 247K	Juba Nabari
14	Awet Meash Mebrellto	CE 629 B	Kator area
15	Muya Daniel Machria	CE 499G	Hai Thoura Hotel
16	Fisseha Belai Gheresilale	CE 499 G	Atalabara C
17	Saida Sebit	CE 69 D	Atalabara B
<b>Total</b>		<b>18 private open trucks</b>	<b>20 areas of operation in Juba city</b>

*JCC provides operation permits for monthly collection of garbage within JCC*

### The Structure of the Department of Environment & Sanitation



### The Seconded Staff and workers responsible for waste collection in the department of Environment and Sanitation in Juba City Council

Category	Administrative Officers	Public Health Officers	Environmental Officers	Supervisors	Rate Collectors	Council Guards	Police	Drivers	Labourers	Operators of compactors	Logistics	Security Guards	Total
Department	2	0	3	0	3	4	6	13	50	13	2	2	98
Kator Zone "A"	0	9	3	11	14	8	5	0	87	0	0	0	137
Juba Zone "B"	0	7	2	6	10	0	4	0	62	0	0	0	91
Munuki Zone "C"	1	4	3	6	11	2	2	0	51	0	0	0	80
Jebel Zone "D"	1	4	3	6	6	6	4	0	28	0	0	0	58
<b>Total</b>	<b>4</b>	<b>24</b>	<b>14</b>	<b>29</b>	<b>44</b>	<b>20</b>	<b>21</b>	<b>13</b>	<b>278</b>	<b>13</b>	<b>2</b>	<b>2</b>	<b>464</b>

### Responsibility Demarcation for Waste Management in Juba

	Nation Ministry of Environment	Juba city JCC (Department of Environment & Sanitation)	Kator, Juba and Munuki Block Councils	Rajaf County
<b>1. Law &amp; policy</b>				
● To develop environmental law & policy	○			
<b>2. Waste Collection</b>				
● To prepare waste collection plans		○		
● To collect fees for waste collection		○		
● To utilize the allocated budget and implement collection works		○*1	○*1	
● To provide licenses to private companies		○		
● To procure collection vehicles		○		
● To maintain collection vehicles		○		
● To raise public awareness and implement environmental education		○	○	
<b>3. Final Disposal</b>				
● To prepare the operation plan for the dumping site				○
● To utilize the allocated budget and implement disposal works				○
● To pay fees for waste disposal		○		
● To collect fees for waste disposal				○
● To procure equipment for dumping site				○
● To maintain equipment for dumping site				○

\*1 JCC rents compactors to three block councils.

### Effective ways of Solid Waste management Plan of Juba City Council

- Distinguive Markets solid waste
- Residential area solid waste
- Hotels, Companies, industries, Government institutions & NGOs solid waste
- 22 designed routes covering main roads in the entire Juba City
- Landfill voluntary group segregating solid waste
- Medical waste from hospitals, dispensaries, Health centers, (without incinerators)
- Solid waste generated by constructions and demolition of buildings
- Agricultural solid waste not applicable at this stage
- Comprehensive solid waste management (Department of Environment Juba City Council has inadequate equipments for collection)

### Practical Collection of waste from main Roads on daily basis



### The Revenue Collection sources of Juba City Council

- Permits, Licenses, and contracts
  - Donations from well wishers etc
  - Investment and land lease
  - General campaign involving all stakeholders
  - Water tarif, sewage waste, and others
  - Defaulters and offenders
- The By – Law determinates the above points to happen*



## Main Revenue Collection sources of Juba City Council

### Commercial & Institutions:

- Hotels,
- Companies,
- NGOs,
- Government institutions, and
- Private sectors

*Note: Revenue collection institutions in returns service delivered*



## The Revenue Collection sources of Juba City Council

### Designated Markets:

- Konyokonyo,
- Atalabara,
- Suk Libya,
- Suk Militia,
- Suk Juba,
- Suk Jebel,
- Custom markets, etc

*Note: 75% of SWM comes from commercial sectors*



## Encountered Challenges facing Solid Waste Management

- Juba City Council requires Recycling facilities to be availed for effective system of waste management to meet world standard
- Explore more related partners in the field of SWM
- Permanent fuel supply or production factory
- Sustainable finance support corridor



## Challenges Encountered cont's

### Medical waste



### Impact on service delivery

- No source of power to inhale incinerator plan in Juba City
- In adequate facilities of related solid waste equipments
- Collective responsibility involve all stakeholders: Government of Republic of South Sudan, State Jubek Government, NGOs and others

## Annual Eminent challenges facing the population

### The common types of environmental problems

#### Inadequate waste management,

- Inadequate and unsafe water supply,
- Poor sanitation,
- Congested Central Business zones and central market places,
- Poor and insufficient housing,
- Poor drainage network
- Poor traffic and transportation management.

### Effects on population

- Annual cholera out break in Juba City
- Thyroid and malaria
- Water borne diseases
- Gastrointestinal diseases
- Bronchitis
- Asthma

## Achievements so far made by Juba City Council

- Department has constant weekly fuel requisition of 3,000 liters for SWM operation being made available. Though there is scarcity and irregularity
- The department has its weekly Revenue collection is ranging between South Sudanese Pounds 450,000 to 500,000 and US\$ 3,750 to US\$ 4,166 at rate of SSP 120
- Despite the dollar exchange rate is fluctuate on daily basis



### Achievement so far made cont's



Department of Environment and Sanitation has qualified senior staff seconded by the Ministry Of Health and Environment 186: *Public Health officers, Environmental officers, Administrative officers, Council Guards, Police and 278 casual workers* recruited by Juba City Council



### Achievement so far made cont's

- 40 % of solid waste been managed by the department of environment mainly covering designed 22 routes. 10% is covering Markets, Hotels, Restaurants, NGOs, Private and Government Institutions
- Meanwhile, 15% managed by the private companies mandated by Juba City Council covering solid waste in few residential areas
- 0.42 kg generated per person has been given by JICA kg per day



### Achievement so far made cont's

- Estimation of population of Juba City is 1.5 million and 250,000 households is benefiting from solid waste collection amounted to 105 ton per day. And 37,800 ton per year
- Juba City Council By – Law has been revised by the Juba City Legislative Assembly relevant to the SWM policy
- Collaboration with the three Town Blocks, two counties in contribution of resources toward SWM is vital
- Cooperation with related NGOs, private companies, and public institutions have been very strong in terms of policy, regulations, and willingness to intervene as per request

### Action to be taken for better performance by Juba City Council

- Restructuring the department of environment and sanitation engaging JICA for technical support and training of manpower and Juba City Council as an institution for excellence service delivery
- The Republic of South Sudan to speed up process of approval of all the pending Solid Waste Management bills
- Conduct generation assessment for necessary data for construction of strategic plan relevant to vision and mission of Juba City Council to address the solid waste management
- Pursue Peace agreement for sustainable service delivery is required to be worked out to enhance development through Effective Revenue Collections

- Explore possibility of opening **new landfill** to accommodate increase solid waste quantities from two newly created counties of Lado and Rejaf surrounding Juba City Council
- The opposite picture is showing the current status of the **Landfill**



### Proposed solid waste Projects Expected through cooperation with partners

- Explore **power (electricity) supply** and **manure** generation through solid waste quantities as service delivery to the citizens
- Explore **incineration facility** to cope with the medical waste reduction
- Explore possibility of **improved standard Garage** with modern equipments for timely maintenance and internal training for effective, and efficiency service delivery
- Establish **training curriculum** suitable for quality skills transfers for better performance
- Establish Integrated Waste Management Board to provide technical assistance to Juba City Council on measuring disposal and diversion

- Therefore, the total solid waste generated by the Juba City population shall be computed by the formula as follows:  
**Generation = Disposal + Diversion**
- **Where Generation means;** the total quantity of solid waste generated within the jurisdiction of Juba City Council
- **Disposal means;** the total quantity of solid waste, generated within the jurisdiction which is transformed or disposed in permitted solid waste facilities

### Technical Proposal on Solid Waste expected to be adapted

- **Diversion** means; the total quantity of solid waste, generated within the jurisdiction of Juba City Council, which is diverted from permitted solid waste transformation and disposal facilities, through existing source reduction, recycling, and composting programs
- Explore weighing scale machines at the dumping site for measuring quantity delivered by a truck each time motion interval
- Increase recruitment of man power at all level of two counties and Juba City Council as the scope of solid waste increases
- Establish dust pins, containers, paper bags, at markets and on side of main roads

### Current status of trucks of Juba City Council department of Environment and sanitation



- Three (3) brand compactors donated by UNICEF functional,
- Two (2) second hand purchased four (4) years ago functional and 8 require intensive maintenance
- Two (2) blue and white trucks, functional
- Three (3) tractors, one (1) functional and two (2) not
- One (1) Hino truck, functional

### Current Equipments and tools of Juba City Council department of Environment and sanitation



- Three (3) small vehicles for revenue collection very active
- One (1) Staff vehicle for monitoring the revenue collection and field work
- General equipments for cleaning covering entire Juba City and blocks Councils
- Tractors; small compactors, tipper lorries all broken down

### In conclusion

We as South Sudanese working in Juba City Council expected to establish better ways of solid waste management system for better service delivery. This will enhance our commitment to deliver equal service within out reach of Jurisdiction of Juba City Council

We will engage ourselves and stand in solidarity with one another and the government of Japan through JICA to continue pursue this forthcoming projects to its success for better health safety

**Thank you**

## Part three: Presentation on Budget of Department of Environment

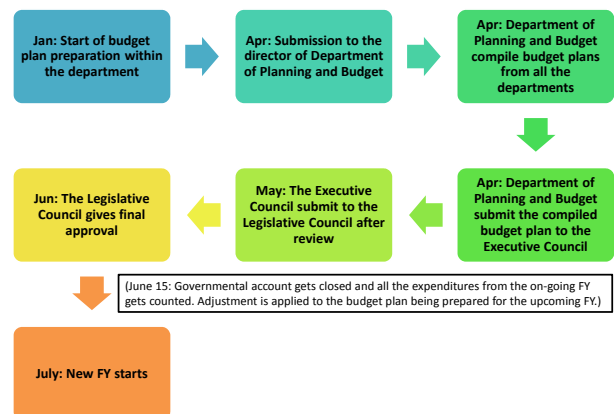
By Hillary Dada Woderif  
Kampala, Uganda

1. Overview
2. Process: Schedule / System
3. Budget
  - a. Revenue projection for FY 2016-2017
  - b. Expenditures plan for FY 2016-2017

### Overview

- Independent account for Solid Waste Management (SWM)
- Revenue in the account is all from money collections related to SWM activities
- Actual spending is done along with the money collection progress

### Budget Plan Preparation Process (Schedule)

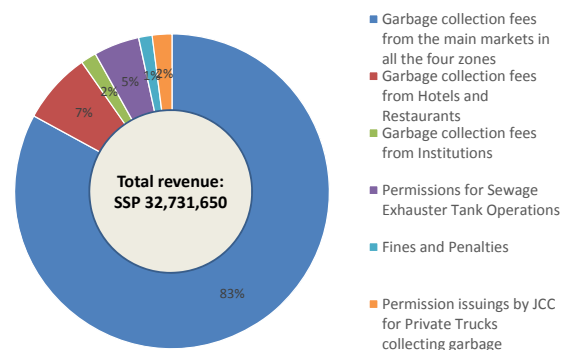


### General income in the Fiscal Year 2016 – 2017 (Projection)

Sl.	Source	Amount in SSP
1	Garbage collection fees from the main markets in all the four zones	27,150,650
2	Garbage collection fees from Hotels and Restaurants	2,404,500
3	Garbage collection fees from Institutions	527,000
4	Permissions for Sewage Exhauster Tank Operations	1,535,000
5	Fines and Penalties	454,500
6	Permission issuings by JCC for Private Trucks collecting garbage	660,000
Grand Total		32,731,650

SSP (South Sudanese Pond)

### Proportions of each sources of the revenue





### Expenditure in the fiscal financial year 2016 - 2017 (Plan)

	Code	Salaries and Wages	Amount in SSP	Sub-Total
Salaries and wages	211	Salaries and wages	6,980,070	11,532,670
	212	Field allowance	4,257,880	
	214	Social benefits	294,720	
Use of goods and services	221	Travel allowances	70,000	16,468,980
	222	Staff training	400,000	
	223	Contracted service	6,126,780	
	224	Repairs and Maintenance	1,750,000	
	225	Utilities and communication	497,200	
	226	Supplies Tools, & materials	7,625,000	
Cap-ex	282	Vehicles	3,150,000	4,730,000
	283	Specialized equipment	1,580,000	
<b>Grand total</b>				<b>32,731,650</b>

### Breakdown of the Expenditure Plan

		FY 2015-2016	FY 2016-2017		
21	Salaries and Wages	21100 Basic Salary	3,936,000		
		21102 Allowances - 10%	3,044,070		
		21103 Medical Benefits	150,000		
	Field Allowance	21200 Field Allowance	4,257,880		
		21201 Rent for Staff Accommodation	144,720		
		21202 Social Benefits	294,720		
	22	Travel	22100 Allowance - Domestic	7,500	20,000
			22102 Travel - Domestic	15,000	50,000
		Staff Training and other Staff Costs	22200 Training - Domestic	90,000	100,000
			22201 Training - Abroad	120,000	150,000
22203 Workshop/Seminar/Conference			150,000	150,000	
Sub-total			360,000	400,000	
Contracted Service		22300 Temporary Labour	119,200	4,176,780	
		22301 Contracted Tech/Prof Services	72,000	75,000	
		22303 Printing and Publishing of leaflet etc.	20,000	150,000	
		22304 Advertisement, Media Campaign	24,000	400,000	
		22305 Management Fees	25,000	25,000	
		22306 Vehicle Rental (Car, Bus and Charter Plane)	1,145,170	1,150,000	
		22308 Machinery hiring - Equip, Plant, Machinery	350,000	150,000	
		Sub-total	455,000	1,750,000	
Repairs and Maintenance	22400 Vehicle Maintenance	375,000	1,250,000		
	22401 Maintenance of other transport equipment	30,000	150,000		
	22403 Maintenance of Buildings	50,000	350,000		

### Breakdown of the Expenditure Plan – Salaries and Wages

		FY 2015-2016	FY 2016-2017		
21	Salaries and Wages	1,863,000	11,532,670		
		Sub-total	1,428,000	6,980,070	
		21100 Basic Salary	1,428,000	3,936,000	
	211	Wages and Salaries	21102 Allowances - 10%	0	3,044,070
			Sub-total	240,000	4,257,880
	212	Field allowance	Field allowance	240,000	4,257,880
			Sub-total	195,000	294,720
	214	Social Benefits	21400 Rent for Staff Accommodation	120,000	144,720
			21403 Medical Benefits	75,000	150,000

### Breakdown of the Expenditure Plan – Use of goods and Services 1

		FY 2015-2016	FY 2016-2017	
Use of Goods and Services		6,305,910	16,468,980	
221	Travel	Sub-total	22,500	70,000
		22100 Allowance - Domestic	7,500	20,000
222	Staff Training and other Staff Costs	22102 Travel - Domestic	15,000	50,000
		Sub-total	360,000	400,000
		22200 Training - Domestic	90,000	100,000
		22201 Training - Abroad	120,000	150,000
223	Contracted Service	22203 Workshop/Seminar/Conference	150,000	150,000
		Sub-total	1,755,370	6,126,780
		22300 Temporary Labour	119,200	4,176,780
		22301 Contracted Tech/Prof Services	72,000	75,000
		22303 Printing and Publishing of leaflet etc.	20,000	150,000
		22304 Advertisement, Media Campaign	24,000	400,000
		22305 Management Fees	25,000	25,000
		22306 Vehicle Rental (Car, Bus and Charter Plane)	1,145,170	1,150,000
224	Repairs and Maintenance	22308 Machinery hiring - Equip, Plant, Machinery	350,000	150,000
		Sub-total	455,000	1,750,000
		22400 Vehicle Maintenance	375,000	1,250,000
22401	Maintenance of other transport equipment	30,000	150,000	
		22403 Maintenance of Buildings	50,000	350,000

### Breakdown of the Expenditure Plan – Use of goods and Services 2

		FY 2015-2016	FY 2016-2017	
Use of Goods and Services		3,713,040	8,122,200	
225	Utilities and Communication	Sub-total	72,500	497,200
		22500 Water and Sewerage Charges for Department of Environment (JCC) office building	30,000	120,000
		22501 Electricity	20,000	100,000
22502 Telecommunication	22,500	277,200		
226	Supplies, Tools and Materials	Sub-total	3,640,540	7,625,000
		22601 Workshop (car maintenance) material supplies	350,000	750,000
		22603 Security Costs (Hiring guards)	18,000	75,000
		22604 Uniforms/gum boots for waste handlers	37,500	1,500,000
		22607 Other Specialized Supplies	1,192,520	500,000
		22608 Office Supplies (Stationeries etc.)	15,000	120,000
		22609 Hardware & software supplies for ICT, Copier	3,000	30,000
		22610 Office Water, Tea and Soft Drinks	55,720	60,000
		22611 Fuels and Lubricant for equipment	850,000	750,000
		22611 Fuels and Lubricant for Transport for collection cars and supervisors' transportation	850,000	2,112,000
		22612 Dumping fees for collection cars delivering waste generated from JCC to the landfill site	268,800	1,728,000

### Breakdown of the Expenditure Plan – Capital Expenditure

		FY 2015-2016	FY 2016-2017	
Capital Expenditure		1,299,600	4,730,000	
282	Vehicles	Sub-total	950,000	3,150,000
		282005 motorbikes for monitoring among 4 zones	50,000	150,000
283	Specialized Equipment	282012 Toyota Land cruiser	900,000	3,000,000
		Sub-total	349,600	1,580,000
		28301 Fridge purchase	25,000	50,000
		28304 Workshop (car maintenance) Equipment for clean up garbage	0	1,250,000
		28306 Spare/backup budget for the expenditures for specialized equipment	238,000	120,000
		28307 Office Furnishing/Furniture	34,100	100,000
		28308 Computer, Copier, ICT Equipment	52,500	60,000

# CURRENT SITUATION AND HISTORY OF FINAL DISPOSAL SITE

By JOSEPH LORO TOMBE  
DIRECTOR, REJAF PAYAM

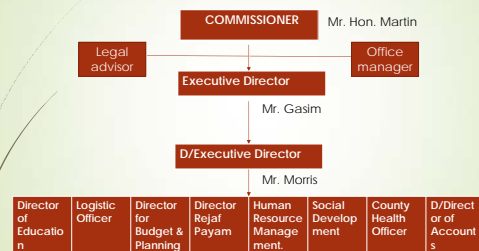
## TABLE OF CONTENTS

- 1. INTRODUCTION
- 2. HISTORY OF DUMPING SITE
- 3. CURRENT SITUATION
- 4. NUMBER OF TRIPS
- 5. DISPOSAL FEE
- 6. CHALLENGES
- 7. WAY FORWARD

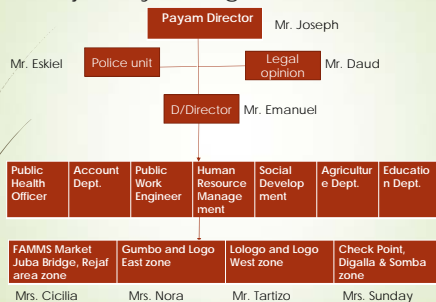
## 1. INTRODUCTION

- Rejaf Payam is one of the Local Councils established by the Government Act 1998. Its one of the only payam where most of the waste is dumped.
- Rejaf county /payam population of approximately 15,604
- It has an estimated area of
- With the creation of the 32 States, it was upgraded to a County in Jubek State and the Payam became a basic Administrative Unit.
- The County is headed by a Commissioner, Maj. General Martin Wani Jangara.
- Below is the Administrative Chart.

## Rejaf county organization chart



## Rejaf Payam organization chart



## Cont

- Check point, Jebel Yei Road, Digalla, Gorom and Somba zone
- Lologo, Logo west Administrative zone, the two zones are headed by D/Director Emmanuel Tartisio Morbe.
- Gumbo and Logo East Administrative zones are headed by Nora Napatali Edward.
- FAMMS Market, Juba Bridge and Rejaf areas are headed by Cicilia Tereka Ezbon.

## Bomas in Rejaf

No.	Name of Bomas
1	Somba
2	Gorom
3	Mononyik East
4	Mononyik west
5	Kalye east
6	Kalye west
7	Dosu mijimbal
8	Jondou Nyosi east
9	Jondou Nyosi west
10	Nyoski lopuro
11	Digala
12	Kigwi
13	Gwongkoni
14	Kujo
15	Longe lokiman east
16	Long lokiman west
17	Kibo lokiman west
18	Cumbo

## HISTORY OF DUMPING SITE

- The dumping site or Final Disposal Site was established in December, 2012 by the Authorities of Juba County with the help of JICA Solid Waste Management Pilot Project for Capacity Building. It was named Juba County Controlled Dumping site and managed by Rejaf Payam.
- Rejaf payam established an office within the dumping site area with the help of JICA in 2013.
- JICA managed to buy a bulldozer and handed it to Rejaf payam for the operation of the dumping site.
- There were three (3) staffs working at the dumping site plus a driver of the bulldozer.

## Cont.

- 1. Mr. Yusif Pitia- Supervisor
- 2. Robert Towongo – Site Manager
- 3. Justin Lukudu- Assistant Site Manager
- 4. Emmanuel Kenyi- Bulldozer driver

## ACTIVITIES

- Daily collection of Disposal fee, 30 SSP for small vehicles and 50 SSP for the big vehicles.
- Fueling the Bulldozer every 3-4 days. (at least 2 barrels)
- Conducting soil cover every two weeks.
- Renting of heavy equipment.
- Cleaning of the dumping site whereby the waste pickers are involved.
- Collection fee is used for covering the total operational cost.
- Conducting Clean up campaign
- Site visits

## Current Situation

- Currently with the creation of the 32 states, Rejaf County became the planner of the dumping site and Rejaf payam is now the central planner since Rejaf County has no solid waste Management Department.
- Currently we are still collecting the disposal fee of 100 SSP – 150 SSP per a vehicle.
- The number of vehicles reduced from 10 to 8 per a day.
- The number of staff at the dumping site still remain the same, but the driver is redundant due to the break down of the bulldozer.
- Other activities such as fueling, soil cover, renting of heavy equipment are not functioning due to the break down of the bulldozer.

## Cont.

- The dumping site is longer controlled, most of the vehicles are dumping the waste along the main road and only few vehicles reach the dumping site due to the bad condition of the junction road.
- Since there is no soil cover activity at the dumping site, the waste pickers resort to setting the waste on fire.
- Due to the accessibility of the road across the east of the River Nile, another dumping has been opened along the Juba Nimule road. This dumping site was proposed by Rejaf Payam with the intention of upgrading it to a controlled dumping site.

## The Markets in RejaF Payam

There is 5 Market in RejaF Payam, as follows:

- Gombo central Market
- Logo central Market
- Famm trading Market
- Jondura peace Market
- Jabel check point market

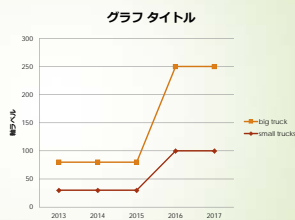
## Number of trips coming to dumping site

year	Number of Trips
2013	30
2014	25
2015	15
2016	12
2017	10



## Disposal Fee(2013 -2017)

Year	Small Trucks	Big Truck
2013	30	50
2014	30	50
2015	30	50
2016	100	300
2017	100	300



## Pictures from the dumping site



Reja dumping site where waste is set on fire and the recyclable materials are bought from the



The Juba Nimule Road Dumping site.

## Challenges

- After the eruption of the December 2013 crisis, the operation at the Juba Controlled dumping site was seriously affected.
- The bulldozer got broken down and RejaF payam could not maintain it due to the low collection of disposal fee.
- The number of collection vehicles reduced drastically.
- There is no soil cover activity.
- Waste pickers resort to burning the waste in order to reduce the volume.
- Salaries of the local staff are not paid regularly.
- The fence around the dumping site was almost completely removed during the July 2016 crisis.

## Cont.

- Waste is now being dumped along the main road.
- The establishment of the new Administrative set up affected the management of the dumping site.
- There is no enough funds for renting the collection vehicles as well as the heavy equipment.
- Lack of Solid waste Management Department at the county level.

## More photos from Juba Controlled Dumping Site



Landfill staff, Director Rejaf Payam and the Local staff in front of the Control office.



The visiting delegation inside Juba Controlled Dumping Site.



Director of Rejaf Payam inspecting what remains of the fence.

## The Way Forward

- Establishment of another Controlled Dumping Site along the Juba Nimule road.
- Maintenance of the bulldozer.
- Motivation of the staff at the dumping site by paying their salaries regularly.
- Conducting soil cover regularly.
- Capacity building of the local staff so that they will be able to manage the dumping site effectively in the future.
- Improvement of the disposal fee system.(increase disposal fee, manage the receipts etc)

## GROUP PHOTO AT JICA JUBA OFFICE



- This was during our preparation meeting with the C/Ps and JICA Local Staff.
- Thank You very much for your attention
- Questions are welcome

# DATA COLLECTION SURVEY

By JOHN WARAN MICHAEL & JOHNSON TITO KAWA ( SOUTH SUDAN NATIONAL STAFFS)

## TABLE OF CONTENTS

- ▶ INTRODUCTION
- ▶ PROFILE OF JUBA CITY
- ▶ PROFILE OF WASTE MANAGEMENT DEPARTMENT
- ▶ WASTE MANAGEMENT DEPARTMENT (WMD) DIRECTIVES
- ▶ THE WASTE AMOUNT
- ▶ COLLECTION AND TRANSPORTATION
- ▶ FINAL DISPOSAL AND BUDGET
- ▶ LAW AND REGULATION RELATED TO SOLID WASTE MANAGEMENT
- ▶ SUPPORT FROM OTHER COUNTRIES
- ▶ CONCLUSION

## INTRODUCTION

- ▶ The Solid waste Management in Juba City is a simple process because the mixed waste is brought to the main streets by the inhabitants, no segregation is done and Juba City Council is responsible for collecting the garbage along the streets.
- ▶ In developing countries like South Sudan, it is common for City Councils or Municipalities to spend 20-50 % of their available recurrent budget on SW management. Yet it is also common that 30-60 % of all the urban SW in developing countries is uncollected and less than 50 % of the population is served. In some cases, as much as 80 % of the collection and transport equipment is out of service, in need of repair or maintenance. In most developing countries where South Sudan is not an exception open dumping with open burning is the norm of the day.

## PROFILE OF JUBA CITY

- ▶ Juba City has an approximate area of 71.22 km<sup>2</sup> and approximate population of 1.5 million.
- ▶ Because Juba has few flood areas the population density is more or less evenly distributed which is 21,061.5 /km<sup>2</sup>.
- ▶ Due to lack of asphalted or paved roads, there is difficulty in waste collection because most of the roads are inaccessible especially during the rainy season (May-Oct.). Some basic information of Juba City related to waste collection is mentioned in the Table below.

### Cont.

JCC Service area	71.22km <sup>2</sup>
Number of Zones	5 zones (A-Kator,B-Juba,C-Munuki,D-the whole of Jebel market,Nyakuron west, west of customs roundabout, west of 7 <sup>th</sup> Day Adventist Church up to Lou Clinic, E-Headquarter for Environment & Sanitation, it specializes in Hotels).
Waste Generation Amount	Approximately 250 t/day (2017)
Waste collection amount	Approximately 105 t/day (2017)
Area of disposal site	Juba Controlled Dumping Site 25 hectares
Central garage	In central Juba city adjacent to Juba Central Prison
Collection trucks	Yellow colour compactors (10) (25t)—only 2 are operational *White colour UNICEF compactors (25t)—3 *Blue & white strip trucks (25t)—2 *Tractor pulled containers (1.5t)—3 Total: —11 trucks

### Cont.

Solid Waste Management Officials	186
Number of drivers	13
Number of cleaners	Around 278
Headquarter phone	+211956402029 (Diseremo Sebit) & Martin Manase +211956199155
JCC Email & website	Not Available

## PROFILE OF WASTE MANAGEMENT DEPARTMENT

- ▶ In Juba City waste collection consist of two parts, namely primary collection and secondary collection. Residents are responsible for bringing their waste to the designated JCC main roads. JCC is responsible for secondary waste collection to remove waste from the black plastic bags, scattered ones or heaps and transport the waste to the final disposal site. JCC is responsible for proper waste disposal as well.
- ▶ . With one department, integrated management throughout waste stream can be realized, from waste generation to final disposal.
- ▶ Waste Management Department (WMD) was established in the year 2012. It has two operational wings, namely engineering wing for waste transportation and disposal and conservancy wing for street cleaning, headed by the Chief Waste Management Officer with planning and budgeting staffs.

## WASTE MANAGEMENT DEPT. DIRECTIVES

- ▶ In this department, there are two senior officers, two Deputies and One Controller of Accounts.
- ▶ The implementation agency of the collection work is the Block which was formerly the Payam. Each Block collects waste generated in their own area. Blocks have officers in charge of waste management who direct vehicle allocation.
- ▶ JCC has centralized the collection work. It has a workshop in the parking space for vehicle maintenance. They have employed one mechanic from a private company.

## STRUCTURE OF THE DEPARTMENT



## THE WASTE AMOUNT

- ▶ The waste collection rate of JCC in 2017 is estimated at 65% of generated volume per a year. This means almost 35% of the waste is not properly collected and disposed at the Juba Controlled dumping site.
- ▶ Due to the increase of the population of Juba City, the amount of solid waste has increased dramatically. The waste collection amount of JCC is also increasing every day.
- ▶ The total number of trips is two trips per day which is very low compared to the total amount of waste generated per day. Due to the lack of weighbridge in JCC, the collection vehicles go to the Juba controlled dumping site without measuring their weight which is a serious issue for calculating the actual waste amount.

## COLLECTION AND TRANSPORTATION

- ▶ JCC has 10 compactors previously although all of them were second-hand. These compactors were purchased by JCC and the Blocks jointly. Previously 2 units were allocated to JCC, 2 units to Juba Town Block, 3 units to Kator Block and 2 units to Munuki Block. Currently there are only 3 operational yellow compactors and 3 white colour UNICEF donated compactors, 2 blue and white strips trucks and 3 tractor pulled containers as shown in the table.

## THE COLLECTION VEHICLES OF JUBA CITY COUNCIL

Type of vehicle	Manufacturer	Total No.	No. operational	Capacity (m <sup>3</sup> )
Yellow colour Compactors	Mercedes	8	2	25m <sup>3</sup>
Yellow colour Compactors	Man	2	0	25m <sup>3</sup>
White colour UNICEF donated Compactors	Mitsubishi	3	2	25m <sup>3</sup>
Blue & white strips trucks	Nissan Diesel	2	0	7.5m <sup>3</sup>
Tractors	Massey Ferguson	3	1	1.5m <sup>3</sup>

### PHOTOS FROM THE GARAGE



### FINAL DISPOSAL AND BUDGET

- ▶ JCC has one landfill site. The site has surrounding embankment and solid waste is filled inside the embankment. After compaction of the waste soil cover is conducted. The soil is collected within the landfill to leave way for new embankment.
- ▶ The Director of Rejaf Payam will elaborate.
- ▶ The then proposed Budget for the Fiscal Financial year 2016-2017 was 32,731,650 SSP.
- ▶ JCC Director of Planning, Budget & Projects will give details of this Budget.

### Photos from the Dumping site(current)



### Photos from Juba -Nimule Road



### LAWS AND REGULATIONS RELATED TO SOLID WASTE MANAGEMENT

- ▶ In South Sudan there are few rules related to Solid waste Management. These are as follows:
- ▶ Environmental policy 2015.



## SUPPORT FROM OTHER COUNTRIES

- ▶ Japan International Cooperation Agency (JICA) and JCC is conducting a development study for a Master Plan on Solid Waste Management in Juba City during the period from February, 2017 to February 2018. In the implementation of this Master Plan, JICA is carrying out the project for strengthening of Solid Waste Management in Juba City which started from Feb 2017 - Feb-2018. Currently the local staffs in Juba City are collecting data from JCC regarding the Solid Waste Management which will be developed for the Juba City Master Plan.

## CONCLUSION

- ▶ The issue of Solid Waste Management in Juba City still remains a challenge in the whole country. JICA came out with a pilot project in 2012-2014 for capacity building on Solid waste management and they were able to create a system for solid waste in Juba City and Rejaf Payam. In Juba where there are three blocks, Juba, Munuki and Kator, collection points were created in all the three blocks and the markets of Jebel and Juba. Also the Juba County controlled dumping site was established where most of the waste was dumped.

## Cont

- ▶ The responsibility of Juba City Council was to hire vehicles and manage the compactors and Rejaf payam managed the dumping site, collect the tariffs and pay its staff, conduct soil cover and hire heavy equipments. Unfortunately with the recent crisis in Juba the solid waste management activities have deteriorated. Therefore JICA together with the JCC authorities should put more effort and concern to salvage the current situation.



## MINUTES OF MEETING

**Project name:** Data collection survey on solid waste management in Juba

### I. PARTICIPANTS

#### A. South Sudanese Participants

1. Mr. Aban Akutker Joknyal Agyou - Acting Director General, Ministry of Environment and Forestry
2. Mr. Thomas Stephen Kenyi Lowong - Deputy Chief Executive Officer, Juba City Council
3. Mr. Hillary Dada Woderif Limuka - Director of Planning and Budget, Juba City Council
4. Mr. Diseremo Sebit John Amin - Director, Department of Environmental and Sanitation, Department of Environment & Sanitation, Juba City Council
5. Mr. Martin Manasseh Lemi Lukadi - Director, Department of Environment and Sanitation, Juba City Council
6. Ms. Rose Mary Venansio Loro - Department of Environment and Sanitation, Juba City Council
7. Mr. Joseph Loro Tombe Laku - Director, Rajaf Payam
8. Mr. Stephen Vijilio Kose Gumbe – Director, Munuki block Council
9. Mr. Timon Wani Marcellino Dere - Director, Kator block
10. Mr. Gamardin Mogga Sebit Didi - Junior Public Officer, Kator Block Council
11. Mr. Mogga Ngwangki Laki Morbe – Director, Juba Block Council

#### B. Japanese and National Staff Participants

1. Ms. Kozue Amemiya – Project Formulation Advisor, Sudan Office, Japan International Cooperation Agency
2. Mr. Jun Murakami - Representative, South Sudan Office, Japan International Cooperation Agency
3. Mr. Tombe Sebit Laku - South Sudan Office, Japan International Cooperation Agency
4. Mr. Akio Ishii - Chief expert/solid waste management, Yachiyo Engineering Co., Ltd.
5. Mr. Akinori Seino - Organization structure analysis, Yachiyo Engineering Co., Ltd.
6. Ms. Kanako Katayama - Economic and financial analysis, Yachiyo Engineering Co., Ltd.
7. Ms. Rikae Kodani - Solid waste collection and transportation structure analysis, Yachiyo Engineering Co., Ltd.
8. Mr. Adam Eissa Gasim - Yachiyo Engineering Co., Ltd.
9. Mr. Gosai Ahmed Menrpd - Yachiyo Engineering Co., Ltd.
10. Mr. Johnson Tito Kawa Legge - Yachiyo Engineering Co., Ltd.
11. Mr. John Waran Michael - Yachiyo Engineering Co., Ltd.

### II. SUMMARY RECORD OF MEETING:

#### 1. Summary of the program

Twelve (12) days of study tour was held from 12th August to 22nd August at Plaza hotel in Khartoum, the Republic of the Sudan. The purpose of the study tour is to strengthen human capacity for sustainable solid waste management in South Sudan through the dissemination of good practices in Khartoum, Sudan. The program is shown in Attachment-1. In the program, the following points are discussed and agreed.

#### 2. Juba-Rajaf Solid Waste Management Group

To continue discussion with counterparts, “Juba-Rajaf Solid Waste Management Group” was established, which consists of all counterparts: JCC, Ministry of Environment, Rajaf Payam, Munuki Block, Juba Block, Kator Block. Jubek State will join soon. In the group, coordinator is appointed as follows:

- 1) Mr. Diseremo Sebit is appointed as a coordinator.
- 2) Mr. Gamardin Mogga is appointed as an assistant coordinator.

### **3. Data collection**

Data is not recorded and even there are some records, accuracy of data is unreliable. For a while, valuable data to grasp the current situation in Juba was waste flow and financial data etc. In order to estimate the waste generation amount, waste unit generation survey in Juba was decided to be implemented through the project.

- 1) Counterparts agreed to support the survey.
- 2) Mr. Gosai and Mr. Adam was requested to support counterparts in Juba. Security for Mr. Gosai and Mr. Adam will be provided by JCC.
- 3) 20-30HHs per block will be selected by the director of each block.

Further information is given in the waste unit generation survey plan (see Attachment-3).

### **4. Study Tour**

Counterparts visited Ministry of Environment, Natural Resources and Physical Development, the Khartoum Cleaning Corporation, Administrative Unit Office, Central workshop, Omdurman landfill site, etc. and learnt waste management planning and operation.

Detailed information is given in Attachment-1.

### **5. Annual Report**

Mr. Ishii explained the policy of data collection. The idea of annual report was given by his lecture. To make an annual report in Juba until the next study tour, the table of contents was discussed and decided as attachment-4. First, annual report should be formulate individually. Mr. Deseremo Sebit will organize each report into the unified report. Individual Reports and the finalized report both should be submitted to Mr. Ishii and Japanese team. Quality of report will be examined by Japanese team and comments will be given in 2<sup>nd</sup> study tour.

### **6. Newsletter**

Mr. Ishii explained the purpose and system of newsletter. Counterparts agreed to hold a meeting continuously to discuss the contents of newsletter and submit the minutes of meeting with group photo and an attendance list.

Further information is given in the newsletter plan (see Attachment-5).

### **7. Attendance list of 2<sup>nd</sup> Study Tour**

Attendance list of 2<sup>nd</sup> study tour was discussed as Attachment-6. The list will be submitted to JICA Headquarters.

The reason of recommendation was below:

- 1) Mr. Saleh Jadallah Yugusuk, deputy director of department, will be replacement of Mr. Martin as his proxy.
- 2) Mr. Kalisto Tombe Jube is the director of public health and he is familiar the current situation of solid waste management.
- 3) Mr. Daniel Lado Matayo Lobojo will join on behalf of Jubek State.

### **8. Assessment sheet**

In the program, counterparts submitted assessment sheets twice, in the beginning of the program and the end of the program. Assessment sheets help us to measure the understandings level of counterparts on solid waste management. Also expectation and impact of study tour was described. Summary of assessment sheets are shown in Attachment-7.

### **9. Next Step-1: Annual Plan and Short-term Plan**

After the formulation of the annual report in Juba, the next step is to formulate annual plan and short-term plan. The expecting topics of short-term plan are below.

- 1) How to close illegal dumping site
- 2) How to recover existing control dumping site
- 3) How to make realistic collection routes in Juba.
- 4) How to make clear approval system of solid waste management report/plan and financial report/plan.

**10. Next step-2: Suggested topics of 2<sup>nd</sup> study tour**

Mr. Ishii suggested the following topics for 2<sup>nd</sup> study tour.

- TICAD conclusion & Sudan action
- Environmental course & education on SWM in University
- Environmental education of MENRPD in Sudan
- Realization of Master Plan & SWM annual plan in Khartoum
- JICA strategy for development in Africa
- Utilization of Master Plan/Financial preparations in Khartoum
- MENRPD strategy, KCC vision, KCC organization expansion history
- Worker training, safety and sanitation training in Khartoum
- Locality activity and relationship between Administrative Units
- AU role and activities & de-centralization policy
- KCC changing and history after Japan Grant Aid project and technical cooperation project
- Site visit
  - Transfer station of Khartoum, Umbadah & new Bahari
  - LFS(Tayba) and operation and activity in LFS
  - Community awareness raising & activities

**Attachment**

- 1) 1<sup>st</sup> Study Tour Program
- 2) Attendance list
- 3) Waste unit generation survey plan
- 4) Table of contents of annual report in Juba
- 5) Newsletter plan and 1<sup>st</sup> Newsletter of Juba-Rejaf Solid Waste Management Group
- 6) Attendance list of 2<sup>nd</sup> study tour
- 7) Summary of assessment sheets

# 1<sup>st</sup> Study Tour Program in Khartoum, Sudan

12<sup>th</sup> August, 2017 – 22<sup>nd</sup> August, 2017

## ■ ORIENTATION & DATA COLLECTION PROGRESS

Date	Time	Contents	Person in Charge
12-Aug (Sat)	9:00 – 9:30	1. Orientation: Outline of study tour 2. 1 <sup>st</sup> Assessment Sheet	Mr. Seino & Mr. Adam
	9:30 – 10:00	3. Reflection on Kick-off meeting	Mr. Ishii
	10:00 – 11:30	4. Progress check of data collection	Mr. John & C/P
	12:00 – 15:00	5. Discussion	
13-Aug (Sun)	9:00 – 11:00	1. Policy of data collection survey & Discussion 2. Preparation for Site Visit (point of view of data collection)	Mr. Ishii & Mr. Gosai
	11:30 – 14:00	2. Lecture on Annual Plan and Annual Report by Planning Department, KCC	Planning Dep. KCC
	14:00 – 15:00	3. Report: current situation of Kator block	Mr. Gamardine
14-Aug (Mon)	9:00 – 9:30	1. Summary of 1 <sup>st</sup> Assessment Sheet	Ms. Kodani & Mr. Adam
	9:30 – 10:30	1. Report: current situation of Kator block	Mr. Stephen
	10:30 – 11:00	3. Lecture: How to make Action Plan	Mr. Gosai
	11:30 – 12:00	2. Lecture on Annual Plan/Report and Financial Plan in South Sudan	Ms. Katayama & Ms. Kodani
	12:00 – 15:00	4. Discussion: How to organize data 5. Group Work: How to make an annual report	Mr. Ishii & Mr. Gosai

## ■ STUDY TOUR (LECTURE & SITE VISIT)

Date	Time	Contents
15-Aug (Tue)	9:00 – 11:00	1. Ministry of Environment, Natural Resources and Physical Development
	12:00 – 15:00	2. Minister / Higher Council, Khartoum State
	15:00 – 17:00	3. Lunch
16-Aug (Wed)	9:00 – 11:00	1. Khartoum Cleaning Corporation (KCC)
	12:00 – 15:00	2. AU Office (Karary)
17-Aug (Thu)	9:00 – 11:00	1. Omdurman Landfill Site
	12:00 – 15:00	2. Omdurman Transfer Station
18-Aug (Fri)		Preparation of the report
19-Aug (Sat)	8:00 – 11:00	1. Fixed-Time Fixed-Point Collection (Karary)
	12:00 – 15:00	2. AU Office (Khartoum) 3. Fixed-Time Fixed-Point Collection (Khartoum)
20-Aug (Sun)	9:00 – 14:00	1. Central Workshop (Soba)

## ■ SUMMARY & NEXT STEPS

Date	Time	Contents	Person in Charge
21-Aug (Mon)	9:00 – 11:00	1. Summary of Study Tour 2. Explanation of 2 <sup>nd</sup> Study Tour	Mr. Ishii & Mr. Seino
	12:00 – 13:00	3. 2 <sup>nd</sup> Assessment Sheet & Discussion 4. Lecture on Waste flow	Ms. Kodani & Mr. Johnson
	13:00 – 15:00	5. Next Steps - Waste unit generation survey - Newsletter & TV conference in Juba	Mr. Gosai & Mr. John
22-Aug (Tue)	9:00 – 11:00	1. Next steps (Cont.) - Annual Report with additional Data	Mr. Ishii, Ms. Kodani & Mr. John
	12:00 – 15:00	2. Conclusion	Mr. Ishii

Attendance List of the Study Tour in 12<sup>th</sup> -22<sup>nd</sup> August

Name	Organization	Position
Aban Akutker Joknyal Agyou	Ministry of Environment and Forestry	Acting Director General, Directorate of Environmental Management
Thomas Stephen Kenyi Lowong	Juba City Council	Deputy Chief Executive Officer
Hillary Dada Woderif Limuka	Juba City Council	Director of Planning and Budget
Diseremo Sebit John Amin	Department of Environment and Sanitation, Juba City Council	Director for Environmental Sanitation
Martin Manasseh Lemi Lukadi	Department of Environment and Sanitation, Juba City Council	Director
Rose Mary Venansio Loro	Department of Environment and Sanitation, Juba City Council	
Joseph Loro Tombe Laku	Rajaf Payam	Director
Stephen Vijilio Kose Gumbe	Munuki block Council	Director
Timon Wani Marcellino Dere	Kator Block Council	Director
Gamardin Mogga Sebit Didi	Kator Block Council	Junior Public Officer
Mogga Ngwangki Laki Morbe	Juba Block Council	
Kozue AMEMIYA	JICA Sudan Office	Project Formulation Advisor (Health & Environment Sector)
Jun MURAKAMI	JICA South Sudan Office	Representative
Tombe Sebit Laku	JICA South Sudan Office	Assistant Program Officer
Akio ISHII	Yachiyo Engineering Co., Ltd.	Chief Expert/Solid Waste Management
Akinori SEINO	Yachiyo Engineering Co., Ltd.	Organization Structure Analysis
Rikae KODANI	Yachiyo Engineering Co., Ltd.	Solid Waste Collection and Transportation Structure Analysis
Kanako KATAYAMA	Yachiyo Engineering Co., Ltd.	Economic and Financial Analysis
Adam Eissa Gasim	Yachiyo Engineering Co., Ltd.	Sudan National Staff
Gosai Ahmed Menrpd	Yachiyo Engineering Co., Ltd.	Sudan National Staff
Johnson Tito Kawa Legge	Yachiyo Engineering Co., Ltd.	South Sudan National Staff
John Waran Michael	Yachiyo Engineering Co., Ltd.	South Sudan National Staff

**Juba City Council (JCC)**

**Japan International Cooperation Agency (JICA)**

**DATA COLLECTION SURVEY ON SOLID WASTE  
MANAGEMENT IN JUBA, THE REPUBLIC OF  
SOUTH SUDAN**

**Waste Unit Generation Survey in Juba  
Implementation Plan**

**August 2017**

**Juba, the Republic of South Sudan**

## **Table of Contents**

CHAPTER 1	INTRODUCTION OF THE YELLOW BAG SURVEY .....	1
1.1	Background .....	1
1.2	Outline of Survey.....	1
1.3	Target Area .....	1
1.4	Survey Method.....	2
1.4.1	Implementation Flow.....	2
1.4.2	Announcement to Community .....	3
1.4.3	Survey Team .....	4
1.4.4	Safety Measure.....	5
1.5	Schedule .....	5
1.6	Requirements/Costs for Implementation.....	5
CHAPTER 2	DATA ANALYSIS/OBSERVATION .....	5



# CHAPTER 1 INTRODUCTION OF THE SURVEY

## 1.1 Background

From 2012 to 2014, “the Project for Capacity Development on Solid Waste Management in Juba”, which is a technical cooperation project by the Government of Japan, was implemented in Juba, the capital of the Republic of South Sudan (hereinafter referred to as “South Sudan”). Through the technical cooperation project, “Solid Waste Management Plan” was developed. However, due to the lack of budget and rapid population increase in the City, the plan is not making progress as scheduled.

“Data Collection Survey on Solid Waste Management in Juba (hereinafter referred to as “the Project”)” was initiated in April 2017. The purpose of the Project is to collect basic information of solid waste management (hereinafter referred to as SWM) system (waste generation, collection and transportation, intermediate treatment, recycling and landfill), such as the current situation of SWM in Juba, organization structure, operation and maintenance system and budget. The results of the survey will be a foundation of the new master plan of SWM in Juba.

## 1.2 Outline of Survey

Outline of the Waste Unit Generation Survey is shown as Table 1.

**Table 1 Outline of Waste Unit Generation Survey**

Objectives	(1) Measure waste amount generated per person per day in Juba (2) Estimate total waste amount generated in Juba
Implementation/Supervisory Organization	Juba City Council (JCC) Japan International Cooperation Agency (JICA)
Implementation Period	22 <sup>nd</sup> September, 2017 - 30 <sup>th</sup> September, 2017 (Total 9 days)
Target Area	Munuki Block (30HHs), Juba Block (30HHs), Kator Block (30HHs)
Target No. of Households (HHs)	Total 90 HHs (30HHs/block * 3 blocks)

Source: JICA Expert team

## 1.3 Target Area

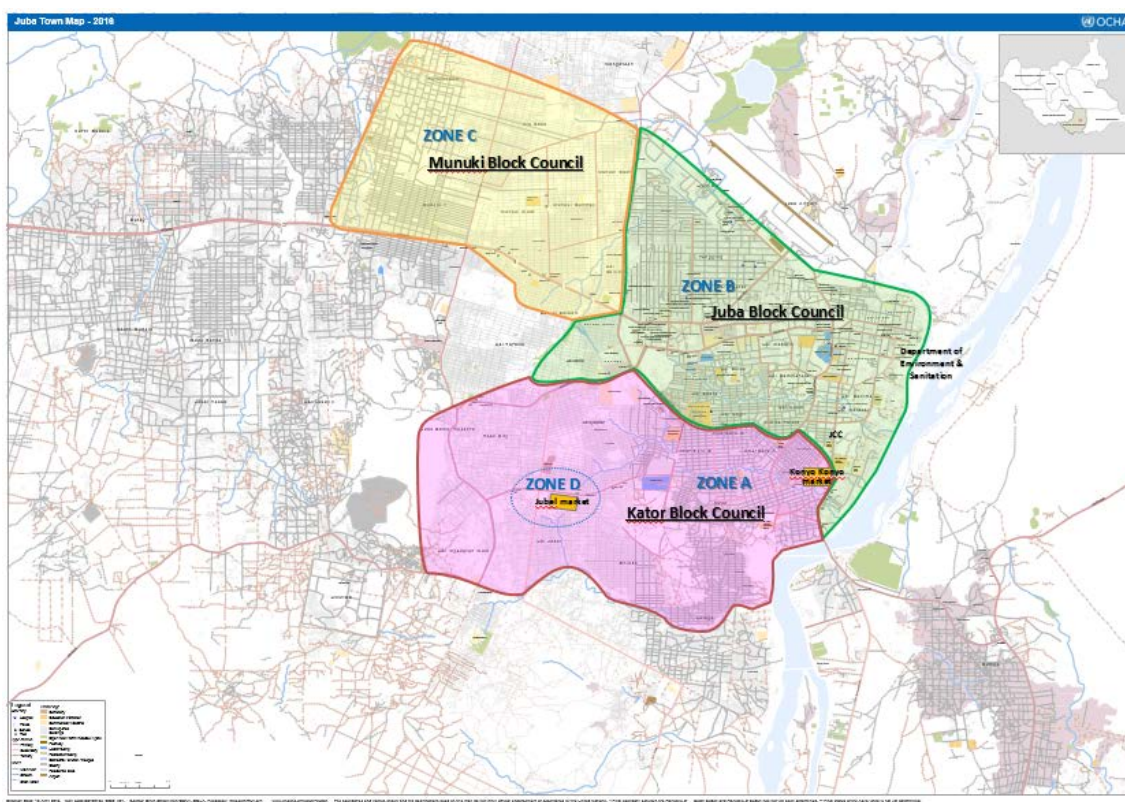
The survey is conducted in three (3) blocks in Juba shown as Table 2 and Source: OCHA (partially revised by JICA Expert team)

Figure 1. Target households are selected by quarter councils in each block.

**Table 2 Target area**

Block	HHs	Target Area
Munuki Block	30 HHs	To be confirmed
Juba Block	30 HHs	To be confirmed
Kator Block	30 HHs	To be confirmed

Source: JICA Expert team



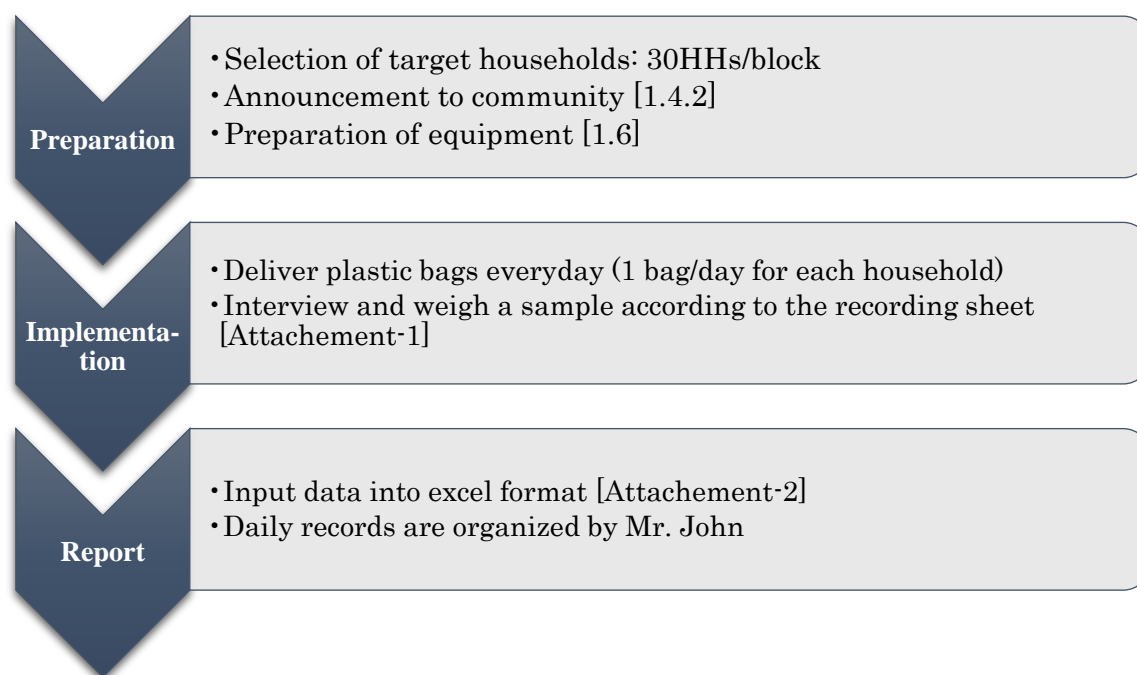
Source: OCHA (partially revised by JICA Expert team)

**Figure 1 Target area map in Juba**

## 1.4 Survey Method

### 1.4.1 Implementation Flow

The survey process consists of three steps: (1) Preparation, (2) Implementation of survey and (3) Report. Survey implementation flow is shown below.



Source: JICA Expert team

**Figure 2 Survey Implementation Flow**

### 1.4.2 Announcement to Community

The survey should be noticed to community before the implementation. Main contents and method of announcement is as follows.

**Table 3 Main contents and method of announcement in community**

Contents of Announcement	<ul style="list-style-type: none"> <li>● Survey purpose</li> <li>● Discharge method: to use the designated plastic bag only (distributed everyday)</li> <li>● Schedule and Frequency: continuous 5 days (25th – 29th September)</li> <li>● JCC will collect only the designated plastic bags</li> </ul>
Announce method	To be confirmed

Source: JICA Expert team

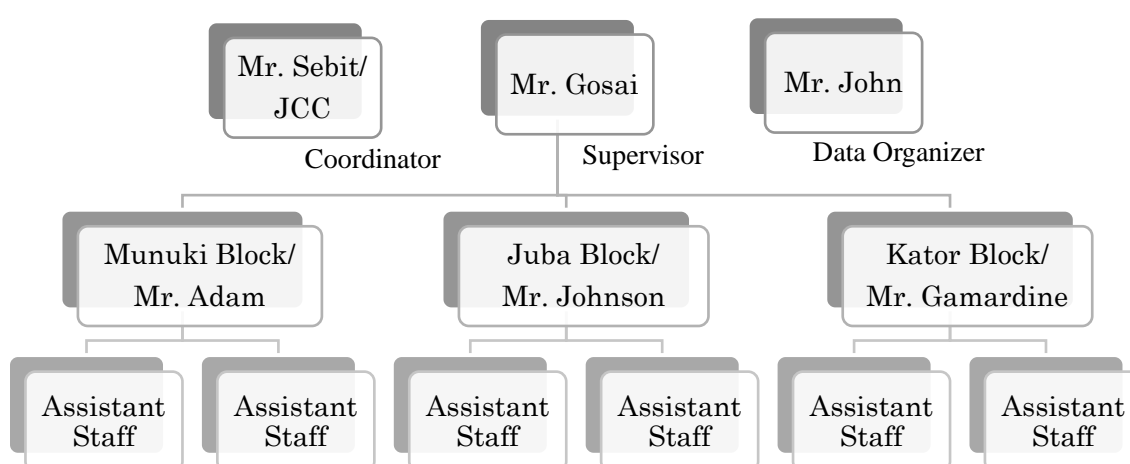
### 1.4.3 Survey Team

Survey team consists of counterparts, National Coordinator (4) and assistant staff (6). Member List is shown in Table 4 and Figure 3.

**Table 4 Survey Team Member's List**

No.	Name	Organization/Position
1	Mr. Diselmo Sebit	JCC/ Coordinator of Juba-Rajaf Solid Waste Management Group
2	Mr. Stephen Vijilio Kose Gumbe	Director, Munuki block Council
3	Mr. Timon Wani Marcellino Dere	Director, Kator block
4	Mr. Gamardin Mogga Sebit	Junior Public Officer in Kator Block Council/ Secretary of Juba-Rajaf Solid Waste Management Group
5	Mr. Mogga Ngwangki Laki Morbe	Director, Juba Block Council
6	Mr. Tombe Sebit Laku	South Sudan Office, Japan International Cooperation Agency
7	Mr. Gosai Ahmed Menrpd	National Coordinator in Sudan
8	Mr. Adam Eissa Gasim	National Coordinator in Sudan
9	Mr. Johnson Tito Kawa Legge	National Coordinator in South Sudan
10	Mr. John Waran Michael	National Coordinator in South Sudan
11	To be confirmed	Assistant Staff (Munuki Block)
12	To be confirmed	Assistant Staff (Munuki Block)
13	To be confirmed	Assistant Staff (Juba Block)
14	To be confirmed	Assistant Staff (Juba Block)
15	To be confirmed	Assistant Staff (Kator Block)
16	To be confirmed	Assistant Staff

Source: JICA Expert team



Source: JICA Expert team

**Figure 3 Waste Unit Generation Survey Team Structure**

#### 1.4.4 Safety Measure

Survey team strictly follow JICA safety guideline (attachement-3).

### 1.5 Schedule

The Survey should be implemented for a week (22<sup>nd</sup> September 2017 – 30<sup>th</sup> September 2017). Proposed implementation schedule is shown as Table 5.

**Table 5 Timeline of Waste Unit Generation Survey**

September	22	23	24	25	26	27	28	29	30
(1) Flight									
(2) Preparation									
(3) Survey									
(4) Report & Flight									

Source: JICA Expert team

### 1.6 Requirements/Costs for Implementation

The estimated requirements for the survey are as follows.

No	Requirement	Details/ Quantity	Cost Estimation
1	Vehicle	2 car x 9 days	JICA will provide
2	Scale	100g-5kg/ 4 scale	To be confirmed
3	Plastic Bags	90L x 90 HHs x 5 days + 150 (preliminary) = 600 bags *Yellow or Red color bag	To be confirmed
<b>TOTAL COST</b>			<b>SSP</b>

Source: JICA Expert team

## CHAPTER 2 DATA ANALYSIS/OBSERVATION

The data collected in the survey will be organized and analyzed.

## **Attachment**

Attachment-1	Recording Sheet
Attachment-2	Data input format
Attachment-3	Safety measure

## Attachement-1: Recording Sheet (sample)

Date \_\_\_\_\_

Place \_\_\_\_\_

No.	bag weight (x.xkg/bag)	No. of HH	Unit generation (x.xkg/person/day)	Comment
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
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22				
23				
24				
25				
26				
27				
28				
29				
30				

## Attachement-2: Data input format (sample)

Waste Unit Generation

Munuki Block

Irregular data

No.	25 Sep (Mon)	26 Sep (Tue)	27 Sep (Wed)	28 Sep (Thu)	29 Sep (Fri)
	kg/person/day	kg/person/day	kg/person/day	kg/person/day	kg/person/day
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

Average  kg/person/day

Average (Correction)  kg/person/day

\*Average except irregular data



*DATA COLLECTION SURVEY ON SOLID WASTE MANAGEMENT IN JUBA,  
THE REPUBLIC OF SOUTH SUDAN*

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Summary of Unit Generation Survey in Juba (September 2017)

Block	Unit Waste Generation (kg/person/day)	total surveyed persons (persons)	Total waste generated (kg/day)
Munuki Block			
Juba Block			
Kator Block			
<b>TOTAL</b>			

\* Irregular data is extracted.

## **Attachement-3: Safety Measure**

### **Safety and security information**

#### **(Juba)**

##### **Curfew:**

6:00 p.m. ~ 6:00 a.m. (Should be grounded inside the hotel)

##### **Work permit:**

Only in certain areas in Juba and under the stewardship of governmental organization. Without the physical attendance of governmental organization, walking outside on foot is prohibited.

##### **Hand luggage:**

A mobile phone should be carried by each, and a radio (walkie talkie) and an emergency button (Panic Button) equipping GPS will be provided by JICA and should be carried by a group. The button is connected to security service.

##### **Accommodation:**

Link Residence – designated by JICA

##### **Security responsibility for JICA:**

Submit Mr. Tombe Sebit and security advisor of JICA South Sudan office the activities of the week in advance before Wednesday.

##### **Security briefing lecture:**

On your arrival, take a security briefing lecture by the security advisor of JICA South Sudan Office and follow his/her instruction strictly.

##### **Vehicle:**

*DATA COLLECTION SURVEY ON SOLID WASTE MANAGEMENT IN JUBA,  
THE REPUBLIC OF SOUTH SUDAN*

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Under the supervision of the security advisor, take the shellproof vehicle of JICA for the activity.

**Response to precautions:**

When risks are foreseen, evacuation will be instructed for precaution

## Table of Contents of Annual Report in Juba

1. Introduction
2. Profile of Juba City
  - 2.1 Geographical information about JCC
  - 2.2 JCC Organization Chart
  - 2.3 Information about the three Blocks
  - 2.4 Administrative zones
3. Profile of Waste Management Organization
  - 3.1 Environmental department zones
  - 3.2 Waste Flow
    - 3.2.1 The stakeholders
    - 3.2.2 The activities of JCC
    - 3.2.3 Waste management issues and directives to solutions
    - 3.2.4 The organization chart of the department of environment and sanitation
4. Waste Amount
  - 4.1 Result of waste generation survey
5. Waste Collection and Transportation
  - 5.1 Waste Collection
    - 5.1.1 Time and motion
    - 5.1.2 Customers list
  - 5.2 Waste Collection Vehicles
    - 5.2.1 Private vehicles collection
  - 5.3 Maintenance of vehicles
    - 5.3.1 History of the garage
    - 5.3.2 Human Resource
  - 5.4 Blocks financial support
  - 5.5 Waste Collection at Main Street, Hotels and Restaurants,markets etc
6. Final Disposal
  - 6.1 Outline of Landfill Site
  - 6.2 Operation Work
  - 6.3 Illegal dumping site (Juba- Nimule road)
  - 6.4 the situation at the Controlled Dumping Site
    - 6.4.1 The previous situation
    - 6.4.2 Current situation
7. Budget
  - 7.1 Budget preparation
  - 7.2 Financial Results and Budget
  - 7.3 Independent account
  - 7.4 Auditing system
8. Regulations Related to Solid Waste Management
  - 8.1 JCC By-laws (should be at the beginning)
  - 8.2 Rejaf By-laws
  - 8.3 Environmental Bill (SWM)
9. Demarcation of Responsibility
  - 9.1 State Ministry of Health and Environment

10. Conclusion

- 10.1 Challenges
- 10.2 Future plans
- 10.3 Way forward

## Newsletter of SWM in Juba

22<sup>nd</sup> August, 2017

### What's Newsletter?

Newsletter of the Project will be issued by Japanese survey team in every month until December. It will be composed of the opinion by Japanese survey team to counterparts in Juba, which helps you understand the current situation and the future direction of the Project. Contents and schedule of newsletter are shown as Table-1.

**Table-1: Contents and Schedule of Newsletter**

	Contents	Issue date	Discussion
1	- Summary of Kick-off Meeting	August 2017	During 1 <sup>st</sup> Study Tour
2	- Discussion Record on 1 <sup>st</sup> Newsletter - Summary of 1 <sup>st</sup> Study Tour	September 2017	In Juba (By the end of September)
3	- Discussion Record on 2 <sup>nd</sup> Newsletter - Summary of 2 <sup>nd</sup> Study Tour	November (mid.) 2017	In Juba (By the end of November)
4	- Discussion Record on 3 <sup>rd</sup> Newsletter - Conclusion	December 2017	During Final Meeting

### How does newsletter work?

Newsletter gives you various topics to discuss for the future of Juba solid waste management. Mr. Sebit and Mr. Gamardin will coordinate the monthly meeting supported by Mr. John and Mr. Johnson.

- Mr. Sebit is responsible for calling members.
- Mr. Gamardin is responsible to record the minutes.
- Mr. John and Mr. Johnson are responsible to submit the minutes and send the collected data supported by JICA South Sudan office.

The minutes of meeting **including attendance list & group photo** is expected to be shared every month. Spontaneous discussion in Juba is most welcome.

### What's the main topics?

Main topics of newsletter are shown as below.

- 1) Finance and Budget
- 2) Solid Waste Management:
  - 2-1 Landfill / Illegal Dumping, 2-2 Collection and Transfer, 2-3 Organization
- 3) Main Issues and Future Direction

### Attachment

- ✓ 1<sup>st</sup> Newsletter

Three days of kick-off workshop was held from 19th June to 21st June at Fairway hotel in Uganda. The purpose of the workshop is 1) to be agreed on the work plan, 2) to grasp the current situation of solid waste management in Juba, South Sudan, and 3) to obtain a deep understanding of the master plan of solid waste management.

## Purpose of the Meeting in Uganda

- 1 To understand the purpose of data collection survey
- 2 To check accuracy of the collected data
- 3 To check the possibility of further data collection by counterparts
- 4 To discuss the next steps

## Finance (Revenue & Expenditure)

- Juba solid waste management accounting system is independent from JCC.
- Collected information is the financial plan.
- Total amount revenue is 32 million SSD and 90% of revenue is from payment of markets and big waste generators. JCC cannot collect fee collection from residences.

## Landfill site

- Landfill site is not functioning anymore.
- Heavy equipment at LFS is out of order.
- Part of fee collection system is still working.
- Further survey should be conducted to collect incoming vehicles records in LFS.
- LFS which was constructed by previous TA is not used. Illegal dumping along the access road is expanding and new illegal dumping area was creating and expanding day by day.

## Waste collection and transportation

- Department of Environmental and sanitation in JCC manages solid waste management in Juba. Each block is collecting waste from residential area.
- JCC has about 16 collection vehicles but most of vehicles are out of order and only 3 or 4 vehicles are working.
- 22 collection routes are explained but it doesn't seem to be realistic. Fact finding survey should be conducted to correct data to understand present collection system.
- In 2014 amount of generated waste from Jebel market was around 24t/day and collection frequency was 6 days /week.
- Private collection companies seem running but most waste is dumped illegally.
- JCC gives license to collect waste to 18 private companies.



## Institution

- There is no solid waste management law in South Sudan.
- However each JCC and Rajaf Payam have By-law.
- JCC has role of maintenance of collection vehicles however JCC could not repair.

## Issues of project

- There is no leader in Counterparts. "The leader" is not necessary to be a high position person but should be a focal point/coordinator of counterparts.
- To understand the necessity of a master plan.

## **"Juba-Rajaf Solid Waste Management Group" was established**

In August, "Juba-Rajaf Solid Waste Management Group" was established, which consists of JCC, Ministry of Environment, Rajaf Payam, Munuki Block, Juba Block, Kator Block. Juba State will join soon.

- **Mr. Diseremo Sebit is appointed as a coordinator.**
- **Mr. Gamardin is assigned as an assistant coordinator**

## Next Steps & Schedule

- August: 1<sup>st</sup> Study Tour in Khartoum (fin.)
- September: Unit Generation Survey
- September: TV conference in Juba (Group meeting)
- October: 2<sup>nd</sup> Study Tour in Khartoum
- November: TV conference in Juba (Group meeting)
- December: Closing workshop in Khartoum

## Attendance List of 2<sup>nd</sup> Study Tour

Date: From 20th OCT to 4th NOV(Tentative) 16days

	Name	Organization	Group-A	Group-B
1	Aban Akutker Joknyal Agyou	Ministry of Environment and Forestry		✓
2	Thomas Stephen Kenyi Lowong	Juba City Council		✓
3	Hillary Dada Woderif Limuka	Juba City Council	✓	
4	Diseremo Sebit John Amin	Department of Environment & Sanitation, JCC	✓	
5	Rose Mary Venansio	Department of Environment & Sanitation, JCC	✓	
6	Saleh Jadallah Yugusuk	Department of Environment & Sanitation, JCC		✓
7	Joseph Loro Tombe Laku	Rajaf Payam	✓	
8	Timon Wani Marcellino Dere	Kator block		✓
9	<u>Gamardin</u> Mogga	Kator block	✓	
10	Stephen Vijilio Kose	Munuki block		✓
11	Mogga Ngwangki Laki	Juba block		✓
12	Kalisto Tombe Jube	Juba block		✓
13	Daniel Lado Matayo Legge	Ministry of Environment, Jubek State		✓

- ✓ Counterparts who added in the list newly are highlighted in Blue.
- ✓ Counterparts are divided into two groups as follows:
  - [Group A] From 20<sup>th</sup> OCT to 4<sup>th</sup> NOV(Tentative)16days
    - Detail Analysis of Financial Data and Waste management Data
    - Study Tour and Discussion
  - [Group B] From 25<sup>th</sup> OCT to 4<sup>th</sup> NOV(Tentative)11days
    - Study Tour and Discussion



## Summary of the 1<sup>st</sup> Assessment Sheet

Q1	Part 1: Responsibility	<ul style="list-style-type: none"> <li>• <b><u>to collect data Required by JICA Project Team</u></b></li> <li>• In charge of National environmental policy on SWM 2015. and national environmental bill(2015 Draft)</li> <li>• <b>to provide</b> requested data to JICA Project Team</li> <li>• In charge of financial budget of the department of SWM in JCC</li> <li>• To go to the C/P office to collect data as requested by Japanese expert team</li> <li>• <b>Follow up</b> assigned data collection survey.</li> <li>• <b>Supervise</b> the staff of JCC who participated in kampala meeting, regarding the collection of the required data</li> </ul>
	Part 2: Progress on data collection	<ul style="list-style-type: none"> <li>• In good Progress</li> </ul>
Q2	Difficulties against data collection	<ul style="list-style-type: none"> <li>• <b><u>There is Difficulties against data collection</u></b></li> <li>• The information on vehicle maintenance was not been recorded</li> <li>• I had to wait for long time for the data to be compiled, this waste a lot of time.</li> <li>• Lack of database in most of institutions</li> <li>• Transport to long – distance of field site due to fuel shortage in the county.</li> </ul>
Q3	Purpose of data collection and study tour in Khartoum	<ul style="list-style-type: none"> <li>• <b><u>To Formulate Master Plan for SWM in JCC</u></b></li> <li>• For <b>preparation</b> of making master plan SWM for JCC</li> <li>• To <b>improve</b> the technical cooperation between the two countries</li> <li>• To <b>Learn</b> lessons from similar project in Khartoum</li> <li>• To <b>make</b> action plan</li> </ul>
Q4	Expectation for the study tour	<ul style="list-style-type: none"> <li>• To see and know what had been done in Sudan</li> <li>• Learn new ideas and experiences</li> <li>• Lessons learned from site visits</li> <li>• To study system of solid waste collection in Khartoum</li> <li>• By end of this study tour, JCC will be able develop good master plan.</li> <li>• To gain knowledge regarding SWM system</li> <li>• To share ideas on SWM between Khartoum and Juba</li> <li>• Be able to apply the knowledge on exchange visit</li> </ul>
Q5	Comments and suggestion	<p><b>Comments:</b></p> <ul style="list-style-type: none"> <li>• Such experience of study tour will be useful as from now toward the achievable goal.</li> <li>• We should concentrate on practical master plan which can be easily translated into action plan</li> <li>• We want to have a good relationship between Khartoum and Juba.</li> <li>• The programme designed is very satisfactory</li> </ul> <p><b>Suggestion:</b></p> <ul style="list-style-type: none"> <li>• Last visit should be done in Japan</li> <li>• The time frame at 15:00 pm, should be respected.</li> <li>• Counterpart should be cooperative as far as data collection is concerned</li> </ul>

**Assessment Sheet-2 (the end of the program)**21<sup>st</sup> August, 20171. What did you learn from the lecture (12<sup>th</sup>-14<sup>th</sup> August)?

- a. The importance of collecting data and how to conduct the data collection survey accurately.
- b. How to organize the data and translate it into practical aspect at JCC level in Juba,
- c. How to write annual report and action plan which eventually leads to the design of the Master Plan.
- d. How to strengthen the system of waste collection in JCC (the residential areas, markets, shops, restaurants and roads).
- e. Strategies of how to improve the dumping site.
- f. In Khartoum the localities collect the waste and transport it to the transfer stations. KCC takes over from the transfer station until the final dumping site.
- g. You should have a strong leader in order to accomplish your goals.
- h. The lectures have refreshed the general understanding of SWM especially the general overview of KCC activities.

2. What did you learn from the study tours (15<sup>th</sup>-20<sup>th</sup> August)?

- a. Involvement and cooperation of the community in the implementation of the fixed time/fixed place waste collection system.
- b. Localities collect waste from the residential areas and transport it to the transfer station where the state transfers it to the final dumping site.
- c. The transfer station is important in terms of time management and a huge amount of waste is transferred to the landfill at one go.
- d. Work at the landfill is well organized e.g. Recording of incoming collection vehicles, weigh bridge for recording the amount of waste. Work at the landfill is on a 24hr basis and the staff work in shifts.
- e. With JICA Technical Support, the AU office, transfer stations and the LFS, work is well coordinated though there is still need to do more in terms of monitoring and coordination.
- f. Collection vehicles and heavy equipment are available for the execution of SWM.
- g. The Ministry of Environment, Natural Resources and Physical Development (MENRPD) has a well organized system of work or management of their departments with well frame work and policies.
- h. KCC experience is very important for JCC to copy for SWM improvement.
- i. How the equipment for the transfer of SW are managed and maintained for sustainability, durability for effective service delivery.
- j. The commitment, mutual cooperation of all the stakeholders for the success of SWM.

**CONTINUE TO BACK PAGE**

3. Among lessons learnt in Sudan, what point/idea do you think is applicable to Juba?

- a. Fixed time/fixed point collection system.
- b. Community awareness meetings and publicity.
- c. Controlled dumping sites should be encouraged in Juba.
- d. Establishment of transfer stations in JCC Block Councils in order to give more effectiveness to the SWM because from the collection point to the dump site the time consumed is too much.
- e. AU Offices to be established in the residential areas to help in coordination.
- f. Capacity building of the local staff.
- g. Mutual cooperation and commitment.

4. Do you think the purpose of/expectation for the study tour is fulfilled?

- a. The purpose of the study tour is not fully fulfilled; we have to conduct more discussions at the next tour to come out with better plan.
- b. The expectation of the study tour was fulfilled and it was well organized and even the site visits were well organized.
- c. More open discussions and exchange of views between JCC and JICA should be given its due time.
- d. The expectation for the study tour was fulfilled 59%. We need more information and study tour.
- e. The purpose of the study tour has been met in accordance with the physical engagement, contribution of ideas and lectures received from the different facilitators as from August 12<sup>th</sup> to 14<sup>th</sup>, 2017.

5. If you have any comments or suggestions, please let me know.

**Comments:**

- a. Acknowledgement of the effort of all the facilitators who have contributed to the success of the study tour.
- b. The field visit appointment should be respected in terms of time management and availability of local staff at the administrative units of certain locations.
- c. More discussions at the sites needed.

**Suggestions:**

- a. Capacity building (training) with Khartoum State in SWM.
- b. Provision of documents in the English language if possible.
- c. At least prayer time should be allocated for Christians on Sundays.
- d. Meeting some high level government officials related to SWM activities.
- e. Provision of hard copies of all the presentations.
- f. More engagement between JCC leadership and JICA needed at this starting level in order to pave way for easy communication and exchange of ideas.
- g. Hotel management very cooperative, however some accommodation rooms have not been good.

**THANK YOU**

Date and Time	9:00 – 12:00, October 21, 2017
V e n u e	White Nile Meeting Room of Regency Hotel
A t t e n d a n c e	<p><b><u>South Sudan side</u></b></p> <ul style="list-style-type: none"> <li>● Diseremo Sebit (Consultant of Department of Environment and Sanitation, JCC)</li> <li>● Hillary Dada (Director of Planning and Budgeting, JCC)</li> <li>● Joseph Loro (Director of Rejaf Payam)</li> <li>● Rose Mary Venansio (Deputy Director of Environmental Management, Dept. of environment and Sanitation, JCC)</li> <li>● Gamardin Mogga (Public Health Officer of Kator Block)</li> </ul> <p><b><u>JICA Project Team</u></b></p> <p>Ishii, Seino, Kodani, Gosai, Adam, John, Katayama</p>
<p><b>1) Outline of the 2<sup>nd</sup> Study Tour</b></p> <p>Mr. Seino explained the schedule for Group A, participants, and objectives for respective activities for each day. As to Umbadah area scheduled which should be visited on October 31, Mr. Gosai added information on decentralization history.</p> <p><b>2) Master Plan</b></p> <p>(Ishii) The purpose of this mission is to understand how to formulate Master Plan (hereinafter, “M/P”) We need to collect realistic data instead of imaginary data. There are two types of M/P in our suggestion – M/P 1 is for 1-5 years, and M/P 2 is for 6-15 years.</p> <p>(Ishii) Juba’s waste collection ratio is now 3% but we should improve the rate up to 34% referring to the 34% from the SWM Plan (JICA, 2014)</p> <p>(Ishii) On contrast to JCC’s assumption, we calculated the collection rate 3%. It is based on the unit generation survey conducted by Mr. Gosai. Unit generation turned out to be 0.65 kg/person in the survey, which makes total waste amount 975 ton/day. In result, collection rate is 2.6%.</p> <p>(Ishii) Master Plan 1 proposed that the household waste is collected by private primary collection Service provider with the fee collection paid by the residents. One idea is securing temporary landfill site at each block for 5 years lifespan which reduces collection cost.</p> <p>(Ishii) Private Service was created at Jebel markets as each shop was paying to the collector in 2013-2014.</p> <p>(Ishii) Landfill site should be environmental friendly. Even urgent temporary landfill site should be as well. For example, planting tree around the landfill site can be a contribution. We can plan better how to work with Rejaf payam for better use of the landfill site before finishing the 5 years of the urgent temporary landfill site lifespan. The introduction of urgent temporary landfill site use would be of help and easy enough for JCC to handle.</p> <p>(Sebit) The idea of securing urgent temporary landfill site sounds good. However, the critical concern is that each landfill site requires equipment.. Manpower is required as well. On the other hand, the reason I say the idea of preparation of urgent temporary landfill site is good that the site could be future Transfer Station (hereinafter, “TS.”) Currently we transfer the waste to Rejaf dumping site and</p>	

Juba-yei road, which are far and we needed TS nearby the generation sources.

(Sebit) Subsequently, we would like to propose three areas for the urgent temporary landfill site. One in Northern side between Lado county and Juba which is behind the airport, another one is in the West between Munuki/Luri and Juba, and third one is in the South between Kator-Rejaf. This has to be discussed more with the authorities concern to acquire approval before talking to the communities. This topic should be included in bylaw. The quarter council by-law was approved on 19<sup>th</sup> of October, 2017 by legislative council and will be use in 2018.

(Rose) The concern is that the available lands are owned by private owners and one is used for soccer playground. It is not owned by the government.

(Ishii) Each block needs one urgent temporary landfill site. Once we secure landfill site for each block, It will be close the illegal dumping site and plant trees.

\* The urgent temporary landfill site does not need to be a perfect landfill site. Land reclamation or compaction by heavy machines is not necessary. We need specific areas people can dump wastes. Even planting around the site would work. It should be managed.

(Ishii) Another idea for better SWM of Juba is reduction of waste amount. Self-treatment by residents is needed for the purpose. Collection equipment is by primary service provider.

(Ishii) In Bangladesh, Primary Collection Service Provider (PCSP) has become a big business. The cost (of operation) is very cheap and the PCSP business can be started easily. Some PCSP providers are doing separate collection that requires no collection vehicle. Bangladesh is improving day by day.

(Ishii) My suggestion is that JCC should take care of commercial waste collection and introduce recycling system, and household waste collection at each block will be taken care of by PCSP. Each block can be divided into 5 sub-blocks (zones.)

(Ishii) PCSP could be a solution. Bangladesh improved the SWM situation drastically by adopting the system. The reason why Bangladesh succeeded was PCSP was harmonized with the Bangladeshi culture. Juba culture will accept PCSP as well in my opinion.

(Hillary) Some people are providing PCSP services in Juba while they throw the waste along the roads and the streams. It is because there is no acquired land for proper/organized dumping.

(Ishii) On Monday, we will discuss Pilot Project and schedule of M/P preparation. As to Pilot Project, Target area, component, and schedule will be discussed. Candidate components are urgent temporary landfill site and PCSP.

### **3) Updates from JCC**

#### **3-1. Juba-Rejaf Solid Waste Management Committee**

Mr. Sebit explained the outlines and accomplishment of the Committee's meeting, presenting the minutes of the committee's meeting.


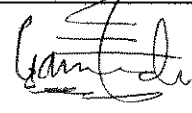


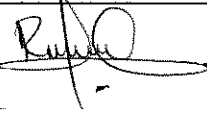
(Sebit) It was good to have an opportunity to gather all the members regularly. Also, presence of Gosai at one meeting during Gosai's waste amount survey was important. The Committee received appreciation and

request on clean-up campaign from the targeted communities of the survey as well. Another accomplishment is that the Committee also secured the necessary cost procured by the budget as written on the minutes.

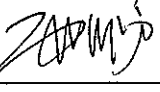
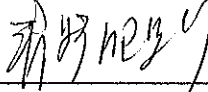
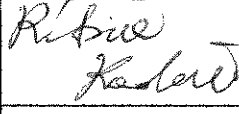

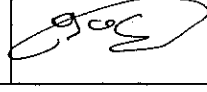

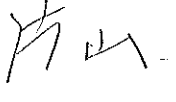
### 3-2. Annual Plan

Mr. Sebit explained the progress of the Annual Plan preparation. The details will be presented on Monday.

### Juba-Rejaf SWM Committee

Diseremo Sebit	Gamardin Mogga	Hillary Dada	Joseph Loro	RoseMary Venancio
			 2017	

### JICA Project Team

Akio Ishii	Akinori Seino	Rikae Kodani	John Waran	Gosai Ahmed
				
Adam Gasim	Kanako Katayama			
				

Date and Time	9:00 – 16:00, October 23, 2017
V e n u e	White Nile Meeting Room of Regency Hotel
A t t e n d a n c e	<p><b><u>South Sudan side</u></b></p> <ul style="list-style-type: none"> <li>● Diseremo Sebit (Consultant of Department of Environment and Sanitation, JCC)</li> <li>● Hillary Dada (Director of Department of Plan and Budget, JCC)</li> <li>● Joseph Loro (Director of Rejaf Payam)</li> <li>● Rose Mary Venansio (Deputy Director of Department of Environment and Sanitation, JCC)</li> <li>● Gamardin Mogga (Junior Public Health Officer of Kator Block)</li> </ul> <p><b><u>JICA Project Team</u></b></p> <p>Ishii, Seino, Kodani, Gosai,, Adam, John, Katayama</p>

### 1) Annual Report

Mr. John gave presentation on the Annual Plan on behalf of Juba-Rejaf SWM Committee/JCC.

(Ishii) Update the data of population and service area.

(Ishii) Do you have 235 cleaners?

(Sebit) Yes. 40 for Headquarter, 70 for Zone A. 62 for Zone B. 35 cleaners for Zone C. 28 are for Zone D.

(Rose) They are sweeping on the road and in the markets. They collect waste from hotels, government institutions, and NGOs.

(Ishii) Financial data (human resource expenditure) shows the unaffordability of hiring as many as 235.

(Rose) Unit cost of the cleaner's salary is only 1,000 SSP/month.

\*Note: Adjusted after including inception of 500 SSP in the 500 SSP salary for word clarification.

(Rose) Salary for a cleaner is different from for a driver.

(Ishii) Convert the generation amount into ton/day instead of ton/year, and add the data of collection ratio.

(Ishii) Collection ratio means portion of the amount of waste collected and transported to the landfill site. It does not include the waste transported to illegal dumping after collection.

-Collection service

(Ishii) Very few households are covered by the governmental service of collection and families are bringing waste to the road. Correct the sentences. - The word "effort" is not clear. The service is not provided and waste is dumped illegally instead of transported to the landfill site. Elaborate the sentences to state clearly that waste is not collected. Almost all the waste is burned.

(Ishii) Kator Block's "daily basis collection" sounds everyday collection service is provided. Change to mention the real situation.

(Gamardin) We provide the service every day.

(Ishii) How do you explain the lack of enough number of vehicles?

(John) Understood. We delete "daily basis."

(Ishii) The number 5 of vehicles is not enough even for periodical collection. It proves that Kator not provide

services.

(John) It is maybe sample. Current situation must be confirmed.

(Ishii) Add “-JCC” to “Department of Environment and Sanitation” in the report.

(Ishii) To the sentence “There is no any solid waste truck left,” add the conditions or background. For example, “all out of order” and/or “available ones are managed by the Department of Environment and Sanitation-JCC.”

(Ishii) What does one “trip” mean? We mean “collection and transport to the landfill site” by “trip.”

(John) JCC means “collection and transport to illegal dumping sites” by “trip.”

(Ishii) It is one “collection” and not a “trip.”

(Hillary) There is no way out to transport to the landfill site.

(Ishii) Real survey did not follow this.

(Joseph) The data on the annual report is from last month and should be update.

(John) It is checked by Mayor. But it is maybe not accurate every week.

(Ishii) How could you tell it is accurate?

(John) We saw two trips.

(Rose) It is from last month and we saw the trips.

(John) The problem is that the practice mentioned here are not sustainable and it could be not accurate for present day.

(Ishii) Since waste is not transported to landfill site, it cannot be counted for “trip.”

(John) Now Juba-Nimure road is now considered as dumping site, it can be considered as a “trip.”

(Kodani) This is maybe cleaning plan.

(Ishii) This cannot be a plan. Page 16 is also wrong.

(Ishii) We are not talking about cleaning campaign. We are talking about regular collection. You checked only one vehicle with your eyes and existence of other vehicles are not clear. Delete all.

(Sebit) Okay. Delete all.

(Kodani) One vehicle cannot collect 1,000 ton.

(John) We leave the table on the page 15 until persons in charge come to Khartoum and confirm the current situation.

(Ishii) Do not afraid to show bad result, please. We want to know real condition. Everyone knows it is in bad situation because of internal confliction. I am thinking about give up this useless annual report and start discussion with the table of contents. Please don't be afraid to give real data.

(John) We updated the data yesterday, but we have more that we want to tell but not written in the report. It takes only 10 minutes.

- Financial status

(John) Finance manager, logistics manager and others are newly added in the table from the last.



- Organization

(Kodani) The number of quarter council 55 remains the same still?

(John) Yes, it is the same.

(Seino) Basically no mechanical technicians?

(Sebit) Not of permanent contract. Most of the repairs are done by commercial companies. The repairmen is outsourced.

- Tipping fee

(Sebit) The tipping fee collected from hotel is 6,000 SSP/month on average.

\*Note: 8,000SSP in Kodani-san's calculation.

(Kodani) How much is the tipping fee from markets?

(Rose) It depends on the size of the shop – 300, 600 or 900 SSP.

(John) Based on the contract between hotels/restaurants and JCC, they have to pay the amount listed on the table.

- Collection

(Kodani) A month means average 4 trips per day? 7 days a week?

(Rose) Yes, they even work on Sunday, too.

(Kodani) Condition is getting worse since July, 2016. Do you have record from every day?

(Rose) Yes, we receive data from landfill site.

- Maintenance

(Rose) The table shows the only and all the five vehicles.

(Rose) The white and blue vehicle (NISSAN diesel) is repaired. Now the yellow compactor is not working.

(Gamardin) Tipper is 7.5 m<sup>3</sup>. You can take out the old one from the previous list.

(John) Gosai and I witnessed the mechanic repairs were done.

(Sebit) Major repairs are outsourced and done by private companies. Minor repairs are done by the internal/JCC. We do not send the vehicle abroad for repair. Spare parts come from Turkey, Uganda or Kenya, which depends on the commercial company.

(Seino) The garage has no roof and in the open area.

-- Landfill site management & illegal dumping

(Ishii) There are many illegal dumping sites. Break down into "along the main roads" "along the main stream" "along the main bridges" "open spaces" "backyards of the markets" and "along the cemeteries."

(Kodani) Do you have any other source of revenue for Rejaf landfill site management in Rejaf?

(Joseph) Fees collected from shops.

(Ishii) Convert the number of incoming vehicles from per week to per day.

(John) Seven to nine vehicles are incoming per day.

(Ishii) The report says the lack of money is the reason why JCC cannot repair the vehicles, however the reality is

vehicles,

- Page 36

(Ishii) What is "budget?" Budget should start with prepared money. JCC's "budget" is proposal. Replace the word "budget" to "financial proposal."

Note:

There are three levels of Government in the republic of south Sudan, the national government the state and the local Government. The JCC budget is funded by its local revenue except the salaries of the classified staffs seconded from the State Government

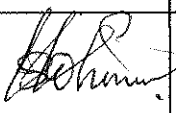
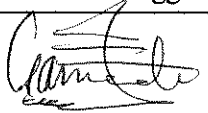
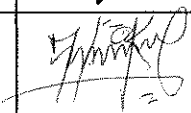
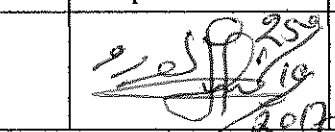
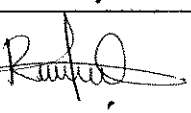
## 2) Finance

(Hillary) In 2011/12 the length of financial year was only for six months.

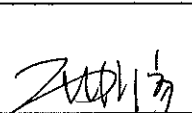
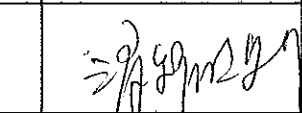
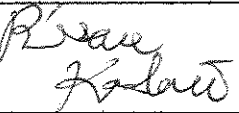

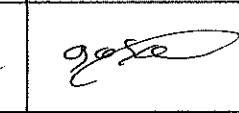
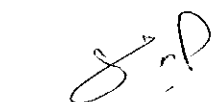
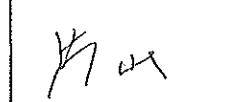
\* RoseMary has the report from 2016/17 that was submitted to the Department of Planning and Budgeting. The Project Team will compare the report and Hillary's data.

(Hillary) There are two types of auditing performance audit and financial audit.

### Juba-Rejaf SWM Committee

Diseremo Sebit	Gamardin Mogga	Hillary Dada	Joseph Loro	RoseMary Venancio
			 2017	

### JICA Project Team

Akio Ishii	Akinori Seino	Rikae Kodani	John Waran	Gosai Ahmed
				
Adam Gasim	Kanako Katayama			
				

Date and Time	9:00 – 16:00, October 24 2017
V e n u e	White Nile Meeting Room of Regency Hotel
A t t e n d a n c e	<p><u>C/P</u></p> <ul style="list-style-type: none"> <li>● Diseremo Sebit (Consultant of Department of Environment and Sanitation)</li> <li>● Hillary Data (Director of Department of Plan and Budget of Department of Environment and Sanitation)</li> <li>● Joseph Loro (Director of Rejaf Payam)</li> <li>● Rosemary Venansio (Deputy Director of Department of Environment and Sanitation)</li> <li>● Gamardin Mogga (Junior Public Health Officer of Kator Block)</li> </ul> <p><u>JICA Project Team</u></p> <p>Ishii, Seino, Kodani, Gosai,, Adam, John, Katayama</p>

### 1) Finance

The participants resumed the discussion on finance from the day before.

(Kodani) Department of Plan and Budget (DPB) receive report on finance from Department of Environment and Sanitation (DES) regularly, right?

(Hillary) Yes, DPB receives from DES every month.

(Kodani) Who is in charge of preparation in DES?

(Rose) Accountant.

(Kodani) Who are the members of the weekly financial committee?

(Rose) In the internal meeting every Wednesday, 6 people prepare (Martin, Deputy and financial managers). At the headquarters, director and financial managers/cashers from departments and blocks are gathered every Thursday with chief executive officer who gives approval. Cashier will give the money to financial managers of each department and blocks.

(Kodani) Please put the name of finance manager in the chart of DES on page 18.

(Kodani) How does JCC calculate the inflation?

(Hillary) The inflation rate is talked in chamber of commerce.

(Kodani) In 2015, inflation rate was 50

(Katayama) In Uganda, Hillary explained that the chamber of commerce consisting of JCC finance committee, JCC HQ members, and traders discuss the inflation rate and money value change adjustment rate. Could you now get your colleague from DPB hand the report on the rate to Group B flying to Khartoum tomorrow?

(Hillary) I will ask via phone call.

(Hillary) The rate from FY2016/17 is 56%.

### 2) Master Plan

- Law & regulation

(Sebit) Draft of old version bylaw of JCC is revised and ready to be presented to get approval. It should be endorsed by legislatures next year.

(Kodani) Add the status of bylaw approval progress for Rejaf

(Kodani) Last time, bylaw had no mention about tipping fee. I would like to see mentions on it – for example,

(John) Environmental policy law handle not only SWM but also energy, water and such.

(Kodani) JCC should follow the policy once it is enforced?

(John) Yes.

(John) One of the challenges is fuel price. The second is the traditional mindset on garbage. The other is National Ministry of Environment's lack of effort to support SWM and stakeholders' (QC who collect tipping fee and residents who pay tipping fee) inability to pay tipping fee.

-Infrastructure

(Kodani) Mention road condition in the current status. For example, "how many percentage is soil" "Condition of this road is good."

-Organization and status

(Kodani) Basically DES(Department of environmental sanitation) should take charge of all the activities on SWM with collaboration with the blocks. It is important to clarify the demarcation.

(Rose) In the main roads and markets and when the money is lacked and such, blocks should enter the part of JCC's role. Rain season when the roads don't lead JCC to the areas as well.

(Kodani) In my understanding, blocks have no responsibility on SWM.

(Rose) Yes, they have no responsibility but they are helping.

(Sebit) Maybe we should mention the demarcation and context of cooperation in the Annual Report.

\* John put lines in section 4 of page 44.

(Joseph) Blocks enter in case of breakdown of vehicles in addition to the aforementioned cases.

(John) If JCC has vehicles, JCC can do everything.

(Joseph) If public health problem happens, all the stakeholders enter, too.

- Collection

(Kodani) We now should calculate the number of compactors considering the capacity and waste amount.

(John) Based on how much waste generated in the area and such, right?

(Ishii) Delete all the future plans. This is Annual Plan. Future plan does not refer to requests usually. It should refer to priorities of activities. The Annual Plan needs clear issues to mention.

\* In the end, the originals are to be kept in the Annual Report for the moment.

(Ishii) My opinion is that usually lack of materials is not good. – It has no meaning. It should mention solutions how to improve the situation.

## **2) Master Plan Formulation**

Mr. Ishii explained how to formulate M/P (See attachment-1.)

(Ishii) I explain how to formulate M/P. M/P1 is for 5 years from the 1<sup>st</sup> to the 5<sup>th</sup> year, targeting 14% of collection ratio and using urgent temporary landfill site of each block. M/P2 is for 10 years from the 6<sup>th</sup> year to 15<sup>th</sup> year, targeting 34% and improving Rejaf landfill site and Juba-Nimure road. We will calculate the collection ratio, and M/P1 takes PCSP and compactor for collection equipment. M/P2 will take compactor and PCSP. JCC will take charge of commercial waste collection and recycling under both M/P1 and M/P2. Block and 5 sub blocks will take care of household waste under both.

(Ishii) PCSP will harmonize with Juba culture. We consider PCSP as a Pilot Project (hereinafter "PP").  
 (Ishii) Each household can implement self-treatment such as burying organic waste in their open yard.  
 (Joseph) Self-treatment means digging a hole in yard and throw organic waste?

**3) Pilot Project Plan**

Mr. John explained homework on PP plan (See attachment-2)

(John) Mr. Ishii suggested urgent temporary landfill site in each block while the members from South Sudan suggested three sites around Juba. I suggest three sites for the pilot project.

(John) JCC should provide tri-motor cycles in the time of PCSP. Awareness creation will be taken care by Quarter Councils. We will invite individuals interested in the business.

(Discussion – results are found in Plan on the attachment -2)


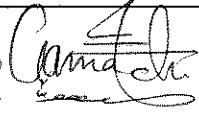
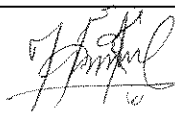

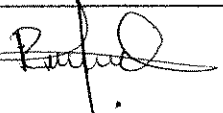
(Ishii) Atlabara A has no space on the road or vacant area along the road. Collection along Atlabara A will be difficult.

(John) Instead of Atlabara A, let's take Atlabara B and C from Kator Block.

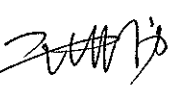
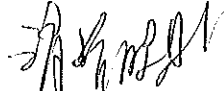


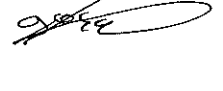
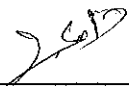

(Kodani) concerning the temporary landfill site, JCC and the community need MOU, Does JCC need to get agreement from the upper level(government authorities)

(John) Yes, MOU is needed between JCC and community it takes four to six months for the agreement.

**Juba-Rejaf SWM Committee**

Diseremo Sebit	Gamardin Mogga	Hillary Dada	Joseph Loro	RoseMary Venancio
				

**JICA Project Team**

Akio Ishii	Akinori Seino	Rikae Kodani	John Waran	Gosai Ahmed
				
Adam Gasim	Kanako Katayama			
				

Date and Time	9:00 – 16:00, October 27 2017
V e n u e	White Nile Meeting Room of Regency Hotel
A t t e n d a n c e	<p><b><u>South Sudan side</u></b></p> <ul style="list-style-type: none"> <li>● Diseremo Sebit (Consultant of Department of Environment and Sanitation, JCC)</li> <li>● Hillary Data (Director of Department of Planning and Budgeting, JCC)</li> <li>● Joseph Loro (Director of Rejaf Payam)</li> <li>● Rose Mary Venansio (Deputy Director of Environment, Department of Environment and Sanitation, JCC)</li> <li>● Gamardin Mogga (Public Health Officer, Kator Block)</li> <li>● Aban Akutker (Acting Director General, Ministry of Environment and Forestry)</li> <li>● Martin Manasseh (Director of Department of Environment and Sanitation, JCC)</li> <li>● Stephen Vijilio (Director, Munuki block council)</li> <li>● Timon Wani (Director, Kator Block Council)</li> <li>● Thomas Stephen (Deputy Chief Executive Officer, JCC)</li> <li>● Mogga Mgwanki (Director, Juba Block council)</li> <li>● Daniel Lado (Advisor, State Ministry of Environment, Jubek State)</li> </ul> <p><b><u>JICA Project Team</u></b></p> <p>Ishii, Seino, Kodani, Gosai,, Adam, John, Johnson, Katayama</p> <p><b><u>JOCV</u></b></p> <p>Yoshida, Mori</p>
	<p><b>1) Experiences from Bangladesh</b></p> <p>(Ishii) You (JCC) should think how to make up the lack of collection vehicles to improve collection of waste.</p> <p>(Ishii) Dhaka was similar to Juba in the beginning of the Bangladesh SWM project in regard of lack of vehicles.</p> <p>(Ishii) In Dhaka, they divided collection service into primary collection and secondary collection, and waste is collected by primary collection service providers first.</p> <p>(Ishii) Primary Collection Service Providers (PCSPs) of private companies collect waste. PCSPs receive money from the residents. (Joseph) When did Dhaka start implementing PCSP?</p> <p>(Ishii) Not clear – They started expanding the services little by little and we endorsed their contributions.</p> <p>(Timon) Supporting fact that Juba can succeed PCSP in the same way as in Bangladesh is that we have much idling workforce. However, capital expense should be provided. Kator has three areas that can be offered to use for this purpose.</p> <p>(Mogga) The idea of PSCP is outstanding. In addition to the idling workforce, a lot of people are on the third or later choice jobs and they could get interest in joining. Juba block could probably find some space to offer, too.</p> <p>(Timon) PCSP sounds the possibility of success. It must owe citizen’s contribution and effort. It would require much awareness to be created. What was the awareness raising approach like?</p> <p>(Ishii) When I was working in Bangladesh, inspectors took initiative to organize awareness raising activities. We held</p>

220 community meetings, which targeted specific groups in the beginning, such as women's groups, sports clubs, and youth groups, and subsequently targeted specific areas. When I was working in Palestine, we planned to target 5 % of the population to cover the awareness meeting.

(Ishii) Juba can optimize collection easily even in the lack of vehicles and reduce the cost with the preparation of urgent temporary landfill site of 5-year lifespan at each block.

(Stephen) Securing land for TS/urgent temporary landfill site is difficult. Why don't we start pilot project in one area? The secured area should be covered by fence.

(Rose) The fence should be as high as human height – to prevent land sliding of waste during the rain season.

(Rose) The waste should be transferred to the landfill site within three days to assure enough space for incoming waste. Also, in rain season to prevent land sliding of waste

(John) PCSPs already exist in blocks, the Block directors say, but they are not organized. They are offering to call them and organize the PCSPs.

(John) Land is available in some blocks. Juba can find spaces for this purpose.

(John) Temporary landfill site can be used for TS and we can transport waste to landfill site and also reduce the number of trips for the same amount of waste.

(Ishii) In Dhaka city, PCSPs prepare the equipment themselves.

(Timon) PCSPs are existing in blocks but they do not have equipment. They will be great contribution but it would be hard for them to prepare the equipment. We will provide the equipment in the beginning.

(Ishii) In Juba, is there market selling the equipment?

(John) No, but they can make in Konyokonyo market.

(John) Ishii-san says the three areas are for the pilot project and we will expand to other areas after we see the progress.

(John) How can we find the idling workers?

(Stephen) We will find them in specific dumping sites where now they are throwing waste, and we can talk to them.

(Ishii) One way for JCC to secure money is the tipping fee collection from hotels, restaurants, and offices by JCC itself. Recycle/3R can be another revenue source, too.

(Ishii) The population of Juba, 1.5 million people is too large to control for JCC. Even each block is handling larger population which is approximately 0.5 million, than they could handle. One of my ideas is that we divide blocks into 5 sub-blocks (zones) for better management.

(Mogga) As to recycling, now the recycle business dealers are foreigners and they are taxing us – because, when they

bring valuables to overseas, they are taxed, too. We cannot get money from recycling. We better talk how we can improve the collection rate from restaurants, markets, hotels, etc. and also how we get money from PCSP. Collect fees at the TS/urgent temporary landfill site is one way.

(Mogga) The urgent temporary landfill site use will be difficult. The distance from generation areas to the urgent temporary landfill site is as far as to the current landfill site.

(Rose) We could set TS (container) near the generation source. TS should have roof and prevent landslide of waste.

(Mogga) We cannot spare areas to store waste in city.

(Aban) Even as a Minister of Environment's behalf, we cannot agree to secure waste storage for environmental protection, smell, etc. even if it is for temporary.

(Joseph) I agree with the idea that we cannot spare space for waste within city but located in the city is TS where waste comes but waste goes out to landfill site from. We can consult with the residents there.

(All the three blocks) Within the city, we think about sparing land for TS.

(Mogga) Juba-Nabari has 200 blocks for residential.

(Discussion result, or change in pilot project area and urgent temporary landfill site are pictured in the map.)

## **2) Pilot Project**

(Ishii) You should bring up concrete conditions before implementing in Juba.

[Preconditions]

- Urgent temporary landfill site at each block with lifespan of 5 years
- Number of targeted household for the pilot project: 120
- 0.65 kg/day/person bulk density when loaded waste in the PCSP container: 0.4
- PCSP container:  $1.5 \text{ m} * 1 \text{ m} * 1 \text{ m} = 1.5 \text{ m}^3$
- 1PCSP can cover 120 households in result of calculation
- Supposing that the price a household pays to the service should be 100 SSP,  $100 \text{ SSP/month} * 120 \text{ households} = 12,000 \text{ SSP}$
- In the implementations by 4 PCSPs,  $4,000 \text{ SSP/month} * \text{PCSP}$
- The above mentioned calculation proves that the pilot project is feasible.



Minutes of Meeting  
Final workshop of Juba solid waste management  
project in Khartoum

19<sup>th</sup> December, 2017

Project: Data collection survey on solid waste management in Juba



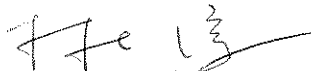
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Diseremo Sebit John Amin  
Manager of Juba-Rejaf Solid Waste  
Management Committee,  
Department of Environment & Sanitation,  
Juba City Council



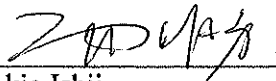
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Gamardin Mogga  
Deputy Manager of Juba-Rejaf Solid  
Waste Management Committee,  
Kator block



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Jun Murakami  
Representative, South Sudan Office  
Japan International Cooperation Agency



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Akio Ishii  
JICA Expert Team Leader  
Urban Environment System Department  
Yachiyo Engineering Co., Ltd.

## MINUTES OF MEETING -Final Workshop-

**Project name:** Data collection survey on solid waste management in Juba

### I. PARTICIPANTS

#### A. South Sudan Participants

1. Mr. Aban Akutker Joknyal Agyou - Acting Director General, Directorate of Environmental Management, Ministry of Environment
2. Mr. Daniel Lado Matayo Lobojo – Advisor, Ministry of Environment, Jubek State
3. Mr. Hillary Dada Woderif Limuka - Director of Planning & Budget, Juba City Council
4. Mr. Diseremo Sebit John Amin - Consultant of Department of Environment and Sanitation, Juba City Council
5. Mr. Martin Manasseh Lemi Lukadi - Director, Department of Environment and Sanitation, Juba City Council
6. Ms. Rose Mary Venansio Loro - Department of Environment and Sanitation, Juba City Council
7. Mr. Joseph Loro Tombe Laku - Director, Rajaf Payam
8. Mr. Stephen Vijilio Kose Gumbe – Director, Munuki block Council
9. Mr. Timon Wani Marcellino Dere - Director, Kator block
10. Mr. Gamardin Mogga Sebit Didi - Junior Public Officer, Kator Block Council
11. Mr. Mogga Ngwangki Laki Morbe – Director, Juba Block Council

#### B. Japanese and Project Team Participants

1. Dr. Eiko Kojima - Environmental Management Team2, Environmental Management Group, Japan International Cooperation Agency
2. Mr. Jun Murakami - Representative, South Sudan Office, Japan International Cooperation Agency
3. Ms. Kozue Amemiya – Project Formulation Advisor, Sudan Office, Japan International Cooperation Agency
4. Mr. Akio Ishii - Chief expert/solid waste management, Yachiyo Engineering Co., Ltd.
5. Mr. Akinori Seino - Organization structure analysis, Yachiyo Engineering Co., Ltd.
6. Ms. Kanako Katayama - Economic and financial analysis, Yachiyo Engineering Co., Ltd.
7. Ms. Rikae Kodani - Solid waste collection and transportation structure analysis, Yachiyo Engineering Co., Ltd.
8. Mr. Gosai Ahmed Menrpd - Yachiyo Engineering Co., Ltd.
9. Mr. Johnson Tito Kawa Legge - Yachiyo Engineering Co., Ltd.
10. Mr. John Waran Michael - Yachiyo Engineering Co., Ltd.

#### C. Observers from South Sudan

1. Hon. Martin Wani Jangara Kirba - Commissioner, Rejaf County
2. H/W. Semir Khamis Sulieman Lako - Deputy Mayor, Finance and Economic Planning, Juba City Council
3. Mr. Johnson Shuka Nishak Jada - Chief Executive Officer, JCC

### II. SUMMARY RECORD OF MEETING:

#### 1. Summary of final workshop

Final workshop was held on the 19<sup>th</sup> of December at Regency hotel in Khartoum. First, opening prayer was quoted by Mr. Sebit - Manager of Juba-Rejaf Solid Waste Management Committee (JRSMC) and opening remarks was given by Dr. Kojima - JICA headquarters. The results of the data collection survey was summarized by Mr. Seino and action plan of pilot project was proposed

by JRSWMC. Mr. Ishii extracted the essence of lessons learnt of the project and Mr. Murakami explained the history and future plan of JICA cooperation to Juba.

**2. Pilot Project**

Action plan of pilot project was proposed by JRSWMC and finalized. All participants promised to make a great effort to implement the pilot project smoothly and fulfill their obligation in accordance with the action plan of pilot project.

**3. Conclusion**

CEO of JCC, Deputy Mayor of JCC, Commissioner of Rejaf County and JICA South Sudan office gave closing remarks and the workshop was wrapped up.

**III. SIGNING IN MINUTES OF MEETING:**

The minutes of final workshop was read aloud to the participants. All the concerned parties in the workshop agreed to the aforesaid contents and signed.

**A. South Sudan participants**

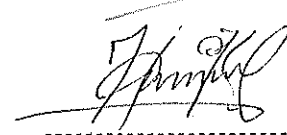
1. Mr. Aban Akutker Joknyal Agyou

  
19/12  
2017

2. Mr. Daniel Lado Matayo Lobojo



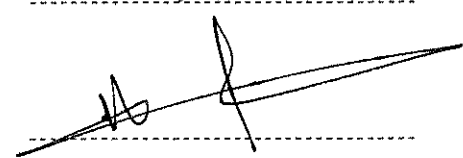
3. Mr. Hillary Dada Woderif Limuka

  
19/12  
2017

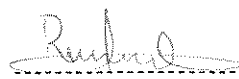
4. Mr. Diseremo Sebit John Amin




5. Mr. Martin Manasseh Lemi Lukadi




6. Ms. Rose Mary Venansio Loro



7. Mr. Joseph Loro Tombe Laku



8. Mr. Stephen Vijilio Kose Gumbe



9. Mr. Timon Wani Marcellino Dere



10. Mr. Gamardin Mogga Sebit Didi



11. Mr. Mogga Ngwangki Laki Morbe



**Attachment**

- 1) Final workshop agenda
- 2) Presentation Materials
- 3) Action Plan of Pilot Project in Juba

**THE REPUBLIC OF SOUTH SUDAN  
MINISTRY OF JUSTICE**

**LAWS OF SOUTH SUDAN**

**THE NATIONAL ENVIRONMENT BILL, 2015**

Juba, Republic of South Sudan, 2015

## Table of Contents

<b>Chapter One</b> .....	<b>6</b>
<b>PRELIMINARY PROVISIONS</b> .....	<b>6</b>
1. Title and Commencement.....	6
2. Repeal and Saving.....	6
3. Purpose.....	6
4. Authority and Application.....	7
5. Interpretations.....	7
<b>Chapter Two</b> .....	<b>18</b>
<b>THE GUIDING PRINCIPLES, GOALS AND OBJECTIVES</b> .....	<b>18</b>
6. The Guiding Principles.....	18
7. The Goals and Objectives of the Bill.....	19
<b>Chapter Three</b> .....	<b>21</b>
<b>GOVERNANCE OF THE ENVIRONMENT</b> .....	<b>21</b>
8. Environmental Governance Arrangements.....	21
9. Establishment and the Functions of the Ministry of Environment.....	21
10. The Role of the Lead Agencies.....	22
11. Establishment and Functions of the State Ministries Responsible for the Environment.....	23
12. Establishment and Functions of the Local Environment Departments.....	24
13. Coordination, Monitoring and Evaluation.....	25
<b>Chapter Four</b> .....	<b>28</b>
<b>MANAGEMENT OF NATURAL RESOURCES</b> .....	<b>28</b>
14. Duty to Protect Natural Resources.....	28
15. Management of Oil Resources.....	28
16. Management of Mineral Resources.....	29
17. Management of Agricultural Land.....	30
18. Management of Forest and Tree Resources.....	30
19. Management of Wetlands, Rivers, Lakes and Other Water Resources.....	33
20. Land Use Planning.....	36
21. Management of Land for Human Settlements.....	36
22. Management of Land for Roads, Bridges and Airports.....	37
23. Management of Land for Trade and Industry.....	37
24. Management of Land for Parks, Gardens and Open Spaces.....	37
25. Management of Livestock and Animal Resources.....	38
26. Management of Fisheries Resources.....	38
27. Conservation of Wildlife.....	39
28. Conservation of Biological Diversity.....	40
29. Conservation of Hills, Mountains and Plateaus.....	40
30. Environmentally Sensitive Areas.....	42

<b>Chapter Five .....</b>	<b>43</b>
<b>CLIMATE CHANGE.....</b>	<b>43</b>
31. Adaptation and Mitigation.....	43
32. Waste Management and Sanitation.....	43
33. Offenses Relating to Hazardous Waste, Materials, Chemicals and Radioactive Substances .	46
34. Pollution Prevention .....	47
35. Offenses Relating to Environmental Pollution.....	48
36. Desertification.....	49
37. Management of Natural Disasters .....	49
38. Conflict and Environment .....	50
39. Ozone Layer Depletion .....	50
40. Renewable Energy .....	51
<b>Chapter Six.....</b>	<b>53</b>
<b>ENVIRONMENTAL RULE OF LAW .....</b>	<b>53</b>
41. National Environmental Legislation.....	53
42. Regional Cooperation .....	53
43. International Multi-lateral Environmental Agreements.....	54
44. Attainment of the Sustainable Development Goals.....	55
45. Registration of Environmental Consultants, Organisations and Companies.....	55
46. Environmental Assessments, Audits and Monitoring.....	56
47. Environmental Standards .....	57
48. Environmental Compliance and Enforcement .....	57
49. Environmental Offenses and Penalties.....	59
50. Notice of Violation of the Environment Bill .....	59
51. Environment Restoration Orders .....	59
52. Assessment of Environmental Damage.....	61
53. Judicial Proceedings .....	62
54. Immunity of Officials.....	62
55. Appeals against Decisions of the Ministry .....	62
56. Forfeiture, Cancellation and other Orders .....	63
57. Record-keeping, Inspection and Analysis .....	63
58. Transmission of Records to the Ministry.....	64
59. Designation of Environmental Inspectors.....	64
60. Powers and Duties of Environmental Inspectors .....	64
61. Procedure for Sample Analysis .....	65
62. Designation for Analytical and Reference Laboratories.....	65
63. Designation for Reference Analysts.....	65
64. Certificate for Analysis .....	66
<b>Chapter Seven .....</b>	<b>67</b>

<b>CAPACITY BUILDING</b> .....	<b>67</b>
65. Institutional Capacity Building .....	67
66. General Provisions on Human Capacity Building .....	67
67. Public Environmental Education .....	67
68. Development and Implementation of Environmental Laws, Regulations and Standards .....	68
69. Environmental Planning, Management and Assessments .....	68
70. Monitoring, Evaluation and Reporting .....	68
71. Capacity Building for the Non-governmental Stakeholders .....	69
<b>Chapter Eight</b> .....	<b>70</b>
<b>THE NATIONAL ENVIRONMENT FUND</b> .....	<b>70</b>
72. Establishment of National Environment Fund .....	70
73. Objectives of the Fund .....	70
74. Sources of Funding .....	71
75. Administration of the Fund .....	72
76. Bank Accounts of the Fund .....	72
77. Auditing of the Fund .....	73
78. Annual and other Reports .....	73
79. Environment Levy .....	74
<b>Chapter Nine</b> .....	<b>76</b>
<b>ENVIRONMENTAL PLANNING</b> .....	<b>76</b>
80. National Environmental Action Plan .....	76
81. Scope of the National Environmental Action Plan .....	76
82. Confirmation of National Environmental Action Plan .....	77
83. Changes on Operation of the National Environmental Action Plan .....	77
84. Review and Replacement on Operation of the National Environmental Action Plan .....	77
<b>Chapter Ten</b> .....	<b>79</b>
<b>NATURAL HERITAGE</b> .....	<b>79</b>
85. General Protection of Natural Heritage .....	79
86. Conservation of Natural Heritage Sites .....	79
87. Heritage Resources Management .....	79
88. Restitution of Heritage Objects .....	81
<b>Chapter Eleven</b> .....	<b>83</b>
<b>PROMOTION OF ACCESS TO INFORMATION, PUBLIC PARTICIPATION AND ACCESS TO JUSTICE</b> .....	<b>83</b>
89. Access to Information .....	83
90. Public Participation .....	84
91. Access to Justice .....	84
<b>Chapter Eleven</b> .....	<b>87</b>
<b>ENVIRONMENTAL EDUCATION AND AWARENESS CREATION</b> .....	<b>87</b>
92. Responsibilities for Environmental Education .....	87
93. Integration of Environmental Education into the National Curriculum .....	87
94. Environmental Research .....	87



<b>Chapter Thirteen .....</b>	<b>89</b>
<b>CORPORATE SOCIAL AND ENVIRONMENTAL RESPONSIBILITY .....</b>	<b>89</b>
95. Objectives.....	89
96. The Duties of the Private Sector.....	89
97. Report Preparation and Publishing.....	90
98. Impact Assessment and Consultations.....	91
99. Provision of Information by Companies.....	91
100. Roles of The Company’s Subsidiaries, Partners and Subcontractors .....	92
101. Environmental and Social Responsibilities by the Management of Companies.....	92
102. Liabilities of the Management of Companies.....	93
103. The Role of the Ministry.....	93
104. Violation of Local Stakeholders or Community Civil Rights .....	94
105. Violations and Penalties .....	94
<b>Chapter Fourteen.....</b>	<b>96</b>
<b>MISCELLANEOUS PROVISIONS.....</b>	<b>96</b>
106. Official Seal and Logo.....	96
107. Confidentiality .....	96
108. Power to Make Regulations .....	97
<b>SCHEDULE: PROJECTS TO UNDERGO ENVIRONMENTAL IMPACT ASSESSMENT .....</b>	<b>98</b>

## LAWS OF SOUTH SUDAN

### **The National Environment Bill, 2015**

In accordance with the provisions of Articles 55(3)(b) read together with Article 85 (1) of The Transitional Constitution, 2011, the National Legislative Assembly, with the assent of the President of the Republic of South Sudan, hereby enacts the following:

## Chapter One

### PRELIMINARY PROVISIONS

#### 1. Title and Commencement

This Bill may be cited as “**The National Environment Bill, 2015**,” and shall come into force on the date of its signature by the President.

#### 2. Repeal and Saving

Any existing legislation in the Republic of South Sudan that governs the same matters as set forth in this Bill, are hereby repealed or cease to operate in the Republic of South Sudan; *provided that*, all proceedings, orders and regulations taken or made thereunder, except to the extent they are cancelled by or are otherwise inconsistent with the provisions of this Bill, shall remain in force or effect, until they are repealed or amended in accordance with the provisions of this Bill.

#### 3. Purpose

The Bill is intended to serve the following purposes -

- (a) To provide an environmental framework law that covers all matters concerned with the Environment in the Republic of South Sudan;
- (b) To encourage the Lead Agencies to draft subsidiary environmental legislations, in consultation with the Ministry, to provide detailed laws that will supplement the Bill;
- (c) To promote the prudent use, development, conservation and recuperation of its natural and environmental resources, ecosystem services and biological diversity;
- (d) To integrate Environmental considerations into development policies, plans, programmes and projects at the local, State and national levels;
- (e) To promote effective, widespread, public participation in the consideration about the

incorporation of Environmental considerations into development activities;

- (f) To domesticate the international environmental laws, the African Union laws and the East African Community laws and promote environmental rule of law; and
- (g) To contribute to the resolution and management of conflicts related to the use of natural resources and the Environment.

#### 4. Authority and Application

This Bill is drafted in accordance with the provisions of Article 41 of *The Transitional Constitution, 2011*, which grants the Government of South Sudan concurrent authority over Environmental protection and management of the natural Environment.

#### 5. Interpretations

In this Bill unless the context otherwise requires, the following words and expressions shall have the meanings assigned to them respectively:

“**Adverse Effect**” means one or more of negative, undesirable effects that may anticipated;

“**Afforestation**” means the establishment of a tree crop on an area where such trees are absent;

“**Air Quality**” means the concentration prescribed under this Bill of a pollutant in the atmosphere at the point of measurement;

“**Ambient Air**” means the atmosphere surrounding the earth but does not include the atmosphere within a structure or within any underground space;

“**Analysis**” means the testing or examination of any matter, substance or process for the purpose of determining its composition or qualities or its effect (whether physical, chemical or biological) on any segment of the Environment or examination of emissions or recording of noise or subsonic vibrations to determine the level or other characteristics of the noise or subsonic vibration or its effect on any segments of the Environment;

“**Analyst**” means an analyst designated under section 89;

“**Apparently inoperable**” means that a vehicle does not appear to comply with legal requirements for vehicles used or parked on public streets with regard to safety equipment such as brakes, lights, tires, mirrors, and safety glass, or with regard to vehicle licensing requirements.

“**Assembly**” means the South Sudan Legislative Assembly;

“**Beneficial Use**” means a use of the Environment or any element or segment of the Environment that is conducive to public health, welfare or safety and which requires protection from the effects of Wastes, discharges, emissions and deposits;

“**Benefited Environment**” means that Environment which has benefited through the imposition of one or more obligations on the burdened land;

“**Biological Diversity**” means the variability among living organisms from all sources, including, *inter alia*, terrestrial ecosystems and aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems;

“**Buffer Zone**” means an area surrounding a Protected Area managed for the economic benefit of the local community by means of sustainable development;

“**Burdened Land**” means that land which is in the vicinity of a benefited Environment;

“**Chemical**” means a chemical substance in any form whether by itself or in a mixture or preparation whether manufactured or derived from nature and for the purposes of this Bill includes industrial chemicals, pesticides, fertilisers and drugs;

“**Closure**” means the removal from service of any underground storage tank in accordance with  
the provisions of Rule 111 to 116.

“**Contaminant**” means any physical, chemical, biological or radiological substance in soil, water, air or any other environmental media which renders or is likely to render such soil, water, air or any other environmental media unfit for its intended use or for any feasible use.

“**Contaminant**” means any solid, liquid, gas, odour, heat, sound, vibration, radiation or combination of any of them resulting directly or indirectly from human activities that causes or may cause an adverse effect.

“**Deforestation**” means reduction of Forest cover from the original status;

“**Discharge**”, when used as a verb, includes add, deposit, leak or emit and, when used as a noun, includes addition, deposit, emission or leak;

“**Document**” includes a sound recording, videotape, film, photograph, chart, graph, map, plan, survey, book of account and information recorded or stored by means of any device;

“**Double-walled Tank**” means a container with two complete shells providing both

primary and secondary containment.

**“Ecosystem”** means a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit;

**“Effluent”** means Waste water or other fluid of domestic agricultural trade or industrial origin, treated or untreated and discharged directly or indirectly into the Environment;

**“Element”** in relation to the Environment means any of the principal constituent parts of the Environment, including water, atmosphere, soil, vegetation, climate, sound, odour, aesthetics, fish and wildlife;

**“Environment”** means the physical factors of the surroundings of human beings, including land, water, atmosphere, climate, sound, odour, taste, the biological factors of animals and plants and the social factor of aesthetics, and includes both the natural and the built Environment;

**“Environmental Audit”** means the systematic, documented, periodic and objective evaluation of how well Environmental organisation, management and equipment are performing in conserving the Environment and its resources;

**“Environmental Consultant”** means a geologist certified by the American Institute of Professional Geologists (certified professional geologist), or a geologist registered by any state program (registered professional geologist), or a registered professional engineer, or an environmental professional working under the supervision of a registered professional engineer, or a certified professional geologist or a registered professional geologist, and who works for a firm that is independent of the owner/operator.

**“Environmental Easement”** means a court ordered easement as defined in Section 78;

**“Environmental Education”** includes the process of recognising values and clarifying concepts in order to develop skills and attitudes necessary to understand and appreciate the interrelatedness among a person, his or her culture and his or her biophysical surroundings;

**“Environmental Impact Assessment”** means a systematic examination conducted to determine whether or not a project will have any adverse impact on the Environment and prescribe mitigation measures;

**“Environmental Inspector”** means any Environmental Inspector designated under **section 85**;

**“Environmental Monitoring”** means the continuous determination of actual and potential effects of any activity or phenomenon on the Environment, whether

short term or long term;

“**Environmental Planning**” means both short-term and long-term planning that takes into account Environmental issues;

“**Environmental Resources**” means the resources of the air, land and water, including their aesthetical, cultural and archaeological qualities;

“**Environmental Restoration Order**” means an order provided for under section 73;

“**Environmentally Sensitive Area (ESA)**” means any area, including but not limited to, those wherein the environment is sensitive to external stress factors and processes that may ultimately transform it from its current state.

“**Environmentally Sensitive Areas**” or ESAs” means a portion of the environment designated as an environmentally sensitive area under **Chapter XIV** of the Bill;

“**Environmentally Sensitive Species**” or “ESSs” means any species of living plant or animal so designated under **Chapter XIV** this Bill;

“**Ex Situ**” means conservation outside the natural habitat of the biological organism;

“**Extensively damaged**” means that a vehicle has visible damage to, or is missing, or more of the following parts or components: wheels, engine or body;

“**Forest Reserve**” means any area set aside in accordance with the provisions of the Forestry Bill, for the purpose of conservation, protection and management of natural forests, its habitat and Environment and in which tree cutting and certain other activities of forest or its habitat and Environment are prohibited or controlled;

“**Forest**” mean any land containing a vegetation association dominated by trees of any size, whether exploitable or not, capable of producing wood or other products, potentially capable of influencing climate, exercising an influence on the soil, water regime, and providing habitat for wildlife, and includes woodlands;

“**Genetic Resources**” means genetic material of actual or potential value;

“**GoSS Environment Management Action Plan**” means the plan described in **section 28**;

“**GoSS**” means **Government of South Sudan** as stipulated in Article 159 of the ICSS;

“**Groundwater** “ means water found in the saturated zone underground; which completely fills the open spaces between particles of sediment and within rock formations.

“**Guidelines**” includes circulars issued by the Minister and the UnderSecretary;

“**Hazardous Substance**” means any chemical, Waste, gas, medicine, drug, plant, animal or micro-organism which is injurious to human health or the Environment;

“**Hazardous Waste**” means any Waste, which has been determined by the Ministry to be a hazardous waste;

“**Constitution**” means the Transitional Constitution of South Sudan, 2011;

“**In Situ**” means conservation within the natural ecosystem and habitat of the biological organism;

“**Inspection**” includes an audit, examination, survey, test and inquiry;

“**Junk vehicle**” means a vehicle that: (i) is ten years old or older;

“**Landowner**” means the legal owner of record of the property on which a junk vehicle is parked;

“**Law enforcement officer**” means any commissioned officer with state powers and jurisdiction.

“**Lead Agency**” means any national ministry, parastatal agency, or any other public office in which any law vests functions of control or management of any segment of the Environment and includes the Ministry;

“**Leak Detector**” means a device installed on the discharge side of a remote pump which is capable of interrupting product flow if there is a leak greater than or equal to three (3) gallons per hour at ten pounds per square inch of line pressure.

“**Leak**” means a loss from or gain to a UST/SST system of a specified volume of liquid/fluid per unit time as determined by a tank tightness test, visual inspection, a constant monitoring system or any other continuous monitoring system, inventory control, or other appropriate means.

“**Licensed surveyor**” means a person registered or certified by a govt. institution as a Land Surveyor;

“**Local Environmental Committee**” means a committee on the Environment appointed under **section 27** at the Local Government level;

“**Local Government**” means the level of government closest to the people within a State in South Sudan as provided under **Article 50 of the ICSS**;

“**Maintenance**” means the normal operational upkeep of an underground storage tank system necessary to prevent a release of product.

“**Minister**” means the national Minister responsible for the Environment;

“**Ministry**” means the national Ministry responsible for the Environment;

“**Mixture Containing Oil**” means a mixture with such Oil content as may be specified by the Minister or, if such Oil content is not specified, a mixture with an Oil content of one hundred parts or more in one million parts of the mixture;

“**Monitoring**” means a cased well with a screened interval that intercepts the water table and can be used to detect the presence of groundwater contamination.

“**Natural Resources**” means naturally occurring resources which can be transformed into productive goods and services which can contribute to national economic production;

“**Noise**” means any undesirable sound that is intrinsically objectionable or that can cause adverse effects on human health or the Environment;

“**Observation Well**” means a well other than a monitoring well that is typically located in a tank excavation or the collection sump of a secondary containment system.

“**Occupational Air Quality**” means the concentration prescribed under or pursuant to this Bill of a pollutant in the atmosphere within a structure or underground space in which human activities take place;

“**Occupier**” means a person in occupation or control of premises, and in relation to premises different parts of which are occupied by different persons, means the respective persons in occupation or control of each part;

“**Oil**” includes —

“**Operator**” means any person in control of or having responsibility for the daily operation of a facility.

“**Overfill Protection**” means a device that will restrict or stop the flow of fuel during a delivery or otherwise alert the transfer operator, before the tank reaches full capacity.

“**Overflow Tank**” means a tank used for temporary storage of substances in response to a leak, spill or other unplanned occurrence. This tank must be emptied expeditiously following use.

“**Owner/Operator**” means any owner and/or operator.

“**Owner**” in relation to any premises means—

“**Owner**” means any person who holds exclusive or joint title to or lawful possession of a facility or part of a facility.



“**Ozone Layer**” means the layer of the atmospheric zone above the plenary boundary layer as defined in the *Vienna Convention for the Protection of the Ozone Layer, 1985*;

“**Person**” includes a Local Government;

“**Person**” means an individual, trust, firm, joint stock company, corporation (including quasi-government corporation), partnership, or other unincorporated association, syndicate, governmental entity or subdivision thereof.

“**Petroleum Product**” means crude oil or any fractions thereof that is liquid at standard conditions of temperature and pressure and includes substances derived from crude oil including, but not limited to the following:

“**Pollutant**” includes any substance whether liquid, solid or gaseous which directly or indirectly—

“**Pollutant**” means any material or effluent which may alter the chemical, physical, biological, or radiological characteristics and/or integrity of water, soil, air or other environmental media including, but not limited to, dredge spoils, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, cellar dirt or industrial, municipal, agricultural, or other waste, petroleum or petroleum products, including but not limited to oil.

“**Polluter-pays Principle**” means that the cost of cleaning up any element of the environment damaged by pollution, compensating victims of pollution, cost of beneficial uses lost as a result of an act of Pollution and other costs that are connected with or incidental to the foregoing, is to be paid or borne by the person convicted of Pollution under this Bill or any other applicable law;

“**Pollution License**” means a pollution license issued under **section 65**;

“**Pollution**” means any direct or indirect alteration of the physical, thermal, chemical, biological or radioactive properties of any part of the Environment by discharging, emitting or depositing Wastes so as to affect any beneficial use adversely, to cause a condition which is hazardous or potentially hazardous to public health, safety or welfare, or to animals, birds, wildlife, fish or aquatic life, or to plants or to cause a contravention of any condition, limitation or restriction which is subject to a license under this Bill;

“**Practicable**” means capable of being effected or accomplished;

“**Precautionary Principle**” means the principle that where there are threats of damage to the Environment, whether serious or irreversible, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation;

“**Premises**” includes messuages, buildings, lands, and hereditaments in every tenure and machinery, plants, vehicles or vessels used in connection with any trade carried on at any premise;

“**Prescribed**” means prescribed by or under this Bill or continued in operation by this Bill or under regulations, standards and Guidelines made pursuant to this Bill;

“**President**” means the President of the Government of South Sudan;

“**Produced Water**” means water from an underground source that is brought to the surface as part of the process of exploration for or development of coal bed methane, Oil, natural gas, or any other substance to be used as an energy source;

“**Project Proponent**” means a person who is developing a project which is subject to an Environmental Impact Assessment process;

“**Project Proposal**” means a summary statement of the likely Environmental effects of a proposed development referred to in [section 29](#);

“**Project**” includes both project and policy that leads to projects with an impact on the Environment;

“**Proprietary Information**” means information relating to any manufacturing process, trade secret, trademark, copyright, patent or formula protected by law or by international treaties to which the Government of South Sudan is a party;

“**Protected Area**” means an area of land or of land and water, specifically protected for maintenance of Biological Diversity, and of natural and associated cultural resources, and managed through legal or other effective means;

“**Public official**” means any person who is elected or appointed to public office.

“**Radiation**” includes ionising radiations and any other radiation likely to have adverse effects on human health and the Environment;

“**Registered tow truck operator**” means a firm, partnership, tow operator, association or corporation licensed by the Federal Ministry of Interior, at the Dept. of Traffic to perform towing and storage duties who has entered into a contract and allowed to tow unauthorized vehicles from rights-of-way and who has entered into a subsequent contract to perform towing and storage services.

“**Regulations**” means regulations made pursuant to this Bill;

“**Release**” means any spilling, leaking, pumping, pouring, injecting, emitting, escaping, leaching, or disposing of any material stored in an underground storage tank system subject to these regulations into groundwater, surface water, soil, air or any other environmental media.

“**River**” includes stream and canal;

“**Segment**” in relation to the Environment means any portion or portions of the Environment expressed in terms of volume, space, area, quantity, quality or time or any combination thereof;

“**Septic Tank**” means a watertight receptacle which receives the discharge of sewage from a building sewer, and is designed and constructed to permit the deposition of settled solids, the digestion of the matter deposited, and the discharge of the liquid portion into a leaching system.

“**Soil**” includes earth, sand, rock, shale’s, minerals, vegetation, and the soil flora and fauna in the soil and derivatives thereof such as dust;

“**Standard**” means the limits of pollution established under Chapter VI of this Bill or under regulations made under this Bill or any other law;

“**Spill Containment Basin**” means a device installed in fill pipe manholes that prevents petroleum product or hazardous material spills from leaching into the soil and groundwater.

“**Spill**” means a loss of petroleum product or hazardous material in a manner other than a leak, occurring on the property where a facility is in operation, and such that the product or material is likely to enter groundwater, surface water, soil, air or any other environmental media and shall be considered a release from a facility.

“**State Environment Action Plan**” means the Environment Action Plan of a State;

“**State Minister**” means the state minister responsible for the Environment;

“**State Ministry**” means a State Ministry responsible for the Environment;

“**State**” refers to any of the ten states established by the Constitution;

“**Substance**” means any solid, liquid or gas, or any combination of any of them;

“**Sustainable Development**” means development that meets the needs of this generation and the future generations;

“**Surface Storage Tank (SST)**: means a storage tank that is 100 percent placed on the ground surface including all other associated components or parts

“**Surface Water**” means a body of water whose top surface is exposed to the atmosphere and includes all waters of the territorial sea, tidewaters, all inland waters of any river, stream, brook, pond, lake or wetlands.

“**Sustainable Use**” means present use which does not compromise the right to use the same resource by future generations;

“**Tank**” means a stationary device designed to contain petroleum products or other regulated substances and which is constructed of non-earthen materials that provide structural support and which is an underground storage tank.

“**Tightness Test**” means a test able to determine whether or not an underground storage tank, line or system is leaking. The test must be capable of accurately detecting a tank or a tank and line leak of at least 0.2 liters per hour, adjusted for all variables, with a probability of detection of no less than 95 percent and a probability of false detection of no more than 5 percent. Measurements recorded for each test shall be in accordance with manufacturer’s protocol. The test method must be approved by the Authority prior to use, and must be conducted by persons who have demonstrated the capability to properly conduct the test.

“**Trade**” means any trade, business or undertaking whether originally carried on at fixed premises or at varying places which results in the discharge of Waste and includes any activity prescribed to be a trade, business or undertaking for the purposes of this Bill;

“**Underground Storage Tank (UST)**” means any one or more underground tanks, whose volume is 10 percent or more beneath the surface of the ground, and their associated components, including piping, used to contain an accumulation of petroleum product or hazardous material. The system shall include piping whose volume is 10 percent or more beneath the surface of the ground.

“**Undersecretary**” means the Undersecretary of the Ministry;

“**Vehicle**” means but is not limited to, automobiles, motorcycles, trucks, buses, motorized recreational vehicles, campers, travel trailers, utility trailers, or other similar devices capable of moving or being moved on public right-of-way, and shall also include parts of vehicles, but shall not include farm machinery, prominently displayed ornamental machinery, devices designed to be moved by human or animal power, historic vehicles, or devices used exclusively upon stationary rails or tracks.

“**Waste Disposal Site**” means, place, site or space where waste is disposed of.

“**Waste Management System**” means any facilities or equipment used in, and

any operations carried out for, the management of waste including the collection, handling, transportation, storage, processing or disposal of Waste, and may include one or more Waste Disposal Sites;

**“Waste”** includes any matter prescribed to be Waste and any matter, whether liquid, solid, gaseous or radioactive, which is discharged, emitted or deposited in the Environment in such volume, composition or manner as to cause an alteration of the Environment;

**“Water”** includes drinking water, river, stream, watercourse, reservoir, well, dam, canal, channel, lake, swamp, ponds, pools, open drain, underground water;

**“Well Protection Area”** means the three-dimensional zone, surrounding a public well or wellfield.

**“Wetland”** means areas of marsh, peat land or water, whether natural or artificial, permanent or temporary, with fresh water that is static or flowing.

## Chapter Two

### THE GUIDING PRINCIPLES, GOALS AND OBJECTIVES

#### 6. The Guiding Principles

1. In accordance with *The Transitional Constitution, 2011*, Article (41) section (1), “Every person or community shall have the right to a clean and healthy environment”.
2. As provided for in section (2) quote “Every person shall have the obligation to protect the environment for the benefit of present and future generations”.
3. The government shall adhere to the other guiding principles as provided for in subsections (4) to (6).
4. The Ministry shall ensure that the principles of *The Rio Declaration on Environment and Development, 1992*, especially those set out in subsection(2), are observed.
5. Given their centrality to environmental protection and management, the following principles shall be observed—
  - (a) All human beings, living in the Republic of South Sudan, are at the centre of concerns for sustainable development and are entitled to a healthy and productive life in harmony with nature.
  - (b) In accordance with the Charter of the United Nations and the principles of international law, the Republic of South Sudan has the sovereign right to exploit its own resources pursuant to its own environmental and developmental policies, and the responsibility to ensure that activities within its jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.
  - (c) The Republic of South Sudan shall ensure that the right to development is fulfilled so as to equitably meet developmental and environmental needs of present and future generations.
  - (d) Environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it to ensure sustainability of development.

- (e) The Republic of South Sudan shall ensure that environmental issues are handled with the participation of all concerned citizens, at the three levels of the government – National, State and Local.
  - (f) In order to protect the environment, the Republic of South Sudan shall apply the precautionary approach according to its capabilities.
  - (g) The government of the Republic of South Sudan shall ensure that the polluter, in principle, bears the cost of pollution.
  - (h) Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority.
  - (i) Women have a vital role in environmental management and development. Their full participation is therefore essential to achieve sustainable development.
  - (j) The creativity, ideals and courage of the youth of the world should be mobilised to forge a global partnership in order to achieve sustainable development and ensure a better future for all.
  - (k) States and people shall cooperate in good faith and in a spirit of partnership in the fulfilment of the principles embodied in this Declaration and in the further development of international law in the field of sustainable development.
6. Any revenue generated by the government from the environment shall be used solely for protection, sustainability and regeneration of the environment in the Republic of South Sudan.

#### **7. The Goals and Objectives of the Bill**

1. The goal of this Bill is to ensure the protection, conservation and sustainable use of the environmental resources of the Republic of South Sudan without compromising the tenets of inter-generational equity.
2. The following are the objectives of the Bill:
  - (a) To develop laws, regulations, plans, programmes and guidelines to ensure sustainable management of the environment as well as the prudent utilization of natural resources;
  - (b) To integrate environmental considerations into the development policies, plans, and programmes at the government, community and private sector

levels;

- (c) To build the human and institutional capacities of the national Ministry, state institutions, the local government and all other stakeholders in the proper and effective management of the environment;
- (d) To promote effective environmental education, awareness-raising and encourage active participation of the public in the conservation and sustainable management of the environment;
- (e) To prevent environmental pollution and degradation and develop effective strategies for waste management and pollution control;
- (f) To adapt to and mitigate negative effects of climate change impacts;
- (g) To promote the green economy and create more jobs for the youth to reduce poverty throughout the country;
- (h) To establish mechanisms to promote partnership working and coordination, monitoring and evaluation of environmental strategies and programmes among the stakeholders;
- (i) To oversee implementation and enforcement of international, regional and domestic environmental laws and promote environmental rule of law in the Republic of South Sudan; and
- (j) To increase funding for environmental programmes at the national, state and local levels.



## Chapter Three

### GOVERNANCE OF THE ENVIRONMENT

#### 8. Environmental Governance Arrangements

1. In accordance with the provisions of Article (47) of *The Transitional Constitution, 2011*, the responsibilities for management of the environment shall be allocated to the three levels of the government, namely the National, State and Local government levels.
2. Other key non-governmental stakeholders shall perform duties related to and contribute towards the protection and management of the environment at the three levels.
3. All people living in the territory of the Republic of South Sudan shall perform their legal duties under this Bill and the Constitution.

#### 9. Establishment and the Functions of the Ministry of Environment

1. There shall be established a national institution to be called the Ministry of Environment, which shall hereafter be referred to as “the Ministry”.
2. The Ministry shall be led by a Minister under the direct supervision of the President of the Republic of South Sudan and the oversight of the National Legislative Assembly.
3. The Ministry shall –
  - (a) Develop environmental policies, laws, regulations, strategies and action plans for the Government of the Republic of South Sudan for the protection of the environment and sustainable development;
  - (b) Coordinate, monitor and evaluate implementation of environmental policies, laws, regulations, strategies and plans throughout the country;
  - (c) Design national environmental programmes, in collaboration with the states, other National Ministries, Commissions and independent institutions, and coordinate their implementation throughout the country;
  - (d) Set national environmental standards, including the standards for the conduct of environmental impact assessments, and ensure these standards are adhered to nationwide;

- (e) Manage the National Environment Protection Fund and mobilize additional funds from the Donor community for environmental projects throughout the Republic of South Sudan;
  - (f) Advise and support the ten states and local governments to fulfill their responsibilities for environment protection and build their capacity to assume all functions vested by the Constitution and National Government Policy;
  - (g) Monitor the state of the environment and produce a status report every five years and submit it to the Council of Ministers; the National Legislative Assembly and the National Legislative Council of the States
  - (h) Render the annual report of the Government to the Council of Ministers, the National legislative Assembly and the National Legislative Council of the States;
  - (i) Coordinate, cooperate and collaborate with the ten states, local governments, development partners and other countries;
  - (j) Represent the Republic of South Sudan in international, regional, sub-regional and other environmental conferences, fora, meetings and events;
  - (k) Ensure regional and international environmental agreements, conventions and protocols are implemented in the Republic of South Sudan; and
  - (l) Perform such other functions as are assigned under this Bill or any other law.
4. In accordance with Section xx of The Civil Service Act, 2011, the Ministry shall review and update its organisational structure, from time to time as it deems necessary. Such a review shall aim, among others, to strengthen the capacity of the Ministry to promote compliance with and enforcement of the Bill.

#### **10. The Role of the Lead Agencies**

Each Lead Agency shall perform the following functions:

- (a) Fulfil its public duty and protect the environment;

- (b) Draft a subsidiary legislation related to the segment of the environment assigned to it by law in consultation with the Ministry;
- (c) Oversee the implementation of the subsidiary legislation referred to in Sub-Section (b), above;
- (d) Contribute to the work of the National Environment Forum as a Member; and
- (e) Fulfil any other functions assigned to it by the Bill or any other laws.

#### **11. Establishment and Functions of the State Ministries Responsible for the Environment**

- (1) Every State shall establish a State Ministry responsible for the Environment, whether as an independent body or as part of another State Ministry.
- (2) The Ministry shall, in consultation with each of the States, provide guidelines for the establishment of a State Ministry responsible for the Environment for each State, referred to hereafter in this Bill as the State Ministry.
- (3) When established, the State Ministry responsible for the Environment shall perform the following functions-
  - (a) Implement national policies, laws, regulations, strategic plan and other national action plans for the protection of the environment and sustainable development;
  - (b) Enact environmental laws provided that such laws are compatible with the national laws;
  - (c) Coordinate implementation of national environmental programmes throughout the State;
  - (d) Ensure that the national environmental standards, including the standards for the conduct of environmental impact assessments, are adhered to by all the stakeholders in the State;
  - (e) Coordinate implementation of projects funded by the National Environment Protection Fund and the donors in the State and submit regular progress reports to the National Ministry;
  - (f) Protect areas designated as Natural Heritage Sites, National Parks and Game Reserves, National Conservation Forests, (conservation of wetlands and biodiversity and hills and mountains and theaters of conflicts);

- (g) Render an annual report on the environment in the State to the National Ministry of Environment to be able to compile and submit the annual report of the Government to the National Council of Ministers, the National legislative Assembly and the National Legislative Council of States;
- (h) Coordinate, cooperate and collaborate with the Ministry, local governments and development partners in the State on matters related to the environment;
- (i) Raise funds for environmental management programmes in the States; and
- (j) Perform any other functions assigned to it by this Bill or any other legislation.

## 12. Establishment and Functions of the Local Environment Departments

1. Each Local Government authority (whether a County, City Council under the leadership of a Mayor or a Municipality) shall, on the advice of the State, establish a Local Environment Department at the County, City Council or Municipality level.
2. In addition to the obligations created under *The Local Government Act, 2009*, the functions of the Local Environment Departments shall include the following—
  - (a) Implement national policies, laws, regulations, strategic plan and other national action plans for the protection of the environment and sustainable development at the local government level;
  - (b) Enact environmental laws provided that such laws are compatible with the national and State laws;
  - (c) Coordinate implementation of national and state environmental programmes throughout the different tiers of local government level;
  - (d) Ensure that the national environmental standards, including the standards for the conduct of environmental impact assessments, are adhered to by all the stakeholders at the local government level;
  - (e) Coordinate implementation of projects funded by the National Environment Protection Fund and the donors at the local level and submit regular progress reports to the National Ministry through the relevant State authorities;
  - (f) Protect areas designated as Natural Heritage Sites, National Reserve Parks, National Conservation Forests, (conservation of wetlands and biodiversity and

- hills and mountains and theaters of conflicts), which are in the Counties;
- (g) Render annual reports on the environment at the local government level to the States, which in turn, will submit their reports to the Ministry to compile and submit the annual report of the Government to the President, the National Council of Ministers, the National legislative Assembly and the National Legislative Council of States;
  - (h) Coordinate, cooperate and collaborate with the local stakeholders, including development partners, on matters related to the environment in the Counties;
  - (i) Ensure compliance of the people with the National and State environmental law (legislation); and
  - (j) Perform any other functions assigned to them by this Bill or the law.

### **13. Coordination, Monitoring and Evaluation**

1. The Ministry of Environment, at the national level of the government, is the overall body responsible for coordination, monitoring and evaluating implementation of The National Environment Policy, 2015-2025, The National Environment Bill, 2015, the Regulations and the Plans.
2. However, the Ministry shall be assisted to fulfil its co-ordination, monitoring and evaluation function at the three levels of the Government by the following structures -
  - a) National Environment Forum;
  - b) State Environment Forums; and
  - c) Local Environment Forums.
3. The Forums shall oversee the implementation of the environmental policy, laws, regulations and plans at the national, state and local government levels respectively.
4. The National Environment Forum shall –
  - (a) Oversee and evaluate implementation of the environmental policy, laws, regulations and plans all over the country;
  - (b) Analyse and debate the results of the annual and quarterly reports from the State Environment Forums;
  - (c) Make decisions on reports on the successes achieved, lessons learned and the obstacles faced in implementing the environmental policy, laws, regulations and plans;

- (d) Endorse proposals that may improve the effectiveness of the stakeholders in implementing the environmental policy, laws, regulations and plans;
- (e) Coordinate implementation of national environmental programmes;
- (f) Review recommendations of strategic environmental assessment reports on the state of the environment and the natural resource base; and
- (g) Review data from the National Environmental Resource Database and Information System (NERDIS), which shall be established by the Ministry for collection, compilation, dissemination of data that would help in decision-making and policy formulation; and
- (h) Offer advice to the Minister of Environment when it deems necessary.

5. The State Environment Forums shall -

- (a) Monitor implementation of the environmental policy, laws, regulations and plans at the State level;
- (b) Report to the National Environment Forum on a quarterly basis;
- (c) Disseminate the Policy to the stakeholders through the media and communities;
- (d) Submit annual reports on implementation of the Policy to the National Environment Forum;
- (e) Give an opinion on the successes gained, lessons learned and the obstacles faced in implementing the Policy to the National Environment Forum; and
- (f) Formulate proposals that may improve the effectiveness of the stakeholders in implementing the Policy and submit them to the National Environment Forum.

6. The Local Environment Forums shall-

- (a) Monitor and evaluate implementation of the environmental policy, laws, regulations and plans at the local government level;
- (b) Report to the State Environment Forums on a quarterly basis;
- (c) Disseminate the environmental policy, laws, regulations and plans to the stakeholders through the media and communities;
- (d) Submit annual reports on implementation of the environmental policy, laws, regulations and plans to the State Environment Forums; and

- (e) Give their opinions on the successes gained, lessons learned and the obstacles faced in implementing the environmental policy, laws, regulations and plans and make recommendations to the State Environment Forums.
7. The membership of the Environment Forums shall include representatives of the Lead Agencies, other key stakeholders to be determined by the Minister of Environment in consultation with the three levels of government, the private sector, development partners and the civil society.
  8. The National Environment Forum shall be chaired by the Minister and it shall work closely with the Environment Forums at the lower levels of the government to monitor the implementation of the environmental policy, laws, regulations and plans on regular basis.
  9. The Undersecretary of the Ministry, the Directors General of the State Ministries responsible for the environment and Directors responsible for the Local Environment Departments shall be the Secretaries for the National, State and Local Environment Forums respectively.

## Chapter Four

### MANAGEMENT OF NATURAL RESOURCES

#### 14. Duty to Protect Natural Resources

1. *It shall be the responsibility of the government to manage and protect the environment and the natural resources of the Republic of South Sudan and its citizens against pollution and other hazards.*
2. In accordance with Article (41) (3) of the Transitional Constitution, 2011, “*Every person shall have the right to have the environment protected for the benefit of present and future generations, through appropriate legislative action and other measures that:*
  - (a) *prevent pollution and ecological degradation;*
  - (b) *promote conservation; and*
  - (c) *secure ecologically sustainable development and use of natural resources while promoting rational economic and social development so as to protect genetic stability and bio-diversity”.*
3. In accordance with Article (46) (2) (h) of the Transitional Constitution, 2011, “*Every citizen shall protect the environment and conserve natural resources”.*
4. In line with Subsections (1) to (3), every person shall take reasonable steps to prevent or minimise any environmental harm that their actions may cause and to notify the Ministry, State Ministry responsible for the environment or the Local Environment Department of actual or threat of environmental harm.

#### 15. Management of Oil Resources

1. Petroleum operations in the Republic of South Sudan shall be conducted in a sustainable manner that shall not pollute or degrade the environment and shall be in accordance with the best regional and international environmental practices.
2. In the course of undertaking its functions, the national Ministry responsible for Petroleum shall take into consideration the following environmental safeguards -
  - (a) Ensure that The Petroleum Act, 2012, and any subsequent legal frameworks are fully implemented for the proper management of oil resources;
  - (b) Ensure compliance of oil companies in the implementation of Environmental Management Systems (EMS) and adherence to the relevant ISO;
  - (c) Ensure Oil companies contract authorized and accredited or registered



individuals or companies, in conducting environmental audits annually and to be reviewed by the ministry of environment;

- (d) Ensure Oil companies undertake restitution, rehabilitation and recovery programmes for the affected local communities as well as of the degraded environment attributable to their negligent operations; and
  - (e) Suspend any activity that may lead to or has resulted in lost of lives, personal injury, pollution, damage to property or environment or a negative effect on the livelihood of persons in the immediate vicinity of the oil operation.
3. Oil companies operating in the Republic of South Sudan shall compensate the local communities affected by the environmental hazards caused by their oil production operations according to the standards to be promulgated in the regulations by the Minister of Environment.
  4. The Ministry shall monitor implementation of the provisions of the Petroleum Act, 2012, related to the environment.
  5. Without prejudice to the provisions of section 55 (1) and (2) of the Petroleum Act, 2012, the Ministry reserves the right to suspend petroleum activities if the Ministry responsible for Petroleum fails to fulfill its legal responsibility.
  6. The Ministry, in collaboration with the Ministry responsible for Petroleum, shall ensure all oil companies operating in the Republic of South Sudan pay the pollution fee on annual basis and the revenue shall be paid into the National Environment Fund.
  7. The establishment of petrol stations and their associated USTs in residential areas are hereby prohibited. The establishment of Petrol stations shall require an environmental permit from the Ministry and this shall be granted only after satisfying the requirement for Environmental Impact Assessment and the associated Environment Management Plan.
  8. The petrol stations currently established in residential areas shall relocate to safer locations to be agreed with the Local Environmental Departments by January 2016.
  9. As contributors to polluting and degrading of the environment, petrol stations shall pay a pollution fee on annual basis.
  10. The Ministry responsible for Petroleum shall draft petroleum regulations in consultation with the Ministry.

#### **16. Management of Mineral Resources**

1. Mineral resources of the Republic of South Sudan shall be exploited in an environmentally sustainable manner and in accordance with international best practice

and the law.

2. The Ministry responsible for mining shall ensure The Mining Act, 2012, is effectively implemented.
3. The Ministry shall ensure that a comprehensive Environmental Impact Assessment (EIA) is conducted prior to any mineral exploration and exploitation project.
4. The Ministry responsible for mining shall set adequate provisions for restoration and rehabilitation of all areas affected or the landscape disfigured by mineral extraction operations and quarrying activities.
5. The Ministry, in collaboration with the Ministries responsible for mining and health, shall regulate the use of Mercury in the course of taking measures to implement **The Minamata Convention, 2013**.

#### 17. Management of Agricultural Land

1. The Ministry, in collaboration with the national ministry responsible for agriculture , shall promote sustainable agriculture practices to protect the environment.
2. The national ministry responsible for agriculture, in consultation with the Ministry, shall draft subsidiary legislation related to agriculture in the Republic of South Sudan.
3. The Ministry, in collaboration with other relevant government agencies, shall ensure sustainable land use planning and zoning to prevent conversion of specific land use to other uses that have negative impacts on the environment.
4. The Ministry, in collaboration with other relevant government agencies, shall promote integrated pest management and use of organic fertilizers to reduce degradation of the environment.
5. Mechanized agricultural schemes shall be subject to Environmental and Social Impact Assessments prior to implementation and regular environmental audits during the implementation in accordance with this Bill.

#### 18. Management of Forest and Tree Resources

1. No person, institution or business enterprise shall destroy a tree or a forestland.
2. No person, institution or business enterprise shall-
  - (a) Without the written consent of the Ministry-

- i. initiate any activities that are detrimental or injurious to plant life onto forest land or a designated mountain, river or nature reserve;
  - ii. let to graze any domestic animal on a natural heritage site or any other protected areas;
  - iii. damage, destroy or remove any forest produce on or from forestland or any reserve or be in possession of any forest produce so damaged, destroyed or removed;
  - iv. act negligently or maliciously in a manner which causes or is likely to cause soil erosion;
  - v. deposit or throw any rubbish, litter, article or any thing of a dangerous or offensive nature on any section of the environment
  - vi. introduce any alien or exotic plant or animal into any section of the environment;
  - vii. light a fire in any section of the environment without the written authorization;
  - viii. in any way interfere with any section of the environment or damage any feature there upon;
  - ix. Fraudulently designates any forest produce or affixes on any forest produce a mark used by state authorities to indicate that the forest produce has been legally obtained or that it may be lawfully cut or removed;
  - x. alters, obliterates, removes or defaces any stamp, mark, sign or permit used by local environment authorities;
  - xi. alters, obliterates, removes or defaces any stamp, mark or sign appearing on any forest produce;
  - xii. disguises himself/herself or acts as an impostor and wears any uniform, badge or other mark issued to be worn by a forest inspector, shall commit an offence authorization from the Department of Forestry.
3. Any person, institution or business enterprise that wishes to cut a tree shall apply to the Local Environment Department for permission in accordance with this Bill and the regulations.
4. The Local Environment Department shall approve or reject an application for a permission submitted to it in accordance with Subsection (2) to cut a tree or trees subject to the provisions of this Bill and the regulations.

5. Applications for removal or clearing of a forestland, for the purpose of agricultural, human settlement, road, airport or any other major development project, shall be submitted together with an Environmental Impact Assessment Report to the Ministry for approval.
6. All the three levels of the government shall be responsible for conservation of forests and trees.
7. Illegal logging, wanton cutting of trees or burning of forests or grass is hereby prohibited throughout the Republic of South Sudan and any acts contravening this provision shall be legal offences punishable by the law.
8. Individuals who stand trial for and are found guilty of illegal logging, wanton cutting of trees or burning of forests or grass shall be liable to:
  - a. A community service and shall plant and maintain 10 trees for each tree destroyed;
  - b. Pay a fine ranging from SSP 1000 to SSP 5,000,000 depending on the severity of the crime committed;
  - c. Be imprisoned for such a period ranging from 6 months to 10 years depending on the seriousness of their crime; and/or
  - d. the illegally acquired wood products shall be confiscated.
8. The national Ministry responsible for forestry, in consultation with the Ministry, shall draft subsidiary legislation governing forestry and related matters.
9. The Ministry and the Ministry responsible for forestry shall encourage voluntary planting of trees throughout the country, especially in those areas that need trees most.
10. The Ministry responsible for forestry and Ministry shall promote conservation of forests and shall take any measures they deem fit or necessary to protect the forests.
11. The Ministry shall enter into carbon trading agreements with any interested parties on behalf of the Republic of South Sudan, provided such agreements are endorsed by the National Council of Ministers.
12. The Ministry shall promote carbon trading in accordance with *The UN Framework Convention on Climate Change, The Kyoto Protocol* and any subsequent laws and reinvest the revenues from such trading in the protection and regeneration of the environment in the country.
13. The Ministry shall ensure that any revenues accruing from carbon trading are deposited

in the National Environment Fund and used, primarily, to fund a national tree planting programme.

14. No offense under subsection (1) shall be committed by the land owner, institution or business enterprise where he/it cuts or marks trees for the purpose of defining the boundaries of the land if-
  - (a) he/it has given prior written notice of his/its intention to the Local Environment Department; and
  - (b) no more damage is done to the trees than is necessary for the purpose.
15. The Ministry responsible for forestry, its line ministries in the States and the local authorities shall encourage all citizens to plant trees and to take part in tree planting campaigns.

## **19. Management of Wetlands, Rivers, Lakes and Other Water Resources**

1. The Nile River, all other rivers, wetlands, lakes, streams and other water resources in the territory of the Republic of South Sudan shall be protected natural assets and their use shall be regulated by law.
2. Subject to the provisions of this Bill, no person, institution or business enterprise shall, in relation to a lake, river or riverbank, stream or wetlands, carry out any of the following activities—
  - (a) Use, erect, reconstruct, place, alter, extend, remove or demolish any structure or part of any structure in, on, under or over the bed;
  - (b) Excavate, drill, tunnel or disturb the bed otherwise;
  - (c) Introduce or plant any part of or a whole plant, whether alien or indigenous, in a lake or a river;
  - (d) Introduce any animal, or a microorganism, whether alien or indigenous, in any lake, river, riverbank or wetland or on, in or under its bed;
  - (e) Deposit any substance in a lake, river, riverbank or wetland or on or under its bed, if that substance would or is likely to have adverse effects on the environment;
  - (f) Divert or block any lake, river or wetland from its natural course or normal course;
  - (g) Reclaim or drain any lake, river or wetland; or

- (h) Destroy, damage or disturb any lake, river, riverbanks or wetland in a manner that has or is likely to have an adverse effect on any plant or animal or its habitat.
3. The Ministry, in consultation with the national ministry responsible for water resources and other key stakeholders, shall develop a national policy and plan for protection and management of wetlands in the Republic of South Sudan.
  4. The Minister shall promulgate regulations to prohibit establishment of human settlements or any other developmental activities undertaken within and along the banks of rivers, streams and other water bodies.
  5. The Ministry, in cooperation with the Ministries responsible for water resources and agriculture, shall ensure the development of buffer zones between irrigation schemes and natural water bodies to ease drainage.
  6. All major infrastructural projects, such as construction of dams, canals and dykes before development shall require comprehensive Environmental Impact Assessments (EIAs) prior to their commencement in accordance with this Bill.
  7. The Ministry, in consultation with the ministry responsible for water resources, the national agency responsible for water supply and other key stakeholders, shall establish regulatory systems and benchmarks for the monitoring and upholding of water quality and ensure compliance with established standards.
  8. The Minister shall declare a lake, shore, wetland, river, or riverbank as an "*Environmentally Sensitive Area (ESA)*" to be protected, and impose such restrictions as he/she considers necessary, in order to protect the lake, shore, wetlands, river, and riverbank from environmental degradation.
  9. In declaring a lakeshore, wetland, or riverbank an ESA to be protected, the Minister shall take into consideration the following factors—
    - (a) The geographical size of the lake shore, stream, wetland, river, or river bank; and
    - (b) The interests of the local communities resident around the lakeshore, wetland, river, or riverbank concerned.
  10. The Minister, may issue general and specific orders, regulations or standards for the management of lakes, wetlands, rivers, riverbanks, or issue such orders, regulations or standards that shall include management, protection, or conservation measures in respect of any area at risk of environmental degradation.
  11. The the ministry responsible for water resources, in consultation with the Ministry, shall draft subsidiary legislation for the management of the environment of the Nile

River, all other rivers, lakes, streams and other water resources

12. The subsidiary legislation shall provide for—
  - (a) The development of an overall environmental management plan for rivers, lakes, streams and wetlands, taking into account the relevant sectoral interests;
  - (b) Measures for the prevention or control of erosion;
  - (c) contingency plans for the prevention and control of all deliberate and accidental discharge of pollutants into lakes or rivers;
  - (d) plans for the protection of wetlands;
  - (e) the regulations of harvesting of aquatic living and non-living resources to ensure optimum sustainable yield;
  - (f) promotion of environmentally-friendly tourism;and
  - (g) the management of biological resources.
13. The national Ministry responsible for water resources and the ministry shall implement the relevant international, regional and sub-regional MEAs.
14. The State Ministries responsible for the environment and the Local Environment Departments shall promote the active participation of local communities in the protection and management of water resources.
15. Any person who contravenes or fails to comply with any orders, regulations or standards issued under this section shall be guilty of an offence.
16. No person shall as per the provisions of this Bill (subsection 1) be allowed to develop a property or construct a facility that would otherwise hinder the natural flow of a river, a stream, a wetland or a lake or disturb its natural state.
17. All persons shall be required by the provisions of this Bill to maintain a distance ranging from 100 metres to 1000 metres from the banks of a river, stream, lake or a river bed as a buffer zone so as to ensure its natural flow.
18. Any person, institution or business enterprise who constructs, or whose property may significantly stop, alter and change the natural course of a river or stream shall be required by the provisions of this Bill in subsection (1) to:
  - (a) Stop any further construction activities; and

(b) Be compensated by the state institution responsible for land lease or acquisition.

20. The State Ministries responsible for the environment and the Local Environment Departments shall protect river-banks, inter alia, by prohibiting sand harvesting close to the banks and in vegetated watershed areas.

#### **20. Land Use Planning**

1. Land use shall be planned properly to ensure environmental protection and sustainability.
2. The Ministry responsible for Lands, Housing and Physical Planning and the Land Commission, in consultation with the Ministry, shall review and update the subsidiary legislations related to lands, housing and physical planning.
3. The Ministry responsible for Lands, Housing and Physical Planning shall ensure each city, town or village has a proper plan for land use. Such land use plans shall be presented to the Ministry for scrutiny of the environmental aspects of the plans and 'No Objection' before it grants its approval for implementation of the land use plans.
4. The Ministry, the State Ministries responsible for the environment and Local Environment Departments shall be responsible for monitoring the implementation of any land use plans prepared in accordance with this section to ensure compliance with the Bill.

#### **21. Management of Land for Human Settlements**

1. The Ministry responsible for Lands, Housing and Physical Planning shall ensure each city, town or village has a proper plan for human settlement and grant approval for implementation of the plans.
2. The Ministry shall develop environmental safeguards for any development and land use planning based on the zoning specifications or the approved land use for a given area issued for such a development within the jurisdiction of the relevant authority in the state.
3. The Ministry shall ensure Environmental and Social Impact Assessments (ESIA) are conducted prior to implementation of projects in accordance with this Bill.
4. The Ministry shall ensure Environmental Audits are conducted in relation to Physical Infrastructure, health, education, and other service projects.



## **22. Management of Land for Roads, Bridges and Airports**

1. The Ministry and the national Ministry responsible for roads, bridges and airports shall balance the need for roads, bridges and airports with the requirement to ensure sustainable development at all times and throughout the country.
2. The Ministry shall ensure that a comprehensive Environmental Impact Assessment (EIA) is conducted prior to implementation of any road, bridge or airport development project.
3. The Ministry shall ensure that airports, their fuel storage tanks and any life-endangering goods, or infrastructures are situated far away from residential areas.

## **23. Management of Land for Trade and Industry**

1. The Ministry, in collaboration with the national ministry responsible for trade and industry and the national ministry responsible for physical planning, shall –
  - (a) Ensure that town, city and village master plans include designated areas for trade as well as industrial zones;
  - (b) Ensure that the areas allocated for industries and trade are at a reasonable distance from residential areas;
  - (c) Develop environmental risk assessment guidelines and quality standards to ensure that industrial and commercial operations do not degrade the environment and the natural resources.
2. The Minister shall promulgate regulations prohibiting the establishment of car servicing points or garages within residential areas.
3. The industries shall comply with the prevailing environmental and health safeguards for the safety of workers and the local community in the surrounding areas by ensuring adherence to appropriate occupational health requirements at the workplace.

## **24. Management of Land for Parks, Gardens and Open Spaces**

1. The national Ministry responsible for physical planning shall ensure that its line ministries in the states include land for communal or public parks, gardens and open spaces, including those for sports and recreational activities, in the master plans for cities, towns and villages before approving such plans for implementation.
2. The national Ministry responsible for physical planning shall collaborate with the line ministries in the states to conduct assessment of needs and identify opportunities for

the provision of open spaces for sports and recreational facilities.

3. The Ministry shall support urban renaissance by providing well-managed and maintained open and green spaces (gardens and parks) that are attractive, clean and safe and which act as 'green lungs' in improving air quality.
4. The state Ministries responsible for physical planning shall support rural renewal by providing recreational opportunities in rural areas, thereby contributing to the quality of life and wellbeing of people in the rural areas.
5. The state Ministries responsible for physical planning shall , ensure that open spaces, sports and recreational facilities are accessible and fulfill technical and environmental requirements and standards.
6. The Ministry shall scrutinise the master plans for cities, towns and villages and, once satisfied, grant a letter of 'No Objection' to the national Ministry responsible for physical planning to grant approval for implementation of the master plans.

## **25. Management of Livestock and Animal Resources**

1. The national Ministry responsible for livestock and animal resources, in consultation with the Ministry and other key stakeholders, shall draft a subsidiary legislation to promote sustainable management of livestock and animal resources in the Republic of South Sudan.
2. The national Ministry responsible for livestock and animal resources shall implement the relevant international, regional and sub-regional MEAs.
3. The national Ministry responsible for livestock and animal resources, it's line ministries in the states and the local government shall develop a national policy, a strategic plan and programmes for livestock management based on consideration of the specific climates, terrains, and ecosystems particularly in relation to seasonal grazing patterns and the quantity of available water.
4. The state ministries responsible for livestock and animal resources and the local governments shall promote the rotational grazing of livestock populations on the range land in order to reduce the risks of soil compaction and erosion.
5. The state ministries responsible for livestock and animal resources and the local governments shall promote sustainable management of rangelands and pastures through integrated range management practices.

## **26. Management of Fisheries Resources**

1. The national Ministry responsible for fisheries resources, in consultation with the Ministry and other key stakeholders, shall draft a subsidiary legislation to promote

sustainable management of fisheries resources in the Republic of South Sudan.

2. The national Ministry responsible for fisheries resources shall implement the relevant international, regional and sub-regional MEAs.
3. The states and the local governments shall protect fishing communities as well as fish habitats against both encroachment and pollution.
4. The states and the local governments shall promote and strengthen community participation in the decision-making processes and planning, management and conservation of aquatic ecosystems.
5. The states and the local governments shall establish effective systems and mechanisms to ensure that fish harvest and exploitation are on sustainable yield basis.

## **27. Conservation of Wildlife**

1. The Ministry and the relevant government agencies shall ensure protection of habitats and ecosystems to preserve rare species and biodiversity of fauna and flora in the Republic of South Sudan.
2. The Ministry and the relevant government agencies shall promote eco-tourism that is environmentally friendly and offers pro-poor livelihood opportunities for communities living close to the protected areas.
3. It shall be a legal offence for an individual, institution or a business enterprise to kill an endangered or rare species of wildlife, such as an elephant, a rhinoceros, a hippopotamus, a giraffe, a buffalo, or a crocodile.
4. Any individual, institution or business enterprise that contravenes Subsection (3) shall, upon conviction by a court, be -
  - (a) Ordered to pay a fine not less than SSP 100,000 and not exceeding SSP 300,000 for each endangered species killed; or
  - (b) Sentenced to life imprisonment.
5. In addition to the penalties prescribed in Subsection (4), the court shall confiscate any wildlife product found in possession of the convict.
6. The national Ministry responsible for wildlife, in consultation with the Ministry and other key stakeholders, shall draft a subsidiary legislation to promote sustainable management of livestock and animal resources in the Republic of South Sudan.
7. The national Ministry responsible for wildlife shall implement the relevant international, regional and sub-regional MEAs.

8. The Ministry and the relevant government agencies shall review existing penalties relating to wildlife crimes regularly and recommend stringent penalties to deter poaching of rare or endangered wildlife species.

## **28. Conservation of Biological Diversity**

1. The Ministry, in collaboration with the relevant national ministries and the state ministries responsible for the environment, shall develop and implement a national biodiversity strategy and action plan for the Republic of South Sudan.
2. The Ministry shall promote coordination, cooperation and participation of all relevant stakeholders in conservation and sustainable use of biodiversity across all sectors of the economy.
3. The Ministry shall promote national integrated approaches for conservation and sustainable use of biodiversity and protection of aquatic ecosystems and life.
4. The Ministry and the relevant government agencies shall implement the international, regional and sub-regional MEAs related to biodiversity.
5. The Ministry and the relevant government agencies shall ensure that the benefits of biodiversity conservation and sustainable use are shared with local communities and stakeholders.
6. The Minister shall promulgate biodiversity regulations where the introduction of invasive and alien species shall be prohibited under this Bill and, where such species are available, they shall be managed and controlled properly to avoid adverse impacts on the local environment.
7. The Ministry shall promote conservation of biodiversity, among others, through establishment of botanical gardens, animal orphanage and others initiatives.
8. The relevant government agencies shall designate areas as Natural Heritage Sites, Game Reserve and National Parks, Conservation Forests, wetlands, hills and mountains etc of national and international importance for the purpose of conservation and protection of the environment.

## **29. Conservation of Hills, Mountains and Plateaus**

1. The hills, mountains and other distinct natural features or sites are conserved by this Bill.

2. No person, institution or business enterprise shall -
  - (a) Plant in a mountain or forest reserve or cause the reserve to be planted, otherwise with forest trees or crops not approved by the Forestry Department or the National Ministry responsible for Forestry;
  - (b) Cultivate in a mountain or forest reserve otherwise than in accordance with any directions that may be given by the authorised institution;
  - (c) Without the written Ministry or the authorised officer build any structure on a mountain or forest reserve; or
  - (d) conduct any quarrying or stone-breaking activities in a mountain or forest reserve without any legal documents, permit or authorization from the Ministry.
3. The Ministry and the State Ministries responsible for the Environment, with the assistance of the Local Environment Department, shall identify the hills, mountains, plateaus and other elevated terrains to be protected, especially those which are at risk of Environmental degradation, in the States.
4. A hill, mountain, plateau or valley is at risk of Environmental degradation if—
  - (a) It is prone to soil erosion;
  - (b) Land slides have occurred in such an area;
  - (c) Vegetation cover has been removed or is likely to be removed from the area at a rate faster than it is being replaced; or
  - (d) Any other land use activity in such an area is likely to lead to Environmental degradation.
5. Each State Ministry responsible for the Environment shall notify the Ministry of the hills, mountains, plateaus, valleys and other elevated landscape which have been identified including those deemed at risk of Environmental degradation.
6. The Ministry and the relevant government agencies shall regulate the use of such natural assets for the common good or benefit of the people of the Republic of South Sudan and prevent destruction of these valuable natural endowments.
7. The Ministry shall maintain a register of hills, mountains, plateaus, valleys and other elevated landscape including those at risk of Environmental degradation.
8. The States and the local authorities shall assign law enforcement officials to protect and regulate the designated hills, mountains and other distinct natural

assets from any destruction such as quarrying activities, deforestation and illegal hunting.

### 30. Environmentally Sensitive Areas

1. The Minister shall, by Notice, designate as an Environmentally Sensitive Area (ESA) any portion of the environment that is—
  - (a) The actual or prospective habitat of any environmentally sensitive species;
  - (b) Required to be protected for the purpose of meeting the government's international obligations under any of the global Multi-lateral Environmental Agreements; or
  - (c) An area that is referred to in any relevant laws.
2. The Minister shall designate an ESA on the basis of the best scientific data available and after taking into consideration the economic impact and any other relevant impact(s) of the designation.
3. Any person, institution or corporate body who or which knowingly or recklessly undertakes or conspires to allow any activity in an “*environmentally sensitive area*” or with respect to an “*environmentally sensitive species*” designated in this Bill, which may have an adverse impact on the environment within such area or on such species, commits an offense and is liable, on conviction on indictment, to a fine of up to one hundred thousand (SSP 100,000) South Sudanese Pounds and imprisonment for two years.

## Chapter Five

### CLIMATE CHANGE

#### 31. Adaptation and Mitigation

1. The Ministry shall coordinate the implementation of international legal instrument related to climate change and any related laws throughout the country.
2. The Ministry, in consultation with the Lead Agencies, shall formulate a climate change policy for the Republic of South Sudan.
3. The Ministry, in consultation with the Lead Agencies, shall develop a national strategy for climate change adaptation and mitigation.
4. The Ministry, in collaboration with the national ministry responsible for disaster management, shall support and coordinate efforts to reduce community vulnerability and enhance their resilience to climate change.
5. The Ministry, in collaboration with the Lead Agencies, shall promote research in and the use of renewable and alternative sources of energy (wind, solar, biogas, bio-fuels and hydropower).
6. The Ministry, in collaboration with the Lead Agencies, shall promote, in all production sectors, technologies and processes that use energy sources efficiently and sustainably.
7. The Ministry, in collaboration with the national ministry responsible for energy, shall promote the use of other sources of energy to reduce dependency on biomass.
8. The Ministry shall implement measures to reduce carbon emissions into the environment and promote the use of high-performance, low-noise, low-fuel consuming electric generators.
9. The Ministry, in conjunction with the Ministry responsible for finance, shall introduce and apply fiscal incentives to induce or encourage utilisation of renewable energy and clean technologies.

#### 32. Waste Management and Sanitation

1. The Ministry, in consultation with relevant government agencies, shall develop policies, regulations and guidelines in relation to sustainable management of waste and pollution control in the Republic of South Sudan.
2. The states and the local government shall promote and implement the Reduction,

Reuse, and Recycling (3R) Principle as well as the segregation and categorization of solid waste prior to disposal.

3. The states and the local government shall encourage private sector investment and public private partnership (PPP) in integrated sustainable waste management and pollution control.
4. The States and the local government shall develop a holistic and integrated strategy for the management of municipal, septic or pharmaceutical, electronic waste, industrial and hazardous wastes.
5. The States and the local government shall provide adequate and safe disposal systems for communal, industrial and hazardous wastes.
6. The Ministry shall be the national body in the Republic of South Sudan to grant approvals for import, export and movement of chemicals and wastes.
7. The local government shall be responsible for making provisions for proper collection, storage, recycling and disposal of waste, including used tyres, batteries, oils, and electronic wastes.
8. All industries operating in the Republic of South Sudan shall be responsible for management of all types of waste generated by their operations.
9. The local government shall encourage community participation in waste management and pollution control.
10. The Ministry, States and the local government shall put in place education and awareness programmes on waste management and recycling.
11. Each individual, public institution, private enterprise, and any other organisation that commits or allows others to commit an act that constitutes an environmental crime, such as littering, going to toilet or urinating in an open space, shall be subject to a fine ranging from SSP 100 to SSP 500.
12. The States and the local government shall prevent littering and ensure the provision of adequate and affordable waste collection and disposal facilities for all and public toilets.
13. All Business owners shall ensure that every individual eating in at a restaurant, café, hotel and other commercial venues pays a garbage fee together with their bill to contribute towards the costs of environmental services.
14. Every household, business enterprise, public institution, or any other organisation shall pay a garbage fee annually as a contribution towards the costs of garbage management.
15. Every household, business enterprise, public institution, or any other organisation that



generates liquid waste shall pay a pollution fee for liquid waste management.

16. The Ministry, the State Ministries and Local Environment Departments shall promote appropriate remedial technologies e.g. construction of sanitary landfills for disposal of solid wastes to minimize contamination of surface and sub-surface water.
17. Each individual, public institution, business enterprise or any other institution that owns or uses a vehicle, aircraft, steamer, motorboat or motorbike shall pay a pollution fee annually for each one, each according to its fuel consumption and frequency of use or movement;
  - (a) Impose a pollution fee for each imported vehicle, especially used vehicles (within the legal ceiling of six years old and under);
  - (b) Impose a pollution fee for each imported fossil fuel generator;
  - (c) Invest in urban water development projects and public sanitation facilities to ensure access to safe and clean drinking water and sanitation services for all;
  - (d) Impose environmental fee and charges either on products or services to ensure that the sales price fully reflects all costs of production to cover the costs of environmental services and abatement measures; and ).
  - (e) Develop liability and compensation schemes to ensure compensation for damage resulting from activities harmful to the environment.
17. Each individual, public institution, private enterprise, and any other organization using a fossil fuel generator shall pay a pollution fee or levy on annual basis into the National Environment Fund.
18. Each individual, public institution, private enterprise, and any other organization who owns and uses a vehicle, motorboat, aircraft or motorcycle shall pay a pollution fee or levy on annual basis into the National Environment Fund, each according to his/her/its fuel consumption and frequency of use or movement.
19. Each individual, public institution, private enterprise, and any other organization importing a vehicle, motorboat, aircraft or motorcycle shall pay a pollution fee or levy for each imported vehicle, especially used vehicles (within the legal ceiling of six years old and under).
20. The Ministry, state Ministries responsible for the Environment and Local Environment departments shall encourage the private sector to invest in waste management.
21. All individual living in or visiting the Republic of South Sudan shall pay an environmental waste management fee or levy to meet the costs of environmental protection and regeneration services.

22. All individuals who are importing solar energy equipment for domestic use, as a renewable source of energy, shall be exempted from payment of taxes.
23. The Ministry responsible for housing shall promote the construction of decentralized, low-cost “unconventional sewage systems”, for example septic tanks that are regularly emptied and so reduce water pollution due to improper discharge.
24. Each individual shall take his or her vehicle to an MOT testing centre approved by the Ministry for an annual MOT test and MOT Certificate, which shall be a requirement for registration of vehicles and annual renewal of vehicle license.
25. Each individual who owns a house or home shall keep their homes clean and free of any unwanted wild grass (inside and two metres outside) and any other waste.
26. The Ministry responsible for sanitation shall encourage the immediate establishment of decentralized on-site sewage systems in all urban centres of the Republic of South Sudan.
27. The Ministry and other relevant government agencies responsible for sanitation shall ensure the establishment of sewer lines and waste water treatment plants in all towns through out the country.

### **33. Offences Relating to Hazardous Waste, Materials, Chemicals and Radioactive Substances**

1. Any person who—
  - (a) Fails to manage any Hazardous Waste and materials, in accordance with this Bill;
  - (b) transports any Hazardous Waste into South Sudan contrary to this Bill;
  - (c) knowingly mislabels any Waste, pesticide, chemical, toxic substances or radioactive matter;
  - (d) fails to manage any chemical or radioactive substances in accordance with this Bill;
  - (e) disposes of any chemical or Hazardous Waste within The Republic of South Sudan contrary to this Bill;
  - (f) withholds information or provides false information about the management of Hazardous Waste, chemicals or radioactive substances;

- (g) withholds information about the management of Wastes, chemicals radioactive substances; or
  - (h) aids or abets the illegal traffic in Wastes, chemicals or radioactive substances, commits an offence and shall upon conviction be liable to a fine of not less than One Hundred Thousand (100,000 SSP) South Sudanese Pounds and not more than Three Million (3,000,000 SSP) South Sudanese Pounds or to imprisonment for a term not exceeding Five (5) years or both.
2. In addition to the penalty prescribed in subsection (1), a court may also withdraw the business license and/or closed down the business concerned and confiscate its assets.
  3. In addition to any sentence that the court may impose for an offense under paragraph (1)(e) above, an Environmental Restoration Order may also be ordered.

### 34. Pollution Prevention

1. It shall be an offense for any person to pollute or permit any other person to pollute the environment in violation of any standards prescribed under this Bill or any other laws regulating a segment of the environment.
2. The States and the local government shall implement the national legislations on prevention and control of environmental pollution and waste management as well as enact legislations that are compatible with the national laws in the Republic of South Sudan.
3. Smoking in Government institutions, hotels, restaurants, cinemas, theaters, public transport and any other public place is hereby banned under this Bill.
4. The Government of the Republic of South Sudan shall implement international and regional laws related to pollution control including the Bamako convention, Basel Convention and Rotterdam Convention.
5. The Ministry shall issue regulations to control the use, transportation and storage of fuels in the Republic of South Sudan.
6. Given that flaring of gas from the oil production contributes to climate change and causes air pollution, the Ministry and the Ministry of Petroleum and Mining shall ensure the practice is phased out by 2020 and introduce clean technologies for harvesting of gas.
7. Each individual found smoking in a public place shall be liable for payment of a fine of SSP 1000 or, in lieu of payment, one month imprisonment.

8. In accordance with the principle of the polluter pays, any individual, institution or business enterprise that uses a fossil fuel generator shall pay an annual pollution tax.
9. Any individual, institution or business enterprise that uses a vehicle, motorbike, motorboat, steamer, or aircraft shall pay an annual pollution tax, each according to its fuel consumption and frequency of use or movement.
10. Project proponents shall pay for environmental impact assessments and environmental audits of their projects as well as for the review of environmental assessments and audits by the Ministry.

### 35. Offenses Relating to Environmental Pollution

For the purposes of this Bill, requirements shall be made upon a person, institutions or corporate bodies to—

- (a) register sources from which pollutants may be released into the environment;
- (b) comply with the procedures and standards with respect to permits or license required for any person, institutions or corporate bodies to install or operate any process or source from which pollutants will be or may continue to be released into the environment;
- (c) provide in a timely manner complete and accurate information in any required submission to or communication with the Ministry or in response to any inspection or request for information by the Ministry;
- (d) refrain from any unauthorized activities impacting on the environment in an “*environmentally sensitive area*” or with respect to an “*environmentally endangered species*”;
- (e) comply with the performance standards, procedures, licensing or permitting requirements established for the handling of hazardous substances;
- (f) apply for and obtain an Environmental Impact Assessment Certificate;
- (g) comply with the conditions and mitigation measures in any such certificate;
- (h) comply with the procedures and standards with respect to the periodic or continual monitoring of pollution or releases of pollutants or conditions required under a permit or license;
- (i) provide timely and accurate notification with respect to an accidental or unauthorized release of a pollutant or other incident with respect to a hazardous substance;

- (j) control the release of pollutants in such a manner as to comply with an permit or license granted under sections 61,76,89,104;
- (k) submit timely payment of required fees or charges payable to the Ministry; and
- (l) comply with all other procedures, standards, programmes and requirements in such a manner as may be prescribed by Rules or Regulations.

### **36. Desertification**

1. The Ministry and the Ministry responsible for Forestry, in collaboration with the states and local government, shall implement the United Nations Convention on Combating Desertification (UNCCD) and other related laws.
2. The Ministry and the Ministry responsible for Forestry, in collaboration with the state ministries responsible for forestry and local government, shall promote and support agro-forestry and planting of wind-breakers along the common South Sudan- Sudan border, Eastern Upper Nile State, Eastern Jonglei State, Kapoeta East County, Kapoeta North County, and any other areas to reduce the effects of desertification.

### **37. Management of Natural Disasters**

1. The Ministry responsible for Disaster Management, in consultation with the Ministry, shall develop a national policy and strategy for disaster management to enhance resilience of local communities.
2. The Ministry responsible for Disaster Management shall coordinate implementation of the national disaster management policy and strategy in collaboration with the states and local government to enhance resilience of local communities.
3. The Ministry and the Ministry responsible for Lands and Physical Planning, in collaboration with the states and local government, shall promote resource management through proper land use planning to regulate and control the exploitation of natural resources in, especially, fragile ecosystems.
4. The Ministry, in collaboration with the states and local government, shall promote the establishment of meteorological monitoring stations to provide actual data for weather forecasting and other purposes.
5. The Ministry responsible for Disaster Management and the Ministry shall develop emergency preparedness, response and intervention plans prior to occurrence of natural disasters to enhance resilience of local communities.
6. The Ministry and the Ministry of responsible for Disaster Management shall develop digital maps and zones of flood-prone areas in South Sudan.

7. The Ministry and the Ministry responsible for Housing, in collaboration with the states and local government, shall reduce human settlements and any other anthropological activities in flood-prone zones.

### **38. Conflict and Environment**

1. The Ministry and the Ministry responsible for Disaster Management in collaboration with the relevant national ministries, the states and the local government shall address and mitigate the adverse environmental impacts of oil industry, illegal timber logging, charcoal production, declining rangelands and agricultural lands, water scarcity, poaching and grazing land that constitute potential triggers for renewed conflicts between and among various communities.
2. The Ministry, in collaboration with the relevant national ministries, the states and the local government, shall promote environmental awareness and strengthen environmental governance as a vital tool in conflict reduction, prevention, mitigation and resolution between and among local communities.
3. The Ministry in collaboration with the relevant national ministries, the states and the local government shall prevent environmental degradation, promote sustainable development and integrate natural resource assessment and management into the peace-building efforts in South Sudan.
4. The Ministry, the Ministry responsible for Disaster Management and the relevant commissions, in collaboration with the national ministries, the states and the local government, shall make the necessary arrangements for the resettlement of IDPs and refugees to prevent environmental degradation.

### **39. Ozone Layer Depletion**

1. The Ministry shall oversee and coordinate the implementation of international conventions related to Ozone depleting substances and Ozone layer protection and any other international laws in the Republic of South Sudan.
2. The Ministry, in collaboration with the relevant national ministries, the private sector, the states and the local government, shall promote the use of ozone-friendly technologies.
3. The Minister shall issue regulations banning the use of Ozone Depleting Substances (ODSs).
4. The Ministry shall formulate and implement a national management plan for phasing out of Hydrochlorofluorocarbons (HCFCs) and any other Ozone Depleting Substances in line with the Protocol targets.

5. The Ministry shall establish a licensing system for control of import and use of Ozone Depleting Substances.

#### 40. Renewable Energy

1. All government institutions at all levels, business enterprises, diplomatic missions, NGOs, other development agencies, other organizations and individuals shall phase out the use of fossil fuel generators and expeditiously shift to using renewable sources of energy as soon as possible and, in any event, not later than January 2020.
2. It shall be a legal offence for any government institution, business enterprise, diplomatic mission, NGO, other development agency, other organization or individual to operate a fossil fuel generator in the territory of the Republic of South Sudan as from January 2020.
3. If found guilty of the offence in subsection (2), a court shall:
  - (a) Order a government institution, business enterprise, diplomatic mission, NGO, other development agency, other organization to pay a fine not less than SSP 500,000 and not exceeding SSP 1,000,000.
  - (b) Order an individual to pay a fine not less than SSP 50,000 and not exceeding SSP 100,000 or imprisonment for a period not exceeding six months in lieu of the fine.
4. The Ministry, in consultation with the Ministry responsible for Finance and the Ministry responsible for customs shall exempt from taxes all government institutions that are importing renewable energy equipment or source for use as a renewable source of energy in the country.
5. The Ministry, in consultation with the Ministry responsible for Finance and the Ministry responsible for customs shall reduce taxes payable by business enterprises, NGOs, diplomatic missions and other development agencies for importing renewable energy equipment or sources.
6. The Ministry, in collaboration with the national ministries, state ministries responsible for the environment and the Local Environment Departments, shall encourage Green Economy initiatives to enhance low carbon and resource efficient economy as well as promote carbon sequestration.
7. The Ministry, in consultation with relevant National Ministries, shall Design environmental subsidies and incentives to stimulate development of new technologies to help create new markets for environmental goods and services.
8. The Ministry, in consultation with the Ministry responsible for Finance and the ministry

responsible for customs, shall reduce taxes on businesses that are importing solar energy equipment or other renewable energy equipments for sale or use as a renewable source of energy in the country.

9. All public institutions in the Republic of South Sudan shall incorporate environmental criteria into government purchasing requirements and decisions to provide incentives for suppliers.



## Chapter Six

### ENVIRONMENTAL RULE OF LAW

#### 41. National Environmental Legislation

1. The Ministry, as the competent national body responsible for the environment, shall provide leadership in developing and drafting of national legislations or regional or international agreements related to the environment.
2. The National environmental laws and regulations of the Republic of South Sudan shall:
  - (a) Implement the provisions related to the Environment in **The Transitional Constitution, 2011**, other domestic laws related to the environment and address environmental issues that are specific to the country;
  - (b) Respond to the global agenda and implement all the relevant global Multi-lateral Environmental Agreements to meet its obligations as a Member State of the United Nations;
  - (c) Implement the AU Convention and all other relevant regional Multi-lateral Environmental Agreements to meet its obligations as a Member State of the African Union;
  - (d) Domesticate the East African Community (EAC) **Protocol on Conservation of Nature and Management of Natural Resources**; and
  - (e) Implement the Sustainable Development Goals (SDGs).
3. Any amendments to this Bill shall be proposed by the national Minister of Environment.

#### 42. Regional Cooperation

1. The Ministry, in collaboration with other ministries, shall implement the relevant African Union (sponsored or endorsed) Multilateral Environment Agreements (MEAs) and other sub-regional agreements related to the environment;
2. The Minister shall network with the African Ministerial Conference on the Environment (AMCEN), among others, to:
  - (a) Provide advocacy for environmental protection in Africa;
  - (b) Ensure that basic human needs are met adequately and in a sustainable manner;
  - (c) Ensure that social and economic development is realized at all levels; and

- (d) Ensure that agricultural activities and practices meet the food security needs of the region.
3. The Ministry shall collaborate with the relevant ministries of the member states of the East African Community (EAC) to implement regional and sub-regional agreements, especially *The Protocol on Environment and Natural Resources Management*.
  4. The Ministry shall implement the agreements adopted within the framework of Inter-Governmental Authority on Development (IGAD) in collaboration with the member states.
  5. The Ministry and the Ministry responsible for water resources and other relevant national ministries shall implement environmental aspects of the regional accords such as the Nile Basin Initiative (NBI) and the International Conference of the Great Lakes Region (ICGLR).
  6. The Ministry, in collaboration with the Ministry responsible for Foreign Affairs and other relevant national ministries, shall promote trans-boundary cooperation to enhance management and peaceful utilisation of shared environmental resources.
  7. The Ministry shall develop and implement appropriate measures and procedures to prevent trans-boundary movement of hazardous, toxic and domestic wastes.
  8. The Ministry, through relevant government institutions, shall promote awareness on the regional conventions and other agreements adopted.

#### **43. International Multi-lateral Environmental Agreements**

1. The Ministry shall ensure that the Republic of South Sudan adhere to the global, regional and sub-regional Multilateral Environmental Agreements (MEAs).
2. The Ministry in collaboration with other national ministries, the states and the local government shall implement all the relevant global, regional and sub-regional Multilateral Environmental Agreements.
3. The Ministry shall produce and submit the country reports to the relevant global, regional and sub-regional multilateral environmental bodies.
4. The Ministry shall cooperate with the relevant global and regional bodies in order to implement all the relevant Multilateral Environment Agreements (MEAs).
5. The Ministry and other relevant national ministries shall work in collaboration with the relevant international and national institutions to implement the Sustainable

Development Goals (SDGs).

#### **44. Attainment of the Sustainable Development Goals**

1. The Ministry shall coordinate development of a national action plan for attainment of the Sustainable Development Goals when adopted.
2. The Ministry shall ensure that the national action plan is implemented by all the stakeholders and the Sustainable Development Goals are achieved.
3. The Ministry shall coordinate, monitor and review implementation of the national action plan and introduce new measures as it deems fit or necessary appropriate.
4. All the relevant national Ministries and other agencies, the States and local authorities shall avail the Minister all the necessary information related to activities undertaken to attain the SDGs on annual basis.
5. The Minister shall report to the President, the Council of Ministers and the National Legislative Assembly on the progress achieved in attainment of the SDGs.

#### **45. Registration of Environmental Consultants, Organisations and Companies**

1. The Ministry shall register all consultants, organisations and companies working in the fields of environment in the Republic of South Sudan.

It shall be an offence for a Consultant, organisation or company to operate in the field of environment in the Republic of South Sudan without registration.

2. The Ministry shall determine the criteria and procedures for registration of Consultants, organisations and companies.
3. The Ministry shall issue a certificate to each registered Consultant, organisation and company as a proof of registration.
4. The Ministry shall keep a comprehensive register of the Consultants, organisations and companies registered and operating in the field of environment in the country.
5. The Ministry shall ensure that environmental consultants, organisations and companies conduct their services in conformity with the national environment policy, this Bill and the regulations.
6. Each environmental Consultant, organisation and company shall pay a registration fee to the Ministry.

#### 46. Environmental Assessments, Audits and Monitoring

1. The Ministry shall develop Environmental assessment regulations and guidelines.
2. The Ministry shall ensure that any development project that requires Environmental Impact Assessment (EIA) undertakes such assessment prior to implementation of the development project concerned in accordance with this Bill.
3. Each project proponent shall conduct an initial environment examination (IEE) or full environmental and social impact assessment (ESIA) depending on the nature and environmental sensitivity of the project as per the schedule annexed to this Bill.
4. The Ministry shall ensure that any approved development activity conducts regular environmental audits and monitoring and submit its environmental audit reports to the Ministry.
5. All environmental assessments shall be undertaken by the proponents utilising the experts who are registered by the Ministry.
6. The Ministry shall ensure that the strategic Environmental Assessment is conducted for any policy, plans and programmes that have environmental implications covering all the sectors in the Republic of South Sudan.
7. The Ministry shall review all environmental assessments and issue permits, licenses and compliance certificates. The project proponents shall pay the fees to the Ministry for these services.
8. Any person, consultant, organisation or company that –
  - (a) Fails to submit a Project Proposal contrary to the requirements of section 46 of this Bill;
  - (b) Fails to submit an Environmental Impact Assessment report in accordance with the requirements of this Bill or regulations made thereunder;
  - (c) fraudulently makes a false statement in an Environmental Impact Assessment report submitted pursuant to the provisions of this Bill or any subsidiary legislation hereunder, commits an offence and be liable to a fine of not less than five thousand (5,000 SSP) South Sudanese Pounds and not more than Fifty Thousand (50,000 SSP) South Sudanese Pounds or to imprisonment for a term not exceeding six (6) months or both; and
  - (d) Repeats the offence of falsifying the records of an environmental assessment report shall pay a fine of not less than fifty thousand (50,000 SSP) South Sudanese Pounds and shall be disqualified and de-registered for a minimum period of five years.

9. All public sector institutions undertaking projects shall pay a fee for environmental impact assessments and environmental audits of their projects to the Ministry.

#### **47. Environmental Standards**

1. The Minister, in consultation with the Lead Agencies, shall establish a forum for inter-ministerial technical teams to set and review environmental standards for measurement of the quality of air, water, soil, noise, radiation, effluents and others.
2. Every person or institution, including the public sector, private sector, and other sectors, shall respect and adhere to the national environmental standards.
3. The Ministry shall ensure that the environmental standards are adhered to by all parties.

#### **48. Environmental Compliance and Enforcement**

1. The Ministry, with the support of the Minister of Justice and other relevant government agencies, shall enforce the implementation of this Bill.
2. The Ministry may delegate the power stipulated in section 41 (1) to the states, local government and/or law enforcement agencies in the country to ensure environmental compliance.
3. The Minister shall issue improvement orders to the parties that are non-compliant with this Bill as it deems fit or necessary.
4. The Ministry shall ensure that all sectoral activities are in compliance with the required environmental standards as provided for in this Bill and the regulations.
5. The Ministry, in collaboration with the Ministry responsible for Foreign Affairs and other relevant ministries, shall foster sub-regional, regional and international cooperation through bi-lateral or Multilateral environmental agreements on addressing trans-boundary and global environmental issues.
6. There shall be established Environmental Compliance and Enforcement Units as integral parts of the structure of the Ministry, the state ministries responsible for the Environment and the Local Environment Departments.
7. The Ministry, in collaboration with the Ministry of Justice, shall raise awareness of the public, NGOs, private sector, CBOs, international organisations and government institutions on the environmental laws.

8. The Ministry shall conduct regular environmental inspections of premises, vessels, motor vehicles, projects or any segment of the environment for the purposes of ensuring compliance with this Bill and the regulations.
9. Where environmental audits or regular inspections reveal non-compliance, the Minister shall issue Environmental Improvement Orders to the parties concerned to ensure the necessary corrective measures are taken.
10. All Environmental Inspectors shall conduct inspections and report to the Minister in accordance with the Bill.
11. Any person who—
  - (a) Hinders or obstructs an Environmental Inspector in the exercise of his/her duties under this Bill or regulations made thereunder;
  - (b) Fails to comply with a lawful order or requirement made by an Environmental Inspector under this law or any subsidiary legislation hereunder;
  - (c) Refuses an Environmental Inspector entry into any land or into any premises, vessel or motor vehicle which he is empowered to enter pursuant to the provisions of this Bill or any subsidiary legislation hereunder;
  - (d) Impersonates an Environmental Inspector;
  - (e) refuses an Environmental Inspector access to records or Documents kept pursuant to the provisions of this Bill or any subsidiary legislation hereunder;
  - (f) fails to state or wrongly state his name or address to an Environmental Inspector in the course of his duties pursuant to the provisions of this Bill or any subsidiary legislation hereunder;
  - (g) misleads or gives wrongful information to an Environmental Inspector pursuant to the provisions of this Bill or any subsidiary legislation hereunder; and
  - (h) fails, neglects or refuses to carry out an improvement order issued by the Minister under this Bill, commits an offense and shall, on conviction, be liable to a fine of not less than five thousand (5,000 SSP) South Sudanese Pounds and not more than Fifteen Thousand (15,000 SSP) South Sudanese pounds or to imprisonment for a term not exceeding three(6) months or both.

#### 49. Environmental Offenses and Penalties

1. The Ministry, in collaboration with the Ministry responsible for Justice and other relevant government institutions, shall investigate any allegations of environmental crimes and collect, collate and present the supporting evidence to a competent court of justice.
2. The Minister shall ensure that environmental cases that have substantial evidence to warrant prosecution are referred to the Minister of Justice, who is the prosecuting authority at the three levels of the government, for prosecution.
3. The Ministry responsible for Justice and the Judiciary of the Republic of South Sudan shall ensure that any fines from environmental cases settled in or outside a court of Justice are remitted or deposited into the National Environment Fund.
4. The Minister shall ensure that the Legal Advisors of the Ministry follow up all the outstanding environmental cases with the Ministry responsible for Justice.
5. The Ministry and the Ministry responsible for Justice shall arrange for witnesses to testify in courts in support of environmental legal cases.
6. Where a person goes to court on a matter of public interest related to an environmental concern or issue, a court is enjoined to refrain from imposing damages to pay compensation on account of loss suit.

#### 50. Notice of Violation of the Environment Bill

Where the Ministry reasonably believes that a person, institution or Corporate body is in violation of this Bill or any other regulation, the Minister shall serve a written notice of violation (hereinafter called “Notice”) on such a person, institution or corporate body, which shall include—

- (a) a request that the person, institution or corporate body make such modifications to the activity within a specified time, as may be required to allow the continuation of the activity; or
- (b) a summon to the person, institution or corporate body to make representations to the Ministry concerning the matters specified in the Notice within a specified time.
- (c) Where a matter specified in the Notice may be satisfactorily explained or otherwise resolved between the person and the Ministry, the Minister may cancel the Notice or dismiss the matter.

#### 51. Environment Restoration Orders

1. The Minister may issue an Environment Restoration Order where the person, institution or corporate body—
  - (b) Fails to make representations to the Ministry within the time specified in the Notice; or
  - (c) Is unable to resolve with the Ministry all matters specified in the Notice.
2. An Environmental Restoration Order by the Minister, where appropriate, shall -
  - (a) Specify details of the violation of one or more provisions of the Bill or environmental regulations;
  - (b) Direct the person, institution or corporate body to immediately cease and desist from the violation or specify a date for coming into compliance;
  - (c) Direct the person, institution or corporate body to immediately remedy any environmental conditions or damages to the environment arising out of the violation or specify a date by which such remedial activities shall be completed;
  - (d) Direct the person, institution or corporate body to undertake an investigation regarding any environmental circumstances or conditions within such person's, institution's or corporate body's responsibility or control, including any release of a pollutant into the environment or the handling of any hazardous substance;
  - (e) Direct the person, institution or corporate body to perform any monitoring or record-keeping activities, which may be required under Section 47;
  - (f) Include a proposed administrative civil assessment made by the Ministry; and/or
  - (g) Direct a person, institution or corporate body to comply with any other requirement under this Bill.
3. Directives contained in an Environmental Restoration Order served upon a person, institution or corporate body shall be deemed final and conclusive after the expiry of thirty (30) days, unless within such period the person—
  - (a) appeals to the Minister;
  - (b) obtains an extension of time from the Minister, which is confirmed in writing.
4. Any Environmental Restoration Order shall contain a notice advising of the matters in



Subsection(2).

5. For the purposes of this Bill, the Ministry, in collaboration with the Ministry responsible for Justice, shall make an administrative civil assessment of—
  - (a) Compensation for actual costs incurred by the Ministry to respond to environmental conditions or other circumstances arising out of the violation referenced in the Environmental Restoration Order;
  - (b) Compensation for damages to the environment associated with public lands or holdings which arise out of the violation referenced in the Environmental Restoration Order;
  - (c) Damages for any economic benefit or amount saved by a person, institution or business enterprise through failure to comply with applicable environmental requirements; and
  - (d) Damages for the failure of a person, institution or corporate body to comply with applicable environmental requirements, in an amount determined pursuant to Subsections (2) and (3).

## 52. Assessment of Environmental Damage

1. In determining the amount of any damages to be assessed under Subsections(1)(c) and (d), the Ministry shall take into account—
  - (a) the nature, circumstances, extent and gravity of the violation;
  - (b) any history of prior violations; and
  - (c) the degree of willfulness or culpability in committing the violation and any good faith efforts to co-operate with the Ministry.
2. In all investigations of environmental damages care shall be taken to ensure that the person who takes possession of evidence ensures continued possession.
3. The total amount of any damages under subsection(1)(d), shall not exceed—
  - (a) for an individual, five thousand South Sudanese Pounds (5,000 SSP) for each violation and, in the case of continuing or recurrent violation, five hundred South Sudanese Pounds (500 SSP) per day for each such instance until the violation is remedied or abated; or to imprisonment for a term not exceeding six (6) months or both; and
  - (b) for an institution or corporate body other than an individual, ten thousand

South Sudanese Pounds (10,000 SSP) for each violation and, in the case of continuing or recurrent violations, five thousand South Sudanese Pounds (5,000 SSP) per day for each such instance until the violation is remedied or abated.

- (a) Where a violation of this Bill and any environmental regulation has been committed by an institution or corporate body (*other than an individual*), any person who at the time of the violation was a director, manager, supervisor, partner, Chief Executive Officer, Managing Director or other similar officer or responsible individual, or who was purporting to act in such capacity, may be found individually liable for that violation if, having regard to the nature of his/her functions in that capacity, the resources within his/her control or discretion, and his/her reasonable ability to prevent the violation—
- a. The violation was committed with his/her direct consent or connivance; or
  - b. He or she, with knowledge, did not exercise reasonable diligence to prevent the commission of the violation.

### 53. Judicial Proceedings

1. Any legal cases arising from the provisions of this Bill shall be referred to a competent court within the Republic of South Sudan.
2. The Legal Procedures Act and any other national laws shall apply to any legal cases arising from this Bill and all parties involved in any legal case shall adhere to it.
3. Any decisions made on any legal cases by competent courts in the Republic of South Sudan shall be deemed to be final and binding unless one of the parties to a case appeals against the sentence of the court.

### 54. Immunity of Officials

No suit, prosecution or other legal proceeding may be brought against the Ministry and any of its staff, in their personal capacity, for any thing done in good faith under this Bill, the Regulations, other subsidiary legislations or standards made thereunder.

### 55. Appeals against Decisions of the Ministry

1. Unless otherwise expressly provided in this Bill—
  - (a) where this Bill empowers the Ministry to make a decision, the decision may be subject to appeal to the Minister, and the decision shall not be called into question by a court; and

- (b) nothing provided for in this section impairs a court in the exercise of its supervisory jurisdiction.
2. It is the prerogative of the Minister to accept or reject an appeal and give the reasons in writing.

#### **56. Forfeiture, Cancellation and other Orders**

1. The court before which a person is prosecuted for an offence against this Bill or any subsidiary legislation made hereunder may, in addition to any other order—
  - (a) Upon the conviction of the accused; or
  - (b) if it is satisfied that an offence was committed notwithstanding that no person has been convicted of the offence,  
  
order that the substance, equipment and appliance used in the commission of the offence be forfeited to GoSS and be disposed of as the court directs.
2. In making an order under subsection(1), the court may also order that the cost of disposing of the substance, equipment and appliance referred to in that subsection be borne by the accused.
3. The court may further order that any license, permit or other authorization given under this Bill and to which the offence relates be cancelled.
4. The Court may also order the Ministry to issue an Environmental Restoration Order against the accused in accordance with this Bill.

#### **57. Record-keeping, Inspection and Analysis**

1. Any person who carries on any activity which has or is likely to have a significant impact on the Environment and any person carrying out any other activity prescribed by the Ministry shall keep records relating to—
  - (a) The amount and type of Waste, by-products and emissions generated by the activity, or the amount of materials collected for recycling;
  - (b) The extent of his/her activities, indicating the economic value of the activity on the area covered, expressed in the monetary value of the product per year;
  - (c) The observable effects of the activity on the Environment;
  - (d) How far in the opinion of that person the provisions of this Bill have been

complied with; and

- (e) Pollution Licenses that may have been issued to them.
2. The records kept under subsection(1) shall be made available to an Environmental Inspector appointed under this Bill or to the State Ministry responsible for the environment or the Local Environment Department upon request.

#### **58. Transmission of Records to the Ministry**

1. The records kept under section 58, above shall be transmitted to the Ministry or its designated representative annually to be received not later than one month after the end of each calendar year.
2. The Ministry shall keep all the records transmitted under subsection (1).
3. The records transmitted to the Ministry shall be used as a basis for the preparation of the state of the Environment report required by section 186.

#### **59. Designation of Environmental Inspectors**

1. The Minister, subject to provisions of the Civil Service Act, 2011, shall designate a number of national Environmental Inspectors.
2. The Environmental Inspector must meet the rigorous training and educational requirements to be determined by the regulations in order to perform his/her duties in a professional manner.
3. The Environmental Inspectors shall report to the Minister, through the Undersecretary, their findings and concerns such that appropriate remedial actions are taken.

#### **60. Powers and Duties of Environmental Inspectors**

1. An Environmental Inspector may, in the performance of his/her duties under this Bill or any regulations made hereunder, at all reasonable times and without a warrant—
  - (a) Gather information used to determine their reliability of self-monitoring data and evaluating the compliance with permit conditions, applicable regulations and other requirement;
  - (b) Conduct inspection activities within the legal framework of this Bill, the regulations and conditions of specific licences or permits;
  - (c) Carry out periodic inspections of all establishments within the local limits

of his jurisdiction, which manufacture, produce as by-products, import, export, sell, distribute, or use any substances that are likely to have a significant impact on the Environment, to ensure that the provisions of this Bill are complied with;

- (e) Take samples of any article or substance to which this Bill relates and, as may be prescribed, submit the samples for tests and analyses;
  - (f) Recommend the closure of any manufacturing plant, or other activity which pollutes or is likely to pollute the Environment contrary to this Bill; and
  - (f) Recommend the issuance of an improvement notice requiring the owner or Operator of any manufacturing plant, vessel, motor vehicle or other establishment or undertaking to cease any activities deleterious to the environment and to take appropriate remedial measures, including the installation of new plant and machinery if necessary.
2. An Environmental Inspector may, at any time, install any equipment on any premises, machinery or vehicle for the purpose of monitoring compliance with this Bill.
  3. In order to affect the performance of his/her duties under this Chapter, the Environmental Inspector may be accompanied by members of the South Sudan Police Service depending upon the need and circumstances and with the assistance of a police officer, arrest any person whom he/she reasonably believes has committed an offence under this Bill.

#### **61. Procedure for Sample Analysis**

The Ministry shall, on the advice of the Lead Agency, prescribe the forms and the manner of which samples will be taken for analysis.

#### **62. Designation for Analytical and Reference Laboratories**

- i. The Ministry may designate as many laboratories as it deems necessary and fit to be analytical laboratories and reference laboratories for the purposes of this Bill.
- ii. A notice under subsection (1) shall specify the specific functions of the laboratory and the local limits or subject matter, which each laboratory shall serve.

#### **63. Designation for Reference Analysts**

1. The Ministry may, by notice, designate as many persons as deemed necessary and fit to

serve as Analysts and reference Analysts for the purposes of this Bill.

2. A notice under subsection (1) shall specify the specific functions, the subject matter and the local limits within which each analyst or reference analyst shall serve.

#### **64. Certificate for Analysis**

1. A laboratory designated as an analytical or reference laboratory under section 63 above shall issue a certificate of analysis of any substance submitted to it under this Bill.
2. The certificate of analysis shall state the methods of analysis followed and shall be signed by the Analyst or the reference Analyst, as the case may be.
3. A certificate complying with subsections (1) and (2) shall be sufficient evidence of the facts stated in the certificate for all purposes.

## Chapter Seven

### CAPACITY BUILDING

#### 65. Institutional Capacity Building

1. The Ministry shall build institutional capacity at the national, state and local government levels to ensure effective environmental governance;
2. The Ministry, with the support of the national government, shall provide financial and material resources for establishment and institutional capacity building of environmental governance institutions at the national, state and local levels of government; and
3. The Ministry shall provide advice and guidance to the State Ministries responsible for the environment.

#### 66. General Provisions on Human Capacity Building

1. The Ministry, in collaboration with relevant national ministries and development partners, shall provide training to build the human capacities of the national Ministries, State Ministries responsible for the environment and Local Environment Departments.
2. The Ministry, in collaboration with the relevant national ministries, shall provide training abroad for staff at the national and state levels.
3. The Ministry, in collaboration with the State Ministries responsible for the environment and the Local Environment Departments, shall strengthen the role of local communities in environmental management.

#### 67. Public Environmental Education

1. The Ministry, the Lead Agencies, the state ministries responsible for the environment and the Local Environment Departments shall build the capacity of their staff to enable them to promote environmental education and raise public awareness.
2. The Ministry, the Lead Agencies, the State Ministries responsible for the environment and Local Environment Departments shall build capacity of their staff to be able to promote indigenous knowledge and understanding in management of the environment.
3. The Ministry and the Ministry responsible for general education shall integrate environmental education in both formal and non-formal learning programmes as per

The National Curriculum and provide teacher training to ensure effective delivery of the environment component

#### **68. Development and Implementation of Environmental Laws, Regulations and Standards**

1. The Ministry, in collaboration with the Lead Agencies and development partners, shall provide training for staff to develop and monitor environmental laws, regulations and standards.
2. The Ministry, in collaboration with the Lead Agencies and development partners, shall develop sector-specific guidelines to promote best environmental practices.
3. The Ministry, in collaboration with the Ministry responsible for Justice, shall disseminate The National Environment Bill, 2015, and the Regulations to the key stakeholders at the three levels of the government to facilitate implementation of the Bill and Regulations.
4. The Ministry, in collaboration with the Ministry responsible for Justice, shall ensure that sector-based environmental legal frameworks are in conformity with this Bill.
5. The Ministry, in collaboration with the Ministry responsible for Justice, shall provide technical assistance to the State Ministries responsible for the environment and the Local Environment Departments to draft State and local environment bills and regulations and ensure their compatibility with the Bill.

#### **69. Environmental Planning, Management and Assessments**

1. The Ministry shall build the capacity of public officials at national, state and local levels on environmental planning, management and assessments.
2. The Ministry shall provide training on environmental assessments to ensure participation of the key stakeholders during the EIA process right from the initial planning stages of the project.
3. The Ministry shall provide training on compliance, implementation and enforcement of environmental legal frameworks or legislation.
4. The Ministry shall provide training in establishment and management of an Environmental Resource Database and Information System for collection, compilation and dissemination of data that would help in decision-making and policy formulation.

#### **70. Monitoring, Evaluation and Reporting**

1. The Ministry shall provide training on monitoring, evaluation and reporting to all the relevant personnel in the government institutions at the national, state and local levels prior to their involvement in implementation of the Policy, Bill, Regulations and Plans.



2. The Ministry shall establish common mechanisms for monitoring, evaluation and reporting on implementation of the Policy, Bill, Regulations and Plans.

#### **71. Capacity Building for the Non-governmental Stakeholders**

1. The Ministry shall provide training to the private sector, NGOs, CBOs and other non-governmental stakeholders on the Policy, Bill, Regulations and Plans to enable them to play an active role in their implementation and management of the environment.
2. The private sector, NGOs and civil society shall also take measures to build their own capacity to implement the Policy, Bill, Regulations and Plans and protection and sustainability of the environment.
3. The Ministry and the Lead Agencies shall build the capacity of their staff to promote partnership between environmental governance institutions, NGOs, CBOs and other stakeholders at the three levels of the government.

## Chapter Eight

# THE NATIONAL ENVIRONMENT FUND

### 72. Establishment of National Environment Fund

There is hereby established a trust fund, to be known as the National Environment Fund, whose management and control shall be vested, subject to this Bill, in the Minister as the trustee of the Fund and the National Council of Ministers as the oversight body.

### 73. Objectives of the Fund

The objectives of the fund shall be—

- (a) To rehabilitate degraded environment;
- (b) To clean up polluted environment;
- (c) To make grants to local authorities and states for the purpose of pursuing objectives (a) –(c) above in addition to other objectives stipulated below;
- (d) For the standardisation of environmental management services and the maintenance of high standards of quality in the provision of such services;
- (e) To finance or assist in financing the extension of environmental management services to under-serviced areas;
- (f) To promote or contribute towards research and development in the field of environmental management services;
- (g) To assist in training persons in the provision of environmental services;
- (h) To encourage and facilitate, for the benefit of South Sudan, the transfer of environmental management services technology from foreign providers of such technology;
- (i) To rehabilitate degraded environment;
- (j) To clean up polluted environment;
- (k) To promote public awareness of environmental management issues; and

- (l) Any other object which the Authority may determine by notice in a statutory instrument.

#### 74. Sources of Funding

1. The Fund shall consist of—
  - (a) environmental taxes, fines, fees, levies, revenue from carbon trading and other revenues;
  - (b) any moneys that may be payable to the Fund from moneys appropriated and approved by the National Legislative Assembly;
  - (c) any moneys that the Fund may obtain, with the approval of the Minister by way of donations, loans, or other financial assistance; and
  - (d) any moneys that may vest in or accrue to the Fund, whether in terms of this Bill or otherwise.
2. Without prejudice to the provisions of subsection (1), above, the Ministry may obtain additional funds from the following sources:
  - (a) Grants, donations and bequests from local or foreign bodies;
  - (b) Financial support from international donor agencies;
  - (c) Monies received for goods and services provided under this Bill; and
  - (d) Any other source that may be approved by the President.
3. The Ministry's main source of funding shall be through its annual budget, approved in accordance with the *Appropriation Act* and *The Public Finance Management and Accountability Act, 2010*.
  - (1) Each year, the Ministry shall prepare and submit for approval a budget proposal, in accordance with the GoSS budget process, for the following financial year. Such budget proposal shall be subject to review, revision and approval by the Assembly.

#### **75. Administration of the Fund**

1. Subject to this Bill, the Fund shall be administered in accordance with the directions of the Minister responsible for the environment and with the approval of the national Council of Ministers.
2. Upon approval of a request for funds made by the Minister to the Council of Ministers, the Council of Ministers shall direct the Minister responsible for Finance to release the approved money.
3. The State Ministries responsible for the environment shall ensure that all funds transferred to the states and, through the states, to the Local Environment Departments are spent on implementation of the approved projects and financial accountability reports are submitted to the Ministry.
4. The Minister shall be accountable to the Council of Ministers and shall render reports on the projects approved by the Council.

#### **76. Bank Accounts of the Fund**

- iii. The Ministry shall open and maintain bank accounts for the National Environment Fund.
- iv. All government agencies responsible for collection of environment revenue mentioned in subsection 72 (1) shall ensure that any money received by or on behalf of the Ministry is safely kept and deposited in a bank account as soon as possible.
- v. The Undersecretary shall ensure that no money is withdrawn from, or paid out of, any of the bank accounts of the Fund without proper authorisation.
- vi. The Undersecretary shall maintain proper books of accounts and records of all funds received and spent by the Ministry during the financial year.
- vii. The Undersecretary shall prepare and submit a financial report, not later than three months from the end of the previous financial year. The report shall include:
  - (a) a financial statement of income and expenditure during the financial year;
  - (b) a statement of assets and liabilities of the Authority for the financial year, prepared in accordance with generally accepted accounting principles, submitted to and audited by the Auditor-General; and,

(c) a Financial Audit Report.

#### 77. Auditing of the Fund

1. The financial year of the Fund shall be a period of twelve months commencing on the 1<sup>st</sup> of July each year and ending on the 31<sup>st</sup> June in the following year.
2. The Undersecretary of the Ministry shall ensure that—
  - (a) proper accounts and other records relating thereto are kept in relation to all the financial transactions of the Fund; and
  - (b) in respect of each financial year—
    - (i) a balance-sheet; and
    - (ii) a statement of the transactions referred to in paragraph (a) are prepared without undue delay.
3. The accounts of the Fund shall be audited by the National Audit Chamber.

#### 78. Annual and other Reports

1. In addition to the Financial Audit Report, required by section 99 above, within three (3) months after the end of each financial year, or such other period as designated by the Government in writing, the Undersecretary of the Ministry shall also prepare an Annual Report of its activities during that financial year.
2. The Annual Report shall, *inter alia*, include the following information:
  - (a) a copy of the auditor's report;
  - (b) a statement of financial performance and of cash flows, budget performance and balance sheet;
  - (c) a description of the activities of the Ministry during the previous year;
  - (d) an analysis of the extent to which it has met its objectives of the previous year;
  - (e) an evaluation as to the extent to which the advice and directives of the Ministry

have been complied with;

(f) its objectives for the coming year; and

(g) any recommendations on the matters governed by this Bill.

3. The Ministry shall publish and disseminate widely the Annual Report, along with its audited accounts.
4. The Minister shall submit to the President and the National Legislative Assembly the annual report and such other reports on the activities of the Ministry or any other matter that may from time to time be required.

#### **79. Environment Levy**

1. The Minister responsible for Environment may, by notice in a statutory instrument, impose an environment levy on any person, institution or business enterprise whose activities impact negatively on the environment.
2. In prescribing an environment levy in terms of subsection (1), the Minister responsible for the of the Environment shall prescribe—
  - (a) the persons responsible for the payment, collection and remittal of the levy;
  - (b) the manner in which and the times at which the levy shall be paid, collect ed and remitted;
  - (c) the basis upon which the levy shall be calculated;
  - (d) surcharges, interest and other amounts payable by way of penalty for non- payment or late payment of the levy; and
  - (e) the date from which it shall be collected.
3. The Minister responsible for Environment may, by proceedings in a Court, recover the amount of any environment levy which is due in terms of this section from any person required to pay the levy or to collect or remit the levy.
4. All amounts remitted or collected by way of environment levy, together with any surcharges, interest and other amounts payable in connection with such a levy, shall be paid into the National Environment Fund.



## Chapter Nine

### ENVIRONMENTAL PLANNING

#### 80. National Environmental Action Plan

- (1) In order to promote, facilitate and co-ordinate strategies, plans and activities relating to the environment and ensuring the protection and prudent management of South Sudan's environment, the Ministry shall prepare for the Government of the Republic of South Sudan a National Environmental Action Plan.
- (2) In preparing a National Environmental Action Plan, the Ministry shall—
  - (a) Consult the relevant national ministries and state ministries responsible for the environment; and
  - (b) Seek advice from any professional persons who, according to the Ministry, possess expert knowledge which is relevant to the preparation of the Plan.

#### 81. Scope of the National Environmental Action Plan

The National Environmental Action Plan, referred to in Section 78(1), shall include strategies and measures for the management, protection, restoration and restitution of the environment, including measures for:

- (a) The protection of ecological processes and natural systems as well as the preservation of biodiversity in South Sudan's natural environment;
- (b) The promotion of eco-centered development that seeks to balance between ecological sustenance and economic imperatives;
- (c) The prevention or mitigation of activities contributing to local as well as regional climatic change and the protection of the ozone layer;
- (b) The protection of South Sudan's natural environment from disturbance, disfigurement, pollution, poisoning or destruction as a result of anthropologically made structures, installations, processes or products;
- (c) The accession, domestication and implementation of international conventions and treaties to which the Republic of South Sudan is a party or signatory;
- (d) Ensuring integrated approaches and measures for the maintenance and improvement of the environment that are technically feasible, socially



equitable and economically affordable so as to enable good quality of life for the Republic of South Sudan; and

- (e) Sensitize and promote awareness on the prudent use of the Republic of South Sudan's natural resources for a stable intergenerational equity.

## **82. Confirmation of National Environmental Action Plan**

1. On completion of a National Environmental Action Plan, the Ministry shall—
  - (a) Consult the relevant national ministries, the state ministries responsible for the environment and other stakeholders;
  - (b) Present the Plan to the Council of Ministers prior to its presentation to the National Legislative Assembly;
  - (c) Upon approval by the National Legislative Assembly, the National Environment Action Plan shall be binding on all government institutions, the private sector and the people of the Republic of South Sudan and reviewed every five (5) years.
2. After carrying out such further consultations, the Ministry shall make necessary changes to the National Environmental Action Plan in the light of those further consultations.
3. The Ministry shall publish, launch and disseminate the National Action Plan to come into operation.

## **83. Changes on Operation of the National Environmental Action Plan**

1. If it appears to the Ministry that a National Environmental Action Plan that has come into operation in terms of Section 80 should be changed, the Ministry shall hold a consultation meeting with the relevant national ministries, state Ministries responsible for Environment and other key stakeholders.
2. After consulting with the key stakeholders, the Ministry shall confirm the proposed changes to the National Environmental Action Plan and the plan shall thereafter incorporate such changes.

## **84. Review and Replacement on Operation of the National Environmental Action Plan**

1. Not more than five years (5) after a National Environmental Action Plan has come into operation, or after such longer period as the Ministry may specify and there after at intervals of not more than five years, the Ministry shall review the National Environmental Action Plan and decide whether or not a new plan should be prepared.

2. The provisions of Sections 80 to 84 shall apply to the preparation of a new National Plan in terms of Subsection (1).
3. A National Environmental Action Plan shall cease to have effect on the date on which a new plan comes into operation in terms of section 45.

## Chapter Ten

### NATURAL HERITAGE

#### 85. General Protection of Natural Heritage

1. The Ministry, in collaboration with relevant National Ministries, shall implement *The Convention Concerning the Protection of the World Cultural and Natural Heritage* in the Republic of South Sudan.
2. In accordance with Article 46 of the Transitional Constitution, 2011, each South Sudanese citizen shall protect Natural Heritage of the country.

#### 86. Conservation of Natural Heritage Sites

- b. No individual, institution or business enterprise shall alter or demolish or encroach into a natural heritage site.
- c. Any individual, institution or business enterprise that violates the provision of section 84 (1) shall be subject to prosecution and if found guilty a court shall-
  - (b) order an institution or a business enterprise to pay a fine not less than SSP 1,000,000 and not exceeding SSP 5,000,000.
  - (c) Order an individual to pay a fine not less than SSP 100,000 and not exceeding SSP 1,000,000.
  - (d) Sentence an individual to not less than five years imprisonment.
  - (e) Order the closure of the institution or business enterprise concerned and confiscate its assets.

#### 87. Heritage Resources Management

1. Subject to the provisions of subsections 83 (2) and 84 (1), any person, institution or business enterprise who or which intends to undertake a development categorised as—
  - (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier;

- (b) the construction of a bridge or similar structure;
- (c) any development or other activity which will change the character of a site;
- (d) any other category of development provided for in regulations by the Minister;

must at the very earliest stages of initiating such a development, notify the Ministry and furnish it with details regarding the location, nature and extent of the proposed development.

2. The Undersecretary must, within twenty one (21) days of receipt of a notification, notify the Minister—
  - (a) If there is a reason to believe that heritage resources will be affected by such development, notify the project proponent (*person, institution or business enterprise*) who or which intends to undertake the development to submit an impact assessment report;
  - (b) Such a report must be compiled at the cost of the project proponent proposing the development, by a person or persons approved by the Ministry who have relevant qualifications and experience and professional standing in heritage resources management; or
  - (b) Notify the project proponent concerned that this section does not apply.
3. The Minister must specify the information to be provided in a report required in terms of subsection (2)(a) provided that the following must be included:
  - (a) The identification and mapping of all heritage resources in the area affected;
  - (b) An assessment of the significance of such resources in terms of the heritage assessment criteria set out by the Ministry;
  - (c) An assessment of the impact of the development on such heritage resources;
  - (d) An evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;
  - (e) The results of consultation with communities affected by the proposed

development and other interested parties regarding the impact of the development on heritage resources;

- (f) If heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and
  - (g) Plans for mitigation of any adverse effects during and after the completion of the proposed development.
4. The report must be considered timely by the Ministry which must, after consultation with the project proponent decide—
- (a) whether or not the development may proceed;
  - (b) any limitations or conditions to be applied to the development;
  - (c) what general protections in terms of this Bill apply, and what formal protections may be applied, to such heritage resources;
  - (d) whether compensatory action is required in respect of any heritage resources damaged or destroyed as a result of the development; and
  - (e) whether the appointment of specialists is required as a condition of approval of the proposal.
5. The Ministry shall not make any decision under subsection (4) with respect to any development which impacts on a heritage resource protected at national level.
6. The applicant may appeal against the decision of the Ministry to the Minister, which—
- (a) must consider the views of both parties;
  - (b) may at its discretion appoint a committee to undertake an independent review of the impact report and the decision of the Ministry; and
  - (c) must uphold, amend or overturn such decision.

### 88. Restitution of Heritage Objects

1. When a community or body with a genuine interest makes a claim for the restitution of either an immovable or movable heritage resource which is part of their cultural heritage and is held by or curated in a publicly funded institution, the institution concerned must enter into a process of negotiation with the claimants regarding the future of the resource.
2. The Minister may make regulations regarding the establishment of *bona fide* interest

in terms of subsection (1) and the conditions under which such claims may be made.

3. In the absence of an agreement on a heritage resource which is the subject of negotiations in terms of subsection (1), the claimants or the institution concerned may appeal to the Minister, who must, with due regard to subsection 5(4) and in a spirit of compromise—
  - (a) mediate between the parties concerned with the aim of finding a mutually satisfactory solution; and
  - (b) In the absence of agreement between the parties concerned, make a final decision on the future of the resource, including any conditions necessary to ensure its safety, the conditions of access of the claimants or the institution or any other interested party to the resource, or any other appropriate conditions.

## Chapter Eleven

# PROMOTION OF ACCESS TO INFORMATION, PUBLIC PARTICIPATION AND ACCESS TO JUSTICE

### 89. Access to Information

1. In accordance with the Constitution, all public institutions shall grant every citizen of the Republic of South Sudan affordable, effective and timely access to Environmental information held by public institutions upon request.
2. The Ministry shall ensure Environmental information in the public domain, including information about environmental quality, environmental impacts on health and factors that influence them, information about legislation and policy, and advice about how to obtain information, is compiled and made accessible to citizens.
3. The Ministry reserves the right to reject a request for environment information as per the provisions of the Freedom of Information.
4. The Ministry of Environment, in collaboration with other public authorities, shall regularly collect and update relevant environmental information, including information on environmental performance and compliance by operators of activities potentially affecting the environment.
5. The Ministry, in collaboration with other national institutions and the State Ministries responsible for the environment, shall eEstablish relevant systems to ensure an adequate flow of information about activities that may significantly affect the environment.
6. The Ministry shall prepare and disseminate up-to-date information on the state of the environment, including information on its quality and on pressures on the environment, every year.
7. The Ministry shall ensure that all information that would enable the public to take measures to prevent harm to human health or the environment is disseminated immediately in the event of an imminent threat.
8. The Ministry shall provide means for and encourage effective capacity-building, both among public authorities and the public, to facilitate effective access to environmental information.

## **90. Public Participation**

1. The Ministry, other national institutions, the State Ministries responsible for the environment and Local Environment Departments shall ensure opportunities for early and effective public participation in decision-making related to the environment and members of the public concerned are informed of their opportunities to participate at an early stage in the decision-making process.
2. All project proponents shall make efforts, as far as possible, to seek proactively public participation in a transparent and consultative manner, including efforts to ensure that members of the public concerned are given an adequate opportunity to express their views.
3. All project proponents shall ensure that all information relevant for decision-making related to the environment is made available, in an objective, understandable, timely and effective manner, to the members of the public concerned.
4. All project proponent shall ensure that due account is taken of the comments of the public in the decision-making process and that the decisions are made public.
5. All project proponents shall ensure that when a review process is carried out where previously unconsidered environmentally significant issues or circumstances have arisen, the public should be able to participate in any such review process to the extent that circumstances permit.
6. The Ministry, in collaboration with other national Ministries and the State Ministries responsible for the environment, shall consider appropriate ways of ensuring, at an appropriate stage, public input into the preparation of legally binding rules that might have a significant effect on the environment and into the preparation of policies, plans and programmes relating to the environment.
7. The Ministry, in collaboration with other national ministries, shall provide means for capacity-building, including environmental education and awareness-raising, to promote public participation in decision-making related to the environment.

## **91. Access to Justice**

1. Any South Sudanese citizen who considers that his or her request for environmental information has been unreasonably refused, ignored, or, in any other way, not handled in accordance with applicable law, shall have access to a review procedure before a court of law to challenge such a decision, act or omission by the public authority in question.
2. Any members of the public concerned shall have access to a court of law to challenge the substantive and procedural legality of any decision, act or omission relating to public participation in decision-making in environmental matters.



3. Any members of the public concerned shall have access to a court of law to challenge any decision, act or omission by public authorities or private actors that affects the environment or allegedly violates the substantive or procedural legal norms of the Republic of South Sudan related to the environment.
4. The Judiciary shall provide broad interpretation of standing in proceedings concerned with environmental matters with a view to achieving effective access to justice.
5. The Judiciary shall provide effective procedures for timely review by courts of law or other independent and impartial bodies, or administrative procedures, of issues relating to the implementation and enforcement of laws and decisions pertaining to the environment.
6. The Judiciary of the Republic of South Sudan shall ensure that proceedings are fair, open, transparent and equitable.
7. The Ministry of Justice shall ensure that the access of members of the public concerned to review procedures relating to the environment is not prohibitively expensive and should consider the establishment of appropriate assistance mechanisms to remove or reduce financial and other barriers to access to justice.
8. The Judiciary shall provide a framework for prompt, adequate and effective remedies in cases relating to the environment, such as interim and final injunctive relief.
9. The courts shall consider the use of compensation and restitution and other appropriate measures.
10. The Ministry of Justice shall ensure the timely and effective enforcement of decisions in environmental matters taken by courts of law, and by administrative and other relevant bodies.
11. The Ministry of Justice shall provide adequate information to the public about the procedures operated by courts of law and other relevant bodies in relation to environmental issues.
12. The Ministry shall ensure that decisions relating to the environment taken by a court of law, or other independent and impartial or administrative body, are publicly available, as appropriate and in accordance with national law.
13. The Ministry of Justice and the Judiciary of South Sudan shall promote appropriate

capacity-building programmes in environmental law for judicial officers, other legal professionals and other relevant stakeholders on a regular basis.

14. The Ministry of Justice and the Judiciary of South Sudan shall encourage the development and use of alternative dispute resolution mechanisms where these are appropriate.

## Chapter Eleven

### ENVIRONMENTAL EDUCATION AND AWARENESS CREATION

#### 92. Responsibilities for Environmental Education

1. The Ministry shall—
  - (a) Promote Environmental education and create public awareness at all levels
  - (b) Develop and coordinate implementation of a national environmental education programme at the national, state and local levels;
  - (c) Coordinate with the relevant national institutions, state ministries responsible for the environment and Local Environment Departments to promote environmental education throughout the country; and
  - (d) publish such other publications, as it considers necessary, for promoting public education on the Environment.
2. The Ministry responsible for information and broadcasting and its line ministries in the States shall actively promote environmental education and create public awareness.
3. All other public institutions shall promote environmental education within such institutions.
4. All national ministries responsible for specific sectors of the environment shall collaborate with the Ministry and actively support environmental education.

#### 93. Integration of Environmental Education into the National Curriculum

The Ministry, in collaboration with the ministry responsible for education, shall take all measures necessary for integrating environmental education into the National curriculum including:

- (a) Developing Environmental teaching materials initially for primary and secondary schools and eventually for all teachers; and
- (b) Making Environmental education mandatory in all formal institutions.

#### 94. Environmental Research

1. The Ministry, in collaboration with the ministry responsible for Higher Education, public universities and other public institutions, shall promote Environmental research and ensure it is funded, among other sources, through the National Environment Fund.
2. The Ministry and the Ministry responsible for Higher Education shall ensure that findings of such Environmental research projects referred to in subsection (1) are published and disseminated.

## Chapter Thirteen

### CORPORATE SOCIAL AND ENVIRONMENTAL RESPONSIBILITY

#### 95. Objectives

The objectives of corporate social and environmental responsibility are to:

- (a) Outline regulatory provisions for companies operating in South Sudan to adopt best practices that are environmentally sustainable, ethically acceptable and socially friendly;
- (b) produce and publish reports on environmental, social and economic and financial matters;
- (c) require companies during the conduction of an environmental impact assessment to consult the respective communities on certain proposed operations prior to project implementation;
- (d) hold companies operating in South Sudan liable for all damages incurred by third parties as well as obligate them for all compensation; and
- (e) provide for remedies for aggrieved persons;

#### 96. The Duties of the Private Sector

1. Among other duties, the Private Sector shall -
  - (a) Adhere to the environmental policy, laws and regulations of the Republic of South Sudan;
  - (b) Invest in the green economy and transfer of environment-friendly technologies;
  - (c) Fulfill their corporate social responsibility in the areas of their operation;
  - (d) Pay the environmental taxes, fees and charges on goods, works and services;
  - (e) Play an active and proactive role in protecting the environment and promoting sustainable development; and
  - (f) Make voluntary financial contributions to the National Environment Fund.

2. The Ministry, the National Ministry responsible for Forestry, the state Ministries responsible for the Environment and the Local Environment Departments shall encourage the private sector to invest in planting of trees throughout the country.
3. The Ministry, in collaboration with relevant National Ministries, the states and the Local government, shall promote Public-Private Partnerships (PPP) with a view to improve environmental services for all.
4. The Ministry, in collaboration with other National Ministries, shall create and give new awards to businesses that have made significant investments in and shown real commitment to environmental protection and sustainability in order to encourage the change of attitudes towards the environment.

#### **97. Report Preparation and Publishing**

1. It shall be the duty of every company to prepare and publish a report annually on—
  - (a) any significant environmental, social, cultural, economic and financial impacts as a result of any of its operations in the preceding year;
  - (b) an assessment of the significant environmental social, cultural, economic and financial impacts of any proposed activities;
  - d. the employment policies and practices of the company which shall include the effects of its operations and any proposed operations on employability of South Sudanese nationals; and
  - e. revenues, taxes and other payments generated from the areas of the company's operation and made to either national or state governments of South Sudan;
  - f. grants, loans, tax exemptions or other benefits received from either national or state governments of South Sudan;
  - g. any assistance or donation to any political party in South Sudan either directly or indirectly with a view to win favour; and
  - h. the way in which the company's management have discharged their duties.
2. A company shall take reasonable steps to make the report available to—
  - (a) the Ministry;

- (b) its employees, stakeholders/investors or local communities; and
- (c) any other person with an interest in the report.

#### **98. Impact Assessment and Consultations**

1. Where a company proposes to embark upon a major project anywhere in South Sudan, it shall, before making any final decision as to the project or the nature of it, take reasonable steps to consult and respond to any opinions expressed by any stakeholders/investors, local communities, the Ministry/Lead Agency or any persons who may be affected by that project.
2. A company shall produce as part of any consultation an environmental, social, economic, cultural and financial impact assessment of the proposal.

#### **99. Provision of Information by Companies**

1. A company shall ensure that a list of background information used for—
  - (a) the preparation of any report pursuant to section 97 of this Bill; and
  - (b) the preparation of any assessment pursuant to Section 98 of this Bill;
2. Subject to section 97 at least one copy of each of the documents in any list prepared pursuant to section 98 shall be open to inspection by members of the public at the offices of the company and any member of the public may make a copy of any such document on payment of a reasonable fee.
3. A document shall not be open to public inspection under section 97 if its exposure would disclose information that would seriously damage the company's reputation or breach personal privacy.
4. A company shall send a copy of any report produced under section 98 (i) to (v) to—
  - (a) Ministry responsible for trade and Commerce;
  - (b) The Ministry; and
  - (c) Ministry of Justice where the company is a listed and registered

#### **100. Roles of The Company's Subsidiaries, Partners and Subcontractors**

1. It shall be the duty of a company to ensure that any subsidiary, partner or subcontractor of that company wherever registered complies with the provisions of this Bill.
2. The Minister of Environment shall within twelve (12) months of coming into effect of this Bill, and upon his/her discretion after taking such steps as she/he considers reasonable to consult companies and their stakeholders, report to the Council of Ministers on—
  - (a) any amendments or provisions to the law regarding obligations and liabilities such company may be required to incur for claims against any of its subsidiaries, partners or local subcontractors is unable to meet claims for damages from third parties; and
  - (b) any amendments or provisions to the law regarding any procedural steps a company may be required to undertake to ensure that any merger or any other institutional and personnel restructuring of the company adequate provision is made to meet the claims against the company by a third party.

#### **101. Environmental and Social Responsibilities by the Management of Companies**

1. The Management of a company shall, when operationalizing its plans, act in such a manner that would most likely promote the success of the company as well as consolidate best ethical environmental practices. The company is expected to:
  - (a) to consider the environmental social, cultural and economic impacts of their operations and any proposed operations;
  - (b) to consider the interests of all their stakeholders/investors, local communities and employees when making any decisions in respect of those operations or proposed operations;
  - (c) to take all necessary steps to minimise any negative environmental, social, cultural and economic impacts of any such operations or proposed operations;
  - (d) to prepare an annual report which identifies any potential environmental, social, cultural and economic risks the company's operations would bring about and any mitigation and restoration strategies.



2. It shall be the duty of the company's management to unveil in its annual report any best practices, experiences or failures they may have had as regards to—
  - (c) the environment;
  - (b) social and cultural matters; and
  - (c) disclosure of economic and financial information.

#### **102. Liabilities of the Management of Companies**

The Management of any company operating in South Sudan to which this Bill applies shall be liable for any adverse environmental, cultural or social impacts of their operations that may be caused due to—

- (a) any inadvertent negligence or intentionally done; and
- (b) any purposive misconduct.

#### **103. The Role of the Ministry**

1. The Ministry shall have the power if environmental regulations, standards or provisions of this Bill are being seriously breached, defied or ignored, to issue directions to any company or companies. It shall be an offence for a company to ignore or contravene any such directions.
2. For the purposes of enabling the Ministry to determine whether environmental regulations, standards and provisions of this Bill are being seriously breached, defied or ignored, it shall have the power to investigate the matter in question and this power includes the right to summon any person, institution or business enterprise to give evidence and the right to require the provision of such information by any person, institution or business enterprise as may be reasonably required for that investigation.
3. For the purposes of ensuring compliance with the provisions of this Bill it shall be the duty of the Ministry to carry out specified number of random audits of companies to which this Bill applies and the powers given to the Ministry by subsection (1) above shall apply to any such audit.
4. It shall be an offence for any person, institution or business enterprise to obstruct any investigation by the Ministry.

#### **104. Violation of Local Stakeholders or Community Civil Rights**

- i. If local stakeholders or community where a company is operating is of the opinion that a report published pursuant to section 224 of this Bill is seriously inaccurate or omits serious matters, the local stakeholder or community may request the company to amend the report and the company shall consider any such request.
  - ii. A company need not consider a request made under subsection (1) above if it considers it to be without merit.
  - iii. Any local stakeholders or community aggrieved by a company's decision or report may apply to the Authority for redress and in such a case the Authority may—
    - (a) dismiss the application or;
    - (b) agree with any application in whole or in part; or
    - (c) suspend judgment on the application;
    - (d) request the company to review and redress its decision to compromise the civil rights of the local stakeholders or community and in any case the Ministry shall give reasons for its actions.
- (b)** Where the Authority agrees with any such application in whole or in part it may request the company to amend the report to which the application applies in a way specified by the Ministry and if such a request is not complied with the Ministry may direct the company to amend the report in the way specified.
- (c)** Any local stakeholders or community shall have a right of action against a company to which this Bill applies for any damages to be pursued at a High Court in South Sudan.

#### **105. Violations and Penalties**

1. A company/investor who or which breaches any provision of this Bill commits an offence.
2. An offence under this Bill shall, as appropriate, be punishable by—

- (a) imprisonment for an investor for not less than 1 year or a fine of not less than 50,000 SSP;
- (b) a fine for a company of not less than 200,000 SSP; or being prohibited from doing any businesses or operating in South Sudan for a period of not less than 5 years;
- (c) requesting a company/investor to pay reparations to local communities for damages incurred by a company's operations; or
- (d) complete ceasing of operations in South Sudan, should serious breaches of this Bill persist after notification to stop violations fail.

## Chapter Fourteen

### MISCELLANEOUS PROVISIONS

#### 106. Official Seal and Logo

1. The official seal and logo of the Ministry shall be in a form to be decided and determined by the Ministry.
2. The official seal when affixed to any document shall be authenticated by the signature of the Undersecretary, the Minister, the Deputy Minister or any other person authorized to sign for the Ministry.

#### 107. Confidentiality

1. Any information from which an individual or body may be identified and that is acquired by the Ministry in the course of the performance of its functions or the exercise of its powers under this Bill or any other applicable act shall be regarded as confidential by the Ministry and its employees.
2. No information of a type referred to in subsection 107 above, may be disclosed without the consent of every individual who, and everybody which, can be identified from that information, except to the extent that its disclosure is expressly authorized or required by or under this Bill or any other applicable Act or where it appears to the Ministry to be necessary:
  - (a) To enable the Ministry to perform any of its functions and exercise any of its powers under this Bill or any other applicable act;
  - (b) In the interests of the investigation, detection, prevention or prosecution of crime;
  - (c) In connection with the discharge of any international obligation to which the Republic of South Sudan may from time to time be subject;
  - (d) To assist, in the public interest, any Ministry that appears to the Ministry to exercise, in a place outside the Republic of South Sudan, functions corresponding to some or all of those of the Ministry within or outside South Sudan; or
  - (e) to comply with the directions of any division of a Court.
3. Without prejudice to sub-sections (1) and (2) above, any information

communicated to the Ministry by a committee of the Government shall be regarded as confidential if that committee of the Government so requests, and shall be kept confidential by the Ministry and its members and employees; and no such information shall be disclosed except in compliance with the direction of any division of a Court.

4. A person who discloses information or who causes or permits the disclosure of information in a manner which he/she knows or has reasonable cause to believe is in contravention of this sections hall be guilty of an offence and if convicted shall be liable in accordance with subsection (6) below.
5. A person shall not, for a period of two (2) years after he/she ceases to be a member of the Ministry, acquire, hold or maintain, directly or indirectly, any office, employment, consultancy arrangement or business in South Sudan where he/she may be liable to use or disclose information acquired by him/her in the exercise, performance and discharge of the powers, duties and functions of the Ministry, and if he or she acquires any such interests involuntarily or by way of succession or testamentary disposition, he or she shall divest himself or herself of such interest, within two months of the acquisition of such interest.
6. Any person, who contravenes the provisions of this section shall be guilty of an offence and shall be liable to a fine not exceeding Ten Thousand South Sudanese Pounds (SSP10,000) or to imprisonment for a period not exceeding six (6) months or to both.

#### **108. Power to Make Regulations**

The Minister shall make such rules, regulations and procedures as maybe necessary and appropriate for the effective and efficient implementation of the provisions of this Bill.

## **SCHEDULE: PROJECTS TO UNDERGO ENVIRONMENTAL IMPACT ASSESSMENT**

### General—

- (a) an activity out of character with its surrounding;
- (b) any structure of a scale not in keeping with its surrounding; (c) major changes in land use.

### 2. Urban Development including—

- (a) designation of new townships;
- (b) establishment of industrial estates;
- (c) establishment or expansion of recreational areas;
- (d) establishment or expansion of recreational townships in mountain areas, national parks and game reserves;
- (e) shopping centres and complexes.

### 3. Transportation including—

- (a) all major roads;
- (b) all road in scenic, wooded or mountainous areas and wetlands; (c) railway lines;
- (d) airports and airfields;
- (e) oil and gas pipelines;
- (f) water transport.

### 4. Dams, rivers and water resources including—

- (a) storage dams, barrages and Piers;
- (b) river diversions and water transfer between catchments;
- (c) flood control schemes;
- (d) drilling for the purpose of utilising ground water resources including geothermal energy.

### 5. Aerial spraying.

### 6. Mining, including quarrying and open-cast extraction of—

- (a) precious metals; (b) gemstones;
- (c) metalliferous ores (d) coal;
- (e) phosphates;
- (f) limestone and dolomite;
- (g) stone and slate;
- (h) aggregates, sand and gravel;
- (i) clay;
- (j) exploration for the production of petroleum in any form;
- (k) extracting alluvial gold with use of mercury.

7. Forestry related activities including—

- (a) timber harvesting;
- (b) clearance of forest areas;
- (c) reforestation and afforestation.

8. Agriculture including—

- (a) large-scale agriculture;
- (b) use of pesticide;
- (c) introduction of new crops and animals;
- (d) use of fertilizers;
- (e) irrigation.

9. Processing and manufacturing industries including—

- (a) mineral processing, reduction of ores and minerals;
- (b) smelting and refining of ores and minerals;
- (c) foundries;
- (d) brick and earthenware manufacture;
- (e) cement works and lime processing;
- (f) glass works
- (g) fertilizer manufacture or processing;
- (h) explosive plants;
- (i) oil refineries and petro-chemical works;
- (j) tanning and dressing of hides and skins;
- (k) abattoirs and meat-processing plants;

- (l) chemical works and process plants;
- (m) brewing and malting;
- (n) bulk grain processing plants;
- (o) fish-processing plants;
- (p) pulp and paper mills;
- (q) food-processing plants;
- (r) plants for the manufacture of assembly of motor vehicles;
- (s) plant for the construction or repair of aircraft or railway equipment;
- (t) plants for the manufacture or assembly of motor vehicles;
- (u) plants for the manufacture of tanks, reservoirs and sheet- metal containers;
- (v) plants for the manufacture of coal briquettes;
- (w) plant for manufacturing batteries.

10. Electrical infrastructure including—

- (a) Electricity generation stations;
- (b) Electrical transmission lines;
- (c) Electrical sub-stations;
- (d) Pumped-storage schemes.

11. Management of hydrocarbons including—  
the storage of natural gas and combustible or explosive fuels.

12. Waste disposal including—

- (a) sites for solid waste disposal;
- (b) sites for hazardous waste disposal;
- (c) sewage disposal works;
- (d) works involving major atmospheric emissions; (e) works emitting offensive odours.

13. Natural conservation areas including—

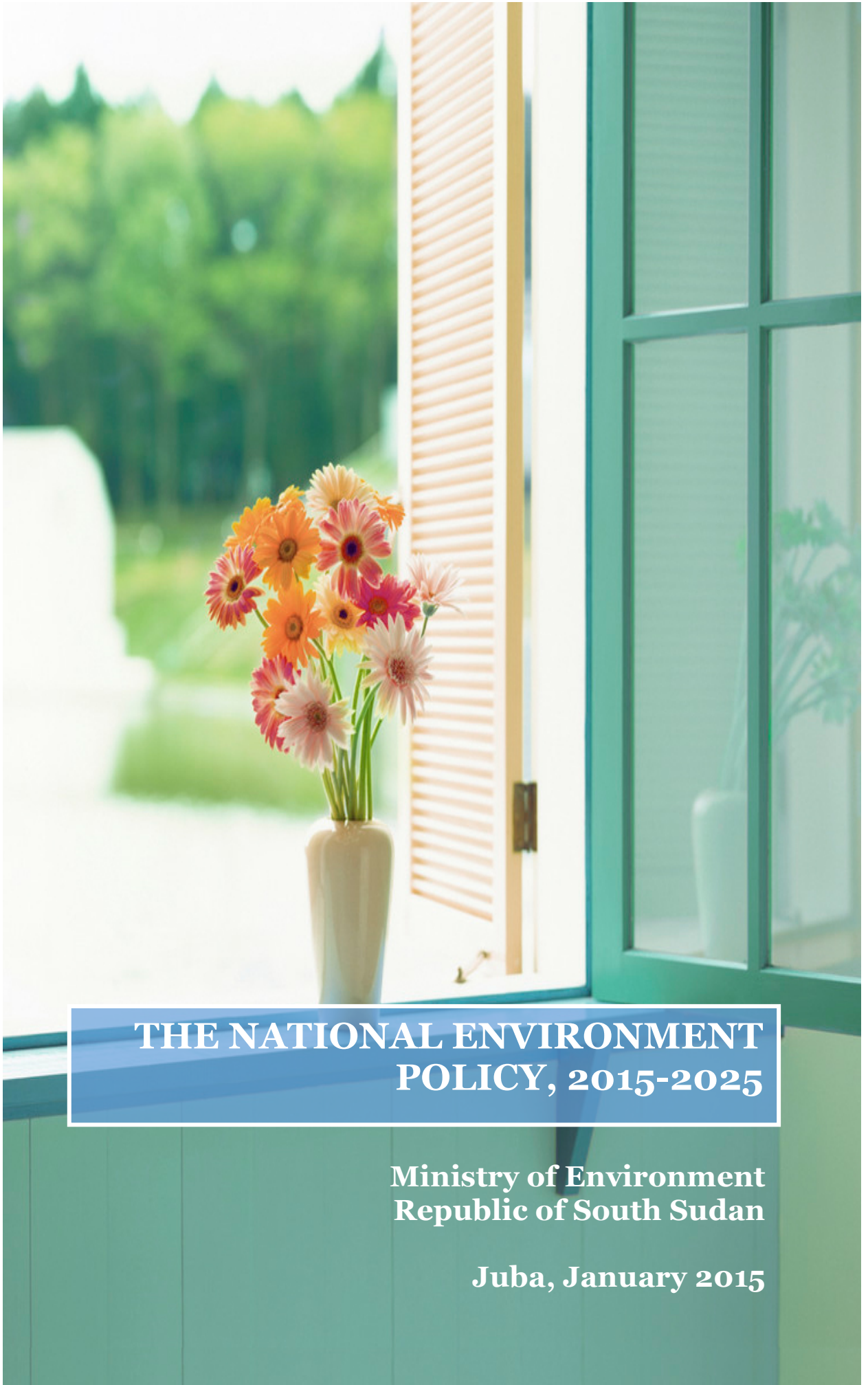
- (a) creation of national parks, game reserves and buffer zones;
- (b) establishment of wilderness areas;
- (c) formulation or modification of forest management policies;
- (d) formulation of modification of water catchment management policies;
- (e) policies for the management of ecosystems, especially by use of fire;



- (f) commercial exploitation of natural fauna and flora;
- (g) introduction of alien species of fauna and flora into ecosystems.

14. Nuclear Reactors.

15. Major developments in biotechnology including the introduction and testing of genetically modified organisms.



**THE NATIONAL ENVIRONMENT  
POLICY, 2015-2025**

**Ministry of Environment  
Republic of South Sudan**

**Juba, January 2015**

REPUBLIC OF SOUTH SUDAN  
MINISTRY OF ENVIRONMENT

## THE NATIONAL ENVIRONMENT POLICY, 2015-2025

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MINISTRY OF ENVIRONMENT,  
REPUBLIC OF SOUTH SUDAN

JUBA, JANUARY 2015

# Table of Contents

<b>ABBREVIATIONS AND ACRONYMS .....</b>	<b>6</b>
<b>FOREWORD .....</b>	<b>7</b>
<b>PREFACE .....</b>	<b>8</b>
<b>CHAPTER 1 .....</b>	<b>10</b>
<b>INTRODUCTION.....</b>	<b>10</b>
1.1 Background.....	10
1.2 The Need for an Environmental Policy.....	11
1.3 The Policy Development Process .....	11
1.4. The Legal Context for the Environmental Policy.....	12
1.5. The Scope of the Policy .....	13
1.6. The Guiding Principles .....	13
1.7. The Goal and Objectives of the Policy .....	14
<b>CHAPTER 2.....</b>	<b>16</b>
<b>GOVERNANCE OF THE ENVIRONMENT .....</b>	<b>16</b>
2.1.The Role of the National Ministry of Environment .....	16
2.2. The Role of the Lead Agencies .....	17
2.3. The Role of the State Ministries Responsible for the Environment.....	17
2.4. The Role of the Local Environment Departments .....	18
2.5. Coordination, Monitoring and Evaluation.....	19
2.5.1. <i>National Environment Forum</i> .....	19
2.5.2. <i>State Environment Forums</i> .....	20
2.5.3. <i>Local Environment Forums</i> .....	20
2.5.4. <i>Membership of the Environment Forums</i> .....	21
<b>CHAPTER 3.....</b>	<b>22</b>
<b>MANAGEMENT OF NATURAL RESOURCES.....</b>	<b>22</b>
3.1 Management of Oil Resources.....	22
3.2. Management of Energy and Mining Resources .....	23
3.3. Management of Forest and Tree Resources .....	25
3.4. Management of Wetlands, Rivers, Lakes and Other Water Resources .....	26
3.5. Management of Land .....	28
3.5.1. <i>Management of Land for Human Settlements</i> .....	28
3.5.2. <i>Management of Agricultural Land</i> .....	29
3.5.3. <i>Management of Land for Roads, Bridges and Airports</i> .....	30
3.5.4. <i>Management of Land for Trade and Industry</i> .....	31
3.5.5. <i>Management of Land for Parks, Gardens and Open Spaces</i> .....	32
3.6. Management of Animal Resources.....	33
3.7. Management of Fisheries .....	34
3.8. <i>Conservation of Wildlife</i> .....	35
3.9. Conservation of Biological Diversity .....	36
3.10. Conservation of Hills, Mountains and Plateaus .....	37
3.11. Protection of Natural Heritage.....	38
<b>CHAPTER 4.....</b>	<b>39</b>

<b>CLIMATE CHANGE</b> .....	<b>39</b>
4.1. Waste Management and Sanitation .....	40
4.2. Pollution Prevention .....	42
4.3. Natural Disasters and Desertification .....	42
4.4. Conflict and Environment .....	43
4.5. Ozone Layer Depletion .....	45
4.6. Renewable Energy .....	45
<b>CHAPTER 5</b> .....	<b>47</b>
<b>ENVIRONMENTAL RULE OF LAW</b> .....	<b>47</b>
5.1. National Environmental Legislation .....	47
5.3. Implementation of the Multi-lateral Environmental Agreements .....	48
5.4. Punitive Measures and Sanctions .....	48
5.5. Registration of Environmental Consultants, Consultancies and Firms .....	49
5.6. Environmental Assessments .....	50
5.7. Environmental Standards .....	50
5.8. Environmental Enforcement and Compliance .....	51
5.9. Handling of Environmental Crimes .....	52
5.10. Attainment of the Sustainable Development Goals .....	52
<b>CHAPTER 6</b> .....	<b>53</b>
<b>CAPACITY BUILDING</b> .....	<b>53</b>
6.1. Institutional Capacity Building .....	53
6.2. Human Capacity Building .....	53
6.2.1. Public Environmental Education .....	53
6.2.2. School-based Environmental Education .....	54
6.2.3. Environmental Standards .....	54
6.2.4. Environmental Laws and Regulations .....	55
6.2.5. Environmental Impact Assessments .....	55
6.2.6. Monitoring, Evaluation and Reporting .....	56
6.2.7. Capacity Building for the Non-governmental Stakeholders .....	57
<b>CHAPTER 7</b> .....	<b>58</b>
<b>THE NATIONAL ENVIRONMENT FUND</b> .....	<b>58</b>
7.1. Public Investment .....	58
7.2. Private Investment .....	59
7.3. Donor Funding .....	61
7.4. Contribution of Individuals .....	61
7.5. Other Contributions in Kind .....	62
<b>CHAPTER 8</b> .....	<b>63</b>
<b>ENVIRONMENTAL PLANNING</b> .....	<b>63</b>
1. The National Environmental Action Plan .....	63
2. Contents of the National Environmental Action Plan .....	63
3. Consultation on and Confirmation of National Environmental Action Plan .....	64
4. Amendment of The National Environmental Action Plan .....	64
5. Review and Replacement of The National Environmental Action Plan .....	64
<b>Chapter 9</b> .....	<b>65</b>
<b>ACCESS TO INFORMATION, PUBLIC PARTICIPATION AND ACCESS TO JUSTICE</b> .....	<b>65</b>

1. Access to Information .....	65
2. Public Participation .....	66
3. Access to Justice .....	66
<b>Chapter 10.....</b>	<b>69</b>
<b>CORPORATE SOCIAL AND ENVIRONMENTAL RESPONSIBILITY .....</b>	<b>69</b>
1. Objectives of the Policy.....	69
2. The Role of Private Sector.....	69
3. Report Preparation and Publishing.....	70
4. Environmental Impact Assessment and Consultations.....	71
3. Provision of Information by Companies.....	71
4.Roles of Subsidiaries, Partners and Subcontractors of a Company .....	71
5. Environmental and Social Responsibilities by Management .....	71
6. Liabilities of the Management of a Company .....	72
7. Role of the Ministry of Environment .....	72
8. Violations and Penalties.....	73
<b>ANNEXES.....</b>	<b>74</b>
1. Annex (1): The Rio Declaration on Environment and Development, 1992 .....	74

## **ABBREVIATIONS AND ACRONYMS**

CBD Convention on Biological Diversity CBOs Community- Based Organizations  
CPA Comprehensive Peace Agreement US Under Secretary  
EIA Environmental Impact Assessment ESIA Environmental and Social Impacts  
Assessment ETOA Environmental Threats and Opportunities Assessment MDGs  
Millennium Development Goals MEAS Multi-lateral Environmental  
Agreements MoE Ministry of Environment NGO Non- Governmental  
Organization PCB Polychlorinated Biphenyls RSS Republic of South Sudan SS  
South Sudan SSNEP South Sudan National Environment Policy STEP Sudan  
Transitional Environment Program USAID United States Agency for International  
Development UST Underground Storage Tanks

## FOREWORD

I am delighted to introduce to you *The National Environment Policy, 2014-2024*. This policy is the roadmap for protecting and conserving the environment in the Republic of South Sudan. We take the view that protecting our environment is a collective responsibility as well as a duty of each individual citizen of this country.

Our country has enormous environmental resources and its rich biodiversity has huge benefits for the people of South Sudan, our neighbours and the region. If utilised well, the vast agricultural land available in South Sudan can produce enough food, not only for our citizens but also our sisterly nations. In addition, our diverse wildlife species has the potential to attract tourists from all the corners of the Earth, create jobs for our unemployed youth and contribute in a big way to the growth of our economy. However, it is important to note that we can reap these rewards only if we protect and conserve the environment.

We need to protect our environment from the threats that will cause biodiversity loss. We must protect our environment from such threats as population growth, habitat destruction, pollution, agriculture, climate change, and logging and cutting of trees for charcoal, which leads to forest fragmentation. The best way to protect our environment and its biodiversity is through forest conservation and promotion of tree planting nation-wide, at least, over the next five years, in order to increase the forest cover of our country from 34.2% to 50%.

The Republic of South Sudan must not only contribute to the global and regional environmental agenda but also address domestic environmental concerns and provide leadership at the national level for all the stakeholders to play active and effective roles in implementation of this national policy.

In conclusion, I would like to stress that the environment is important because it is life itself. The environment has huge benefits to the human race. For this reason, the Government is committed to protection of the environment and promotion of sustainable development in our country. I urge every South Sudanese citizen, every civil society institution, every business, and every development partner to join hands with the Government and contribute towards implementation of this national policy.

H.E. Gen. Salva Kiir Mayardit  
**President of the Republic of South Sudan**



## PREFACE

The Government of the Republic of South Sudan (RSS) is fully committed to achieving a successful transition from decades of war to sustainable development, to meet the needs of its citizens while not compromising the ability of future generations to meet their needs. One important aspect of this transition involves development of an environmental policy framework, law, regulations and sectoral guidelines to ensure achievement of sustainable development and environmentally sound investments in all sectors to avoid, prevent, mitigate and remediate any negative impacts on the environment.

The environment of South Sudan is a valuable endowment that must be sustainably managed to meet the requirements of inter-generational equity. The environment offers a range of benefits and opportunities for socio-economic development, improved livelihoods and provision of environmental goods and services such as ground water.

This Policy Framework provides a wide range of guidance in response to emerging environmental management challenges in order that decision makers and resource users make development choices that are economically viable, socially equitable and environmentally friendly. Furthermore, these decisions ought to be technically feasible and attainable. In this regard, the Policy Framework seeks to:

- (a) Set the goal, objectives and guiding principles for management of the environment in South Sudan;
- (b) Maintain the balance between the need to protect the environment and to promote development through sustainable use of the natural resources;
- (c) Create public awareness of the importance of protecting the environment; and
- (d) Provide the basis for formulation of an environmental protection and management laws.

To ensure sound management of the environment, the Ministry of Environment has been established to develop a policy framework, laws, regulations and coordination of all activities pertaining to the environment in South Sudan. The Ministry will also be responsible for implementation of the policy through the effective involvement of environmental instruments, including both regulatory and economic instruments. The Ministry will also establish institutions, which shall be responsible for the daily protection and management of the environment. Furthermore, it shall promote environmental education and public awareness, empowering local communities in participating in the management of the natural

resources as well as strengthen coordination with all stakeholders at all levels of government and the private sector.

Finally, we wish to register our sincere thanks to STEP/USAID for its support for the policy formulation process, which actually motivated the staff to continue working on this policy document. Furthermore, I would like to register my sincere thanks to the staff of the Ministry for their commitment and the colleagues in the Inter-Ministerial Task Force to make this work a reality through their tireless participation in the successive task force meetings.

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**Deng Deng Hoc Yai**  
**Minister of Environment**

## CHAPTER 1

### INTRODUCTION

#### *1.1 Background*

For several decades South Sudan has been in a long civil war that caused loss of millions of lives and a serious damage to the natural environment. Among the root causes of the conflicts are issues of control over scarce resources, accessibility, poor distribution and ineptitude in the decision-making processes regarding their equitable sharing.

South Sudan is endowed with abundant natural resources, which include vast agricultural lands, water resources, oil, and rich biological diversity owing to varying eco-climatic zones and physiography. The Sudd wetlands have been designated as a Ramsar site of international importance, which should be protected as a world natural heritage.

Following the signing of the CPA in 2005, there has been increasing population growth in the major towns and rural areas of South Sudan. Additionally, the upcoming investments in the oil sector and infrastructural development in terms of housing projects, road rehabilitation and construction, and other developmental activities, will, undoubtedly, have adverse impacts on the environment, especially if undertaken without any prior environmental impact assessments.

All these developmental activities put more pressure on the environment, which may exceed its carrying or bearing capacity. Furthermore, there is neither any environmental policy nor capacity to otherwise enforce existing regulations and manage the environment effectively in South Sudan at present.

South Sudan is experiencing a wide range of environmental problems, including, among others, soil degradation due to widespread deforestation with consequential loss of biodiversity and wildlife habitats. Furthermore, pollution of rivers and the environment due to improper oil drilling activities in the wetlands, over-exploitation of fish stocks, conflicts over diminishing grazing lands and water points for livestock, and poor sanitation, which results in prevalence of water-borne diseases such as malaria, typhoid, and gastro-intestinal diseases.

The objective of this policy document is, therefore, to provide guidance and direction on the effective management of the environment to all stakeholders: government agencies, the private sector, NGOs, CBOs and the general public.

The formulation and drafting of this policy is a step in raising awareness and sensitization in promoting sustainable environmental management across all sectors in South Sudan. The relevance and effectiveness of this Policy Framework

will be continuously monitored and periodically reviewed to ensure that it is pertinent to changing times.

### ***1.2 The Need for an Environmental Policy***

The Government of the Republic of South Sudan (RSS) is fully committed to achieving sustainable development, which will entail sound management of the environment and wise exploitation of its natural resources. One important means to achieving this goal is to develop an environmental policy framework. The need for an environmental policy framework is illustrated by the following:

- (a) The huge upcoming investments and developmental activities following the attainment of South Sudan's independence;
- (b) Emerging environmental management challenges pertaining to imprudent land use systems, urban sprawl, improper oil exploration activities, loss of biodiversity, poor waste management and many others;
- (c) Ineffective environmental management due to inadequate human and institutional capacities as well as limited government budgetary allocation;
- (d) The need to harmonize and coordinate the environmental legal frameworks, guidelines and programmes with all stakeholders at the three levels of the government;
- (e) The need to decentralize and devolve management of the environment to the lowest levels of government within the framework of a decentralized system of governance;
- (f) The current state of environmental degradation as manifested in widespread pollution by improper oil exploration activities, increasing loss of biodiversity due to over-exploitation of natural forests, inadequate environmental sanitation in urban environment and desert encroachment southwards in the northern part of South Sudan; and
- (g) Lack of reliable information and baseline data on the environment as well as limited research capacity.

### ***1.3 The Policy Development Process***

In late 2006 and early 2007, the staff members of the Directorate of Environment in the Ministry of Housing, Physical Planning and Environment, and representatives from South Sudan National Environmental Association (SSNEA) had study tours to Kenya, Uganda, Ghana, and Namibia. The aim of these study tours was to enable them learn from the experiences of these countries in formulating their national environmental policies.

In June 2007, an outline of a draft Environmental Policy prepared by a STEP-sponsored consultant was discussed at an Inter-ministerial meeting. Towards the end of 2007, an Environmental Policy Task-force, made up of the staff members of the Directorate of Environment in the former GOSS Ministry of Environment, Wildlife Conservation and Tourism charged itself with the task of formulating a draft Environmental Policy for South Sudan.

The Environmental Policy Task-force first reviewed the reports of the study tours, the outline of the Environmental Policy prepared by the consultant, and the environmental policies of some of the African countries visited. As a result, a draft outline of The National Environment Protection and Sustainable Development Policy, 2014-2024, was prepared. In early March 2008, members of the Task-force visited each of the ten States of the then Southern Sudan with the aim of carrying out a situation analysis and seeing the environmental conditions on the ground as well as discussing environmental issues with the officials of the relevant institutions of the State governments (Task Force Trip Reports, 2008). Subsequently, the Task-force then came up with this draft document of the Policy Framework. Beside the three publications mentioned earlier, the formulation of this policy document was based on the situation analysis of the environmental conditions on the ground and the findings of the field visits to the ten states.

The three publications that were consulted extensively during the preparation of this policy included: Environmental Threats and Opportunities Assessment (ETOA) by STEP, the UNEP-prepared Sudan Post-Conflict Environmental Assessment, and the Southern Sudan Livelihoods Report of 2006.

The Draft Environmental Policy was thoroughly reviewed in July 2008 and again in January 2009 at the Task-force level. Thereafter, an Inter-ministerial Task-force was established to review and discuss The Draft South Sudan Environment Policy prior to wider consultation with the line Ministries, States' representatives and other stakeholders.

#### ***1.4. The Legal Context for the Environmental Policy***

The Policy Framework takes into consideration the legal context and aims to meet the legal responsibilities, duties and obligations of the government. The Government of the Republic of South Sudan is mandated by the Constitution to protect, preserve and manage the environment as well as ensure the sustainable utilization of natural resources.

The Transitional Constitution, 2011, has guaranteed every person or community the right to have a clean and healthy environment. The Constitution further commits all levels of government in the Republic of South Sudan to promoting sustainable development in order to ensure that the environment is protected for the benefit of both present and future generations, through reasonable legislative action and other measures.

### **1.5. The Scope of the Policy**

The National Environment Policy, 2015-2025, covers matters arising from the environmental policy at international, regional, sub-regional, national and local levels. So, the scope of the issues covered by the Policy includes, among others, the guiding principles, goals and objectives of the Policy, governance of the environment, management of natural resources, protection of natural heritage, adaptation and mitigation of climate change, waste management, pollution prevention and control, green economy, renewable energy, prevention of ozone layer depletion, promoting the environmental rule of law, environmental planning, access to information, public participation, access to justice and corporate social and environmental responsibility.

### **1.6. The Guiding Principles**

The Policy shall be based on the universal principles stipulated in *The Rio Declaration on the Environment and Development, 1992* (see Annex 1, below).

In particular, the Policy will be underpinned by the following guiding principles:

Principle 1

Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature.

Principle 2

States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.

Principle 3

The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.

Principle 4

In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.

Principle 5

All States and all people shall cooperate in the essential task of eradicating poverty as an indispensable requirement for sustainable development, in order to decrease the disparities in standards of living and better meet the needs of the majority of the people of the world.

Principle 10

Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy,

shall be provided.

Principle 15

In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

Principle 16

National authorities should endeavour to promote the internalisation of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.

Principle 17

Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority.

Principle 20

Women have a vital role in environmental management and development. Their full participation is therefore essential to achieve sustainable development.

Principle 21

The creativity, ideals and courage of the youth of the world should be mobilized to forge a global partnership in order to achieve sustainable development and ensure a better future for all.

Principle 27

States and people shall cooperate in good faith and in a spirit of partnership in the fulfilment of the principles embodied in this Declaration and in the further development of international law in the field of sustainable development.

In addition to the above-mentioned universal guiding principles, any revenue generated by the government from the environment shall be used solely for protection, sustainability and regeneration of the environment in the Republic of South Sudan.

These sound principles will guide government interventions in and responses to environmental issues in the Republic of South Sudan.

### ***1.7. The Goal and Objectives of the Policy***

The goal of The National Environmental Management and Sustainable Development Policy is to ensure the protection, conservation and sustainable use of the natural resources of South Sudan without compromising the tenets of inter-generational equity.

The following are the strategic objectives of the Policy:

- (1) To develop laws, regulations and guidelines to ensure sustainable

management of the environment as well as the prudent utilization of natural resources;

- (2) To build the human and institutional capacities of the national Ministry, state institutions, the local government and all other stakeholders in the proper and effective management of the environment;
- (3) To integrate environmental considerations into the development policies, plans, and programmes at the government, community and private sector levels;
- (4) To promote effective environmental education and encourage active participation of the public in the conservation and sustainable management of the environment;
- (5) To prevent environmental pollution and degradation and develop effective strategies for waste management;
- (6) To adapt to and mitigate negative effects of climate change impacts;
- (7) To promote the green economy and create more jobs for the youth to reduce poverty throughout the country;
- (8) To establish mechanisms to promote partnership working and coordination, monitoring and evaluation of environmental strategies and programmes among the stakeholders;
- (9) To oversee implementation and enforcement of international, regional and domestic environmental laws and promote environmental rule of law in the Republic of South Sudan; and
- (10) To increase funding for environmental programmes at the national, state and local levels.

The pursuit and achievement of these strategic objectives is critical for South Sudan to be able to meet its domestic, regional and international legal obligations and embark on the long and arduous journey of development, economic growth and prosperity for all.



## CHAPTER 2

# GOVERNANCE OF THE ENVIRONMENT

Institutional structures and mandates for implementation of *The National Environment Policy, 2014-2024*, shall reflect the decentralised system of governance in the Republic of South Sudan. This shall comprise of the National Government, the ten State governments and the local government in accordance with *The Transitional Constitution, 2011*.

*The National Environment Policy, 2015-2025*, seeks to strengthen the existing system of environmental governance in order to ensure that the envisaged policy goals are achieved. This includes defining clear roles and responsibilities for state institutions at all levels of government.

The national Ministry of Environment of the Republic of South Sudan is the lead public institution for policy, legislating, planning, protection and management of the environment. It is also responsible for the development of action plans, monitoring and evaluation of the policy implementation programmes.

*The National Environment Policy, 2015-2025*, will be reviewed to ensure its appropriateness, relevance and pertinence and adequacy every five years.

### ***2.1. The Role of the National Ministry of Environment***

The role of the National Ministry will be to:

1. Develop policies, laws, regulations and action plans for the Government of the Republic of South Sudan for the protection of the environment and sustainable development;
2. Design national environmental programmes, in collaboration with other National Ministries, Commissions and independent institutions, and coordinate their implementation throughout the country;
3. Set national environmental standards, including the standards for the conduct of environmental impact assessments, and ensure these standards are adhered to nationwide;
4. Manage the National Environment Protection Fund and mobilize additional funds; from the Donor community for environmental projects throughout the Republic of South Sudan;
5. Advise and support the ten states and local governments to fulfill their

responsibilities for environment protection and build their capacity to assume all functions vested by the Constitution and National Government Policy;

6. Monitor the state of environment, as a measure of the overall success of government investment in environmental governance, and produce a status reports every five years;
7. Render the annual report of the Government to the Council of Ministers, the National legislative Assembly and the Council of States;
8. Coordinate, cooperate and collaborate with the ten states, local governments, development partners and friendly and sisterly countries; and
9. Ensure regional and international environmental agreements, conventions and protocols are implemented in the Republic of South Sudan.

## ***2.2. The Role of the Lead Agencies***

Each Lead Agency is mandated to perform the following functions:

- (a) Fulfil its public duty and protect the environment;
- (b) Draft a subsidiary legislation related to the segment of the environment assigned to it by law in consultation with the Ministry of Environment;
- (c) Oversee the implementation of the subsidiary legislation referred to in (b), above;
- (d) Contribute to the work of the National Environment Forum as a Member; and
- (e) Fulfil any other functions assigned to it by the law.

## ***2.3. The Role of the State Ministries Responsible for the Environment***

Each State Ministry responsible for the environment is mandated to:

1. Implement national policies, laws, regulations, strategic plan and other national action plans for the protection of the environment and sustainable development;
2. Enact environmental laws provided that such laws are compatible with the national laws;

3. Coordinate implementation of national environmental programmes throughout the State;
4. Ensure that the national environmental standards, including the standards for the conduct of environmental impact assessments, are adhered to by all the stakeholders in the State;
5. Coordinate implementation of projects funded by the National Environment Protection Fund and the donors in the States and submit regular progress reports to the National Ministry;
6. Protect areas designated as Natural Heritage Sites, National Parks and Game Reserves, National Conservation Forests;
7. Render an annual report on the environment in the State to the National Ministry of Environment to be able to compile and submit the annual report of the Government to the National Council of Ministers, the National legislative Assembly and the National Legislative Council of States;
8. Coordinate, cooperate and collaborate with the National Ministry, local governments and development partners in the State on matters related to the environment; and
9. Raise funds for environmental management programmes in the States.

#### ***2.4. The Role of the Local Environment Departments***

The Local Environment Departments are mandated to:

1. Implement national policies, laws, regulations, strategic plan and other national action plans for the protection of the environment and sustainable development in the Counties;
2. Enact environmental laws provided that such laws are compatible with the national and State laws;
3. Coordinate implementation of national environmental programmes throughout the Counties;
4. Ensure that the national environmental standards, including the standards for the conduct of environmental impact assessments, are adhered to by all the stakeholders in the Counties;
5. Coordinate implementation of projects funded by the National Environment Protection Fund and the donors in the State and submit regular progress reports to the National Ministry through the relevant State

authorities;

6. Protect areas designated as Natural Heritage Sites, National Reserve Parks, National Conservation Forests;
7. Render annual reports on the environment in the Counties to the States, which in turn, will submit their reports to the National Ministry of Environment to compile and submit the annual report of the Government to the National Council of Ministers, the National legislative Assembly and the National Legislative Council of States;
8. Coordinate, cooperate and collaborate with the local stakeholders, including development partners, on matters related to the environment in the Counties; and
9. Ensure compliance of the citizens with the State environmental law (legislation).

## ***2.5. Coordination, Monitoring and Evaluation***

The Ministry of Environment, at the national level of the government, is the overall body responsible for monitoring implementation of The National Environment Protection and Sustainable Development Policy, 2014-2024. However, because implementation is at state and county levels, state-based monitoring and evaluation systems will have to be established and this will depend on each state's capacity development strategy and programmes. Therefore, the co-ordination at the three levels of the Government will be done by the following structures:

- a) National Environment Forum
- b) State Environment Forums
- c) County Environment Forums

These Forums will be charged with the responsibility of overseeing the implementation of the Policy at the national, state and county levels respectively.

### **2.5.1. National Environment Forum**

The National Environment Forum shall:

- a) Oversee implementation of the Policy all over the country;
- b) Analyse and debate the results of the annual and quarterly reports from the State Environment Forums;

- c) Make decisions on reports on the successes achieved, lessons learned and the obstacles faced in implementing the Policy;
- d) Endorse proposals that may improve the effectiveness of the stakeholders in implementing the Policy;
- e) Coordinate implementation of national environmental programmes;
- f) Review recommendations of strategic environmental assessment reports on the state of the environment and the natural resource base;
- g) Review data from the National Environmental Resource Database and Information System (NERDIS), which shall be established by the Ministry for collection, compilation, dissemination of data that would help in decision-making and policy formulation;and
- h) Offer advice to the Minister of Environment as it deems appropriate.

### **2.5.2. State Environment Forums**

The State Environment Forums shall:

- a) Monitor implementation of the Policy at the State level;
- b) Report to the National EnvironmentForum on, a quarterly basis;
- c) Disseminate the Policy to the stakeholders through the media and communities;
- d) Submit annual reports on implementation of the Policy to the National Environment Forum;
- e) Give an opinion on the successes gained, lessons learned and the obstacles faced in implementing the Policyto the National EnvironmentForum; and
- f) Formulate proposals that may improve the effectiveness of the stakeholders in implementing the Policyand submit them to the National Environment Forum.

### **2.5.3. Local Environment Forums**

The Local Environment Forums shall:

- a) Monitor implementation of the Policy at the State and County levels;

- b) Report to the State Environment Forum on a quarterly basis;
- c) Disseminate the Policy to the stakeholders through the media and communities;
- d) Submit annual reports on implementation of the Policy to the State Environment Forums;
- e) Give their opinions on the successes gained, lessons learned and the obstacles faced in implementing the Policy to the State Environment Forums; and
- f) Formulate proposals that may improve the effectiveness of the stakeholders in implementing the Policy and submit them to the State Environment Forum.

#### **2.5.4. Membership of the Environment Forums**

The membership of the Environment Forums will include representatives of the key stakeholders to be determined by the national Minister of Environment in consultation with the three levels of government, the private sector, development partners and the civil society.

The Ministry will play the lead role in the National Environment Forum and work closely with the Environment forums at the lower levels of the government to monitor the implementation of the Policy, the law and the Strategic Plan on regular basis. The Ministry will also convene a national conference for the annual review and evaluation of the implementation of the Policy and the Strategic Plan.

## CHAPTER 3

### MANAGEMENT OF NATURAL RESOURCES

This section of the Policy discusses sector-specific environmental issues and provides policy guidance in relation to the impact of the sector's activities on the environment.

#### *3.1 Management of Oil Resources*

The Sudan started exporting oil only in 1999, and approximately sixty percent of the oil fields are in South Sudan. Oil exploration is carried out mainly in the Central flood plains of Jonglei, Lakes and Upper Nile States, which are also endowed with vast natural resources including forests, livestock, wildlife and aquatic resources. Only a small part of South Sudan has been explored and, hopefully, the post-independence era in South Sudan shall witness a further surge in oil exploration in the next coming years. Reckless oil exploration activities has the potential to negatively impact on the environment and on the livelihoods of the local communities.

The establishment of petrol refuelling stations and their associated Underground Storage Tanks (UST) within residential areas also poses serious human security and environmental risks. This may be in the form of inadvertent fire explosions from highly flammable fuel or oil leakage from old and dilapidated USTs into the surrounding soils and subsurface water.

Improper oil exploration, production, and transportation activities have the potential to cause severe impacts on the environment. These impacts include land degradation, water contamination, health risks due to increased exposure to cancerous petro-chemicals in the oil producing areas; inadvertent resettlement of local population from their traditional areas; oil spills from corroded and decrepit USTs, increased septic, solid and hazardous waste production, disruption of water flow regime; loss of fauna and flora; increased air and noise pollution.

The Policy aims to:

- (1) Conduct petroleum operations in a manner that shall not pollute or degrade the environment and shall be in accordance with best national, regional and international environmental practices;
- (2) Develop legal frameworks (policy, legislation, regulations and guidelines etc) for management and regulation of the oil sector;
- (3) Ensure full compliance of oil companies in the implementation of

Environmental Management Systems (EMS) and adherence to the relevant ISO;

- (4) Ensure that oil companies contract authorized and accredited individuals or companies, in conducting environmental audits annually and to be reviewed by the ministry of environment;
- (5) Ensure that oil companies undertake restitution, rehabilitation and recovery programmes for the affected local communities as well as of the degraded environment attributable to their negligent operations;
- (6) Oil companies shall compensate the local communities affected by the environmental hazards caused by the production of oil; and
- (7) Legislate for the establishment of stations and their associated USTs in gazetted areas in accordance with zoning specifications approved by state institutions for their operations and management.
- (8) Suspend any activity that may lead to or has resulted in lost of lives, personal injury, pollution, damage to property or environment or a negative effect on the livelihood of persons in the immediate vicinity of the oil operation
- (9) Ensure implementation of the provisions of the Petroleum Act, 2012 related to the environment.
- (10) Without prejudice to the provisions of section 55 (1) and (2) of the Petroleum Act, 2012, the Ministry of Environment has the prerogative to suspend petroleum activities if the Ministry of Petroleum and Mining fails to fulfill its responsibility. (to be moved to the bill).

### ***3.2. Management of Energy and Mining Resources***

The majority of the people of South Sudan have either no access to electricity or, if any, have very irregular energy supplies. In sub-Saharan Africa, biomass is the main source of energy, which is used, in form of firewood or charcoal, for cooking. Although biomass is considered an environmentally friendly source of energy, the methods of its harvesting are unsustainable.

South Sudan is endowed with vast mineral deposits, which, if properly exploited, could eventually support mineral processing industries. However, improper quarrying of rocks and gravel, sand harvesting and mining of clay for brick making from river-banks or roadsides may adversely impact on the environment.

South Sudan's energy resources include wood fuel, hydropower, natural gas and oil. Their improper exploitation and use may cause undesired effects on the environment. During the construction of hydroelectricity plants, this may include



the displacement of local people from their ancestral lands; diversion of water courses and changes in the level and pattern of water flow, with consequent changes in aquatic biodiversity and erosion of river-banks.

Combustion of fossil fuels produces carbon dioxide, which is one of the leading green house gases (GHG) contributing to global warming. Further, the absence of a reliable and renewable energy source from e.g. hydroelectric plants or dams on the River Nile has compelled most South Sudanese to use electric generators. It is estimated that, Juba Town currently has between 5,000 - 10,000 small to medium size generators with varying output performances or power and being used in households, businesses and public institutions. The amount of carbon dioxide emission may be close to 20-80 tons per annum. Moreover, the ensuing noise from the powered generators and from the noxious fumes produced can lead to mental and emotional stress as well as respiratory disorders.

The Policy aims to:

- (1) Compensate people who traditionally have either lived permanently or seasonally transited through areas where concessions have been given for hydrocarbon, mineral exploitation or hydropower explorations;
- (2) Promote research in and the use of renewable and alternative sources of energy (wind, solar, biogas, biofuels and hydropower);
- (3) Ensure a comprehensive Environmental Impact Assessment (EIA) is conducted prior to any project execution, clearly focusing on the negative impacts, their mitigation, management and remediation;
- (4) Promote in all production sectors, technologies and processes that use energy sources efficiently and sustainably;
- (5) Ensure that electricity is accessible and affordable to reduce dependency on biomass (fuel wood and charcoal);
- (6) Reduce carbon emissions into the environment (air, water and soil) and promote the use of high-performance, low-noise, low-fuel consuming electric generators;
- (7) Set adequate provisions for restoration and rehabilitation of all areas affected or the landscape disfigured by mineral extraction operations and quarrying activities;
- (8) Protect river-banks through the construction of embankments and avoid sand harvesting close to the banks and in vegetated watershed areas;
- (9) Promote the use of renewable energy sources throughout the country;

- (10) Implement *The Minamata Convention 2013*;
- (11) Impose fines for environmental crimes, such as pollution and dumping of waste;
- (12) Ensure that all mining and energy projects are subjected to EIA and prior to commencement of implementation of these projects; and
- (13) Ensure that regular Environmental Audits for mining and energy projects are carried out by the project proponents.

### **3.3. Management of Forest and Tree Resources**

South Sudan is covered by a total area of about 191,667 Sq. Km of natural forests and woodlands with tropical moist forests on the hills and mountains and the Nile – Congo watershed. Gazetted Forest Reserves in South Sudan are a comparatively insignificant portion of this forest area, covering approximately 640,000 ha, and the area of tree plantations is even smaller, probably no more than a few thousand hectares, mainly teak.

The potential environmental impacts resulting from improper forest management and harvesting include the gradual conversion of forest land to other land uses, the introduction and spread of exotic invasive tree species, localized soil erosion, accelerated loss of biodiversity, alterations in the hydrological and nutrient cycles.

Forest resources in South Sudan are under severe pressure due to encroachment of desertification southwards in the north of the country and increasing demand for rangeland and agricultural land, urban and rural settlement, energy e.g. fuel wood, charcoal, bush fires etc. All these human activities and desertification lead to deforestation, which in turn leads to degradation of the environment.

The Policy aims to:

1. Formulate and enact laws and regulations that maintain and preserve ecological functions, integrity of forests, conserve biological diversity, water and soil resources of fragile ecosystems;
2. Ensure that those individuals who are involved in illegal logging or cutting of trees are forced by law to plant 10 trees for each tree they cut down, pay a fine commensurate with the size of their crime or imprisoned for such a period that a court of justice shall determine in accordance with the law and their illegally acquired wood products are confiscated;
3. Promote passive and non-invasive forest management activities as alternative sources for income generation (livelihood improvement) e.g.

- honey, gum, and silk harvesting;
4. Promote participatory approach of all stakeholders in the regulation, coordination and processing of forest concessions and agreements;
  5. Promote integrated pest management approaches and rational use of agro- chemicals to minimize health and environmental risks;
  6. Support forestry training institutions, research studies and the existing forestry legal frameworks to promote good governance in the forestry sector;
  7. Prevent burning of tall grass and forest resources;
  8. Encourage voluntary planting of trees in all parts of the country especially those areas that need trees most and provide citizens with at least 4 million seedlings annually free of charge;and
  9. Conduct REDD+ assessment and promote conservation of forests and carbon trading.

### ***3.4. Management of Wetlands, Rivers, Lakes and Other Water Resources***

Much of South Sudan lies within the watershed and sub-basins of the River Nile. Access to safe and clean water for domestic use is a basic human right. However, the majority of the people of South Sudan, especially people in rural areas have no access to potable water. Equally, sanitation coverage in urban centres is very low and is characterised by widespread defecation in open spaces, bushes and backyards as well as unhygienic disposal of communal sewage or sludge in open fields.

Lack of access to adequate safe drinking water and sanitation infrastructures coupled with poor hygiene practices expose a large sector of the population of South Sudan to persistent risks of gastrointestinal and other water-borne diseases.

The single most critical environmental issue related to water supply is the recurrent incidence of gastrointestinal diseases caused mainly by consumption of contaminated water. Juba Town and most towns in South Sudan have no sewerage systems and waste water treatment facilities and so waste water from kitchens, laundry, toilets and bathrooms are disposed untreated into the environment. Therefore, with limited water supply in most households in South Sudan, the flush-and-discharge systems common of most industrialised countries cannot be implemented.

Principal wetlands in South Sudan are the Sudd and Machar swamps which offer considerable socio-economic livelihood opportunities for agricultural, pastoral and

fishing communities. The Sudd flood plains are a rich habitat for flora and fauna such as fish, mammals, birds, reptiles, amphibians and other rare species. Hydrological and ecological functions of these wetlands such as water quality improvement and food provision both contribute to ensuring ecological and socio-cultural stability in the region. The Sudd flood plains, for example, is the second largest wetland in Africa and was designated as a Ramsar Site in 2006. Interestingly, there are three protected areas in the Sudd wetlands: the Shambe National Park, the Zeraf Game Reserve and Fanyikang Game Reserve.

The most important environmental issues that would affect both surface and subsurface water resources in South Sudan would be the construction of large hydroelectric dams and other related development schemes like: construction of the Jonglei Canal or dykes along the River Nile. Such schemes would divert and effect changes in the water flow regime and irreversibly or partially destroy downstream ecosystems. Contamination of river or subsurface water by discharged pollutants, wastewater and oil spilled from the wrecked or sunken river transport ferries is also inevitable.

The Sudd wetlands are threatened with pollution and eutrophication as a result of either spillage during oil exploration or overuse of agrochemicals during agricultural production.

The Policy aims to:

1. Promote the accessibility of all people to clean water for domestic purposes and sanitation facilities;
2. Establish regulatory systems and benchmarks for the monitoring and upholding of water quality and in compliance with established standards;
3. Promote rain harvesting as an alternative source of water;
4. Promote the active participation of local communities in the protection and management of water resources;
5. Develop a national wetlands conservation and management policy and plans for South Sudan with relevant lead agencies and institutions;
6. Promote public awareness and sensitization on the benefits and roles of wetlands, lakes and river ecosystems;
7. Legislate the prohibition of any human settlements or any other developmental activities undertaken within and along the banks of rivers, streams and other water bodies;
8. Develop buffer zones between irrigation schemes and natural water bodies to ensure easy drainage; and

9. Legislate for the conduct of Environmental Impact Assessments (EIA) prior to the development of any infrastructural projects, such as dam building, canal and dyke construction.

### ***3.5. Management of Land***

#### **3.5.1. Management of Land for Human Settlements**

According to the census conducted in 2010, it was found out that a larger part of South Sudan's population live in rural areas. However, the population is growing rapidly due to high birth rates and the return of IDPs as well as from the neighboring countries. Many returnees have, on account of the better socio-economic and livelihood opportunities, moved to the urban centres, thereby swelling up the urban populations.

The problems associated with urban growth are basically health, sanitation and infrastructural in nature. Most South Sudanese have neither accessibility to safe drinking water nor sanitary facilities, and so the prevalence of waterborne diseases. The management of both solid and liquid waste: collection, transportation and final disposal is lacking or outright inefficient. Liquid waste, grey water and sludge are often disposed untreated in open grounds or spaces.

Illegal human settlements and infrastructural projects may irreversibly transform and cause adverse effects on the environment as a result of improper land use, over-exploitation of natural resources e.g. forests and soils, especially for building and energy use.

South Sudan has a considerable number of internally displaced persons and returnees who, following the signing of the Comprehensive Peace Agreement in 2005, have returned to live mostly in urban centres thereby creating informal settlements. Living conditions in these settlements are generally crowded with no sanitary facilities. Due to inter-ethnic and intra-ethnic conflicts, thousand others have been compelled to migrate to urban centres in search of better livelihood opportunities. These increasing populations are putting more pressure on the already scarce environmental and financial resource base of most urban centres.

The massive rural-urban migration and urbanization has been accompanied by major environmental damage, particularly in areas with fragile ecosystems. Irreversible impacts on the environment, e.g. deforestation, water pollution and poor sanitation, are related to large concentrations of people in the urban centres due to the creation of informal settlements.

The Policy aims to:

1. Invest in improving the institutional and professional capacity for urban planning;

2. Plan and implement urban settlements with adequate provision for open and recreational space;
3. Provide adequate services such as water, sanitation, and waste disposal that improve the quality of life and health of the people in all human settlements; and
4. Ensure that any development adheres to zoning specifications or the approved land use for a given area issued for such a development within the jurisdiction of the relevant authority in the state.
5. Ensure Environmental and Social Impact Assessments (ESIA) are conducted, in accordance with the classifications to be determined by the Ministry of Environment, prior to implementation of projects.
6. Ensure other Environmental assessments, such as IEE, Environmental Audit, as appropriate,
7. Ensure building permits are obtain before construction of new building or other structures in cities and towns
8. Ensure the proponents of the projects fulfill their duty by paying for the review of the ESIA reports and the approvals of the projects: the fee to be paid shall be the responsibility of the proponent.
9. Ensure Environmental Audits are conducted in relation to Physical Infrastructure, health, education, and other service projects.
10. Promote public awareness on problems associated with population growth, informal settlements and its effect on the declining natural resources; and
11. Integrate and coordinate policies and strategies with all stakeholders on environment, urban development and population growth.

### **3.5.2. Management of Agricultural Land**

1.

Currently, over 70% of South Sudan's raw agricultural and processed food products are imported from the neighbouring countries of Uganda, Kenya, Sudan and Ethiopia. South Sudan's national food security is at risk and is to a larger extent vulnerable to external dynamics and imperatives. In the absence of its own food producing capacity, shortcomings prompted by political, climatological and economic factors in these countries may have grave consequences on the food situation in South Sudan. However, with favourable policies, sufficient investment, and the application of appropriate technology, South Sudan's large areas of arable land could support competitive, productive rain-fed and irrigated agriculture, producing food for local consumption and export and thereby contributing to

economic growth and prosperity. This would, to a greater extent, improve the socio-economic conditions of most South Sudanese.

Large, mechanised monoculture has the potential to adversely affect ecosystem functions, biodiversity, and traditional farming cultures. Contamination from overuse of agro-chemicals, such as N-fertilizers and polychlorinated biphenyl (PCBs) based- pesticides, may directly affect food and water quality as well as accelerate the production of nitrous oxide, which is one of the greenhouse gases. Improper land preparation and crop cultivation may increase the rate of soil erosion, causing silting of aquatic ecosystems and would affect the reproduction functions of some species of plants and animals. Horizontal expansion of the agricultural land, meanwhile, may destroy the natural habitat of some species of flora and fauna.

The Policy aims to:

- (1) Promote organic farming practices for sustainable agriculture through use of organic fertilizers with less inorganic fertilisers especially N-fertilizers;
- (2) Promote the merging of traditional farming practices and knowledge of farmers with modern technology-based farming practices ;
- (3) Adopt and promote sustainable production systems e.g. soil carbon sequestration to minimise damage to the environment;
- (4) Promote land use planning and zoning to prevent conversion of specific land use to other uses; and
- (5) Promote integrated pest management practices and use of organic fertilizers in order to reduce the level of contamination of the environment.
- (6) Ensure Mechanized agricultural schemes are subject to Environmental and social impact assessments prior to implementation.
- (7) Ensure regular environmental audits of mechanized agricultural schemes are carried out.

### **3.5.3. Management of Land for Roads, Bridges and Airports**

South Sudan's transportation infrastructure consists of roads, airports, ports, and railroads. Most river ports are situated along the River Nile. There is no functioning railway, although the railway track still exists from the Sudan to Wau, in Western Bahr el Ghazal State.

Of the various forms of transportation in South Sudan, road transport has by far the greatest potential to impact negatively on the environmental. The most common environmental impacts associated with new road construction are

deforestation through virgin lands and destabilization of fragile ecosystems. The use of heavy-duty road construction vehicles may increase soil compaction, inadvertent oil spillage and soil-water contamination, destruction of animal habitats, biodiversity as well as increased air and noise pollution. Similarly, environmental effect associated with both airports and ports consists of soil and water contamination from damaged fuel storage tanks and noise pollution due to increased air traffic.

The Policy aims to:

- (1) Conduct a comprehensive Environmental Impact Assessment (EIA) prior to implementation of any development project;
- (2) Adopt and develop intervention plans (mitigation and remediation) and strategies against any contamination or shortcomings during project implementation;
- (3) Consult with state authorities and other stakeholders on the implementation of road safety regulations and laws in order to reduce the risks of traffic accidents especially in densely populated areas;
- (4) Ensure that airports, their fuel storage tanks and any life-dangerous goods, or infrastructures are situated far away from residential areas; and
- (5) Promote environmentally friendly means of travel and transport such as public transport.

#### **3.5.4. Management of Land for Trade and Industry**

South Sudan has hardly any processing or manufacturing industry, though there are a few small-scale workshops, especially for wood processing and metal-working. Currently, there are a few water purification companies already operational in and around Juba Town. Hopefully, medium to large-scale industries are expected to increase tremendously as the economy grows in the next coming years.

All improper industrial activities have the potential to adversely impact on the environment such as water, air and soil contamination as well as pose serious risks to human health. Industrial drive for raw materials as dictated by market demand may lead to excessive exploitation of natural resources without adequate provisions for sufficient regeneration or sustenance.

The post-CPA era has also witnessed tremendous economic growth and an increase in individual consumption and spending. Several licensed and unlicensed small family shops and enterprises like in the hospitality sector (restaurants, hotels, lodges), car servicing and repair have significantly increased especially in



residential areas of most urban centres of South Sudan. Unfortunately, such consumption has led to the per capita waste generation as well as air and noise pollution. Littering of especially polyethylene terephthalate (PET)-made water bottles, plastic shopping bags, aluminium cans etc, has severely polluted the environment. Thousands of decrepit cars, motor oil polluted soils, noxious exhaust fumes that pollute the air and the intolerable noise-producing cars are a cause for mental and emotional stress.

The Policy aims to:

- (1) Develop, in collaboration with relevant agencies, environmental risk assessment guidelines to ensure that industrial and commercial operations do not degrade the environment and the natural resources;
- (2) Enact and enforce legislations and regulations on the prohibition of the establishment of car servicing points or garages within residential areas and as well as provide adequate and safe disposal systems for communal, industrial and hazardous wastes;
- (3) Promote and safeguard the health and safety of the workers and the local community in the surrounding areas by ensuring adherence to appropriate occupational health requirements at the workplace;
- (4) Regulate import of cars and electronic goods, which may otherwise have detrimental effects on the environment; and
- (5) Promote capacity building of relevant public institutions and private sector in areas of ISO certification, technology transfer and laboratory testing as well as promote collaborative research with academic institutions.

### **3.5.5. Management of Land for Parks, Gardens and Open Spaces**

A healthy mind is in a healthy body. However, developing a healthy body would require subjecting it to a physically demanding and strenuous training in outdoor recreational facilities. South Sudan has a vast human resource base of dynamic, talented young women and men who, through excellent training, would proudly represent the Republic of South Sudan at regional and international sports competitions.

Parks, gardens and open spaces in and around urban centres are also important for family or individual recreation, relaxation and leisure. In terms of health and therapeutic recreation, open spaces, sports and recreational facilities have a vital role in promoting healthy living and preventing illness. Socially and culturally, children and youths of all ages and ethnic backgrounds may interact with each other through sporting activities thus reducing inter-ethnic conflicts and tribalism.

Despite the enthusiasm of most South Sudanese for sports and recreation, regrettably, there are not enough indoor and outdoor sports facilities in most towns of South Sudan. Poor urban planning has meant that, large areas in most towns and municipalities have been gazetted for predominantly residential areas. Most employees from both public institutions and private sector have no after-work recreation to relax their minds through park and garden strolls after a stressful and hard day's work.

The poor working environment of most public institutions and private sector in South Sudan, means that, most workers are at risk of being exposed to several health risk factors that may eventually lead to cancers, accidents, musculoskeletal, circulatory and respiratory diseases, hearing loss, stress and emotional disorders, communicable diseases and others.

The Policy aims to:

- (1) Collaborate with relevant state institutions, e.g. Ministry of Physical Infrastructure and Urban Planning, Ministry of Youth and Sports and Ministry of Environment, to conduct assessment of needs and identify opportunities for the provision of open spaces for sports and recreational facilities;
- (2) Support urban renaissance through good management and maintenance of open and green spaces (gardens and parks) that are attractive, clean and safe and which act as 'green lungs' in improving air quality;
- (3) Support rural renewal through the provision of recreational opportunities in rural areas, thereby contributing to the quality of life and wellbeing of people in the rural areas;
- (4) Promote social inclusion and community cohesion by improving people's sense of wellbeing as well as provide communities with opportunities for intra-ethnic and inter-ethnic social interaction; and
- (5) Ensure that open spaces, sports and recreational facilities are accessible, affordable and fulfill technical and environmental requirements and standards.

### ***3.6. Management of Animal Resources***

Cattle are extremely important culturally and economically to the semi-nomadic cultures of South Sudan such as the Dinka, Nuer, and Mundari. No livestock census has been carried out recently in South Sudan, but the population of livestock including cattle, sheep, goats, and donkeys, may exceed 20 million.

There is no available data on the rangeland areas in South Sudan. However, owing

to the large numbers of livestock, it may be assumed that, a large proportion of the total land area of South Sudan is covered by rangelands. Nonetheless, these rangelands and their biodiversity are being degraded by recurrent droughts and depletion of forest cover for fuel wood and charcoal. In addition, some of the rangelands have been destroyed by over-grazing.

The major potential negative impacts of large rearing of livestock in any given space and time are the degradation of large areas of land, through over-grazing of rangelands, reduced vegetation cover and organic matter. This may, in turn, increase the risks of soil to wind and water erosion and thereby decreased soil fertility and ultimately desertification.

Although no empirical studies have been conducted on the extent of methane production from the excrement and urine of the approximately 20 million heads of livestock currently in South Sudan, it may be assumed that, this would be between 30,000 - 160,000 m<sup>3</sup>/year; it is a significant volume that can contribute towards global warming.

The Policy aims to:

- (1) Design programmes for improving livestock production based on consideration of the specific climates, terrains, and ecosystems particularly in relation to seasonal grazing patterns and the quantity of available water;
- (2) Introduce new livestock and exotic breeds into specific environments while protecting indigenous ones;
- (3) Promote the rotational grazing of livestock populations on the range land in order to reduce the risks of soil compaction;
- (4) Promote best animal husbandry practices to reduce environmental degradation;
- (5) Promote sustainable management of rangelands and pastures through integrated range management practices; and
- (6) Protect livestock against diseases, especially those that cause en mass loss f livestock.

### ***3.7. Management of Fisheries***

The River Nile, its tributaries and several lakes besides the Sudd wetlands of South Sudan has an enormous potential for fish industry, which when properly exploited would, in turn, support the livelihoods of a large population of South Sudanese. With the achievement of the independence, many fishing communities have come back to their traditional fishing grounds or camps, giving more pressure on the current fish stocks through unregulated fishing practices.

One major environmental impact due to improper fishing and over-exploitation would be the gradual decline of fish stocks and loss of species biodiversity. In addition, water pollution, siltation, reckless oil exploration activities in the Sudd wetlands, would further reduce the quality of fish due to oil contamination and accelerate the decline of fish stocks in South Sudan, too.

The Policy aims to:

- (1) Protect fishing communities as well as fish habitats against both encroachment and pollution;
- (2) Promote and strengthen community participation in the decision-making processes and planning, management and conservation of aquatic ecosystems;
- (3) Establish effective systems and mechanisms to ensure that fish harvest and exploitation are on sustainable yield basis; and
- (4) Promote and augment traditional knowledge and practices of fisher communities with modern scientific knowledge and improved technologies.

### **3.8. Conservation of Wildlife**

South Sudan's vast wildlife resources, especially of rare animal and bird species are the centre of attraction that would be the basis for a vibrant tourism industry. Field surveys by the Wildlife Conservation Society are currently producing and updating data on the wildlife sector in South Sudan's protected areas. Many of the species of large wildlife that attracted tourists, such as elephants, giraffes and rhinoceros, were hunted for food during the war, causing large reductions in their populations. However, some species, such as the white-ear kob, is still available in great numbers during migration. Many rare species of birds also either live in or migrate through South Sudan and they are an attraction for ornithologists.

Promoting wildlife tourism in South Sudan may currently not cause any adverse effects on the environment, since it presently attracts very few people. Potential negative environmental impacts from tourism, however, would be the indiscriminate disposal of waste during guided tours and game drives, soil compaction and subsequently erosion along trample and migratory routes of large animal herds as well as the destruction of vegetation cover by especially large elephant herds. However, serious social concerns may arise due to ensuing conflicts between agricultural communities living close to game parks or reserves and wandering wild animals in search of food and shelter.

The Policy aims to:

- (1) Protect habitats and ecosystems in order to preserve rare species and biodiversity of fauna and flora;
- (2) Promote eco-tourism that is environmentally friendly and offers pro-poor livelihood opportunities for communities living close to the game parks;
- (3) Develop and support wildlife conservation education programmes;
- (4) Enact legislation on the prohibition on trade on raw (bush meat) as well as processed (hides, horns, tusks) products of rare animal species; and
- (5) Impose a life sentence and other severe penalties on criminals who may be found guilty of poaching, especially killing of elephants, rhinos, hippos, Giraffes, and other rare or endangered wildlife species.

### ***3.9. Conservation of Biological Diversity***

The Republic of South Sudan has a lot of biological resources that are of considerable economic, social and intrinsic value. The species are mostly animals, plants and microorganisms. This diversity of resources associate and interact with one another and the physical environment to form a wide range of ecosystems which are categorised into ecological zones, namely, the savannah, flood or swamps, montage forest, semi-deserts and low land forest. The variety of species and the complex ecosystems constitute the biological diversity (biodiversity). These wealth of a variety of biodiversity constitute the foundation of the South Sudan's socio-economic development. A large proportion of South Sudanese depends on biological diversity for goods and services either directly or indirectly for their basic and development needs.

A combination of natural and anthropogenic factors cause loss of biodiversity, which has been attributed to deforestation, land degradation, grassland burning, habitat loss, introduction of invasive and alien species, alterations in ecosystem composition, over-exploitation (unsustainable use) of rangelands and pastures, hunting and poaching, pollution and contamination, and global climate change. This is beside expansion in agriculture, settlements, development of infrastructures around urban areas that result in destruction of forest ecosystems including biodiversity.

The Policy aims to:

- (1) Develop and implement a national biodiversity action plan for South Sudan;

- (2) Promote coordination, cooperation and participation of all relevant stakeholders in conservation and sustainable use of biodiversity across all sectors of the economy;
- (3) Encourage Green Economy initiatives to enhance low carbon and resource efficient economy as well as promote carbon sequestration;
- (4) Promote national integrated approaches for conservation and sustainable use of biodiversity and protection of aquatic ecosystems and life;
- (5) Implement the MEAs related to biodiversity (CBD, CITES, CMS and The Ramsar Convention on Wetlands and the World Heritage Convention);
- (6) Support environmental education and public awareness programmes on the importance or benefits of conserving the biodiversity to people and their livelihoods;
- (7) Share the benefits of biodiversity conservation and sustainable use with local communities and stakeholders;
- (8) Discourage introduction of invasive and alien species and, where such species are available, manage and control properly to avoid adverse impacts on local environment;
- (9) Promote ex-situ conservation of biodiversity through establishment of botanical gardens, animal orphanage and others initiatives;
- (10) Discourage negative traditional practices that encourage young men to kill lions, cheetahs, elephants, rhinoceros and buffaloes as part of initiation rites;
- (11) Encourage conservation and cultivation of herbal, medicinal and economic plants; and
- (12) Designate areas as Natural Heritage Sites, National Reserve Parks, National Conservation Forests, etc, to promote conservation of wetlands, biodiversity, hills, mountains and theaters of conflicts.

### ***3.10. Conservation of Hills, Mountains and Plateaus***

Conservation of hills, mountains and plateaus is a vital step towards the protection of these natural assets. Such a prohibition will also ensure that the ecosystems are preserved and in so doing protect and promote the biodiversity in the Republic of South Sudan.

The Policy aims to:

1. Conserve hills, mountains and other distinct natural features or sites by law;
2. Hold consultation meetings with the communities living on top of the mountains and hills and support them to resettle in the surrounding areas;
3. Regulate the use of such natural assets for the common good or benefit of the people of the Republic of South Sudan and prevent destruction of these valuable natural endowments;
4. Ensure the States and local authorities assign the Police to protect hills, mountains and other distinct natural assets to be designated as conservation sites by law; and
5. Regulate any industrial use of mountain resources such as quarrying, forest destruction and illegal hunting.

### **3.11. Protection of Natural Heritage**

The Policy aims to:

- (1) implement *The Convention Concerning the Protection of the World Cultural and Natural Heritage* in the Republic of South Sudan;
- (2) Ensure each South Sudanese citizen protects the natural heritage of the country in accordance with Article 46 of the Transitional Constitution, 2011;
- (3) Conserve Natural Heritage Sites to ensure that:
  - (a) No individual, institution or business enterprise shall alter or demolish or encroach into a natural heritage site; and
  - (b) Any person, institution or business enterprise who or which intends to undertake a development activity seeks the permission of the Ministry of Environment.

## CHAPTER 4

### CLIMATE CHANGE

[Climate change](#) hurts innocent people. It puts ordinary people, who for the most part have not contributed in any way to global warming, at extraordinary risk. The IPCC's Climate Change 2014 Synthesis report makes for a depressing reading. The consequences of climate change will include "injury and death due to more intense heat waves and fires, floods and droughts, and a rise in food-borne and water-borne diseases. This risk is not just a matter of extreme weather events, such as the [heatwave in Russia](#) that took an estimated 55,000 lives in 2010 or last year's [typhoon Haiyan](#), recording the fastest wind speeds on record. It is also the intensifying effect that climate change has on other intractable global problems such as war, famine, and economic migration. Repeated hot summers contributed to a spike in droughts across [Syria](#), for example, triggering hardship and riots that culminated in the vicious civil war now underway.

The climate of South Sudan is semi-arid at the northern parts of the country bordering the Sudan and tropical around the equatorial region in the south. It has distinct wet and dry seasons with minor spatial and temporal variability across the whole region. Over the past few decades, there have been significant changes in weather patterns and the climate in South Sudan at large. Although climate change is a global phenomenon, South Sudan is equally affected and vulnerable to its effects. In the absence of any coping strategies and mechanisms, this may adversely impact on the environment and livelihoods of most South Sudanese.

South Sudan is already experiencing the impacts of climate change and more is anticipated if the current trend of global warming continues. Some of the direct impacts include changes in weather patterns as manifested in decreasing rainfall, increased temperatures and higher evapotranspiration rates, especially at the Sudd wetlands. On the other hand, the indirect impacts of climate change may include health problems triggered by weather pattern variability and environmental change, increased incidences of climate-related disasters in terms of localized flooding in some parts of South Sudan. Climate change may also exacerbate food insecurity, biodiversity loss, water shortages and conflicts due to scarcity of water resources.

The Policy aims to:

- (1) Implement the United nations Framework Convention on Climate change (UNFCCC), Kyoto protocol and any related laws;
- (2) Formulate a climate change policy for South Sudan;



- (3) Develop a national strategy and mechanisms for climate change adaptation and mitigation;
- (4) Support efforts to reduce community vulnerability to weather pattern variability and climate change;
- (5) Promote research in and the use of renewable and alternative sources of energy (wind, solar, biogas, bio-fuels and hydropower);
- (6) Promote technologies and processes that use energy sources efficiently and sustainably in all production sectors;
- (7) Promote the use of other sources of energy to reduce dependency on biomass; and
- (8) implement measures to reduce carbon emissions into the environment and promote the use of high-performance, low-noise, low-fuel consuming electric generators.

#### ***4.1. Waste Management and Sanitation***

The management of solid waste has become a major public health and environmental concern especially in most urban and rural setups of South Sudan. Indiscriminate solid waste disposal is the single most visible sign of serious environmental pollution. This is attributable to the high population densities especially in urban centres and the lack of policies and effective solid waste management infrastructures in a post-conflict South Sudan.

Solid waste management problems range from lack of waste categorization and segregation systems, incompetent and unqualified personnel, low collection rates of both non-degradable and biodegradable or organic waste. Most of the biodegradable or organic waste from commercial centres and markets are left to decompose onsite imparting nasty odours. Uncollected solid waste is not only non-aesthetic, but poses a serious health risk to the people, particularly those scavenging for food and other reusable materials. Equally, the increasing number of public hospitals as well as private health clinics especially in urban centres like Juba, dispose septic and pharmaceutical wastes that are unmanaged.

Solid waste management is an important factor in safeguarding human health and environmental pollution. Equally, improper handling of liquid waste e.g. untreated waste or effluents and sludge can lead to contamination or pollution of air, surface and subsurface water and soil. Uncontrolled burning of waste can produce toxic gases that can cause respiratory problems.

Littering, mainly of plastic shopping bags and water bottles, is a pervasive and unaesthetic environmental problem across most towns of South Sudan. The un-designated open pits and dumpsites of most towns in South Sudan are overflowing

with unsegregated solid waste, promoting the proliferation of vectors, flies, rodents, pathogens and nasty odours. Lack of adequate septic and pharmaceutical waste disposal systems also pose serious environmental and health risks.

The policy aims to:

- (1) Regulate and improve management of waste in South Sudan;
- (2) Promote Reduction, Recycling and Reuse (3R) as well as the segregation and categorization of solid waste prior to disposal;
- (3) Encourage private sector investment in waste management;
- (4) Legislate for the prohibition of littering and ensure the provision of adequate and affordable disposal facilities for all;
- (5) Develop a holistic and integrated strategy for the management of municipal, septic or pharmaceutical, electronic waste, industrial and hazardous wastes;
- (6) Promote Public Private Partnership (PPP) on waste management issues;
- (7) Implement international and regional laws related to management of waste including the Bamako convention;
- (8) Encourage community participation in waste management;
- (9) Promote good hygiene practices through hand washing with soap, household water treatment and storage and safe disposal of faeces;
- (10) Encourage the immediate establishment of decentralised, inexpensive on-site sewage systems in all urban centres of South Sudan;
- (11) Promote the establishment of sewer lines and waste water treatment plants in all towns of South Sudan;
- (12) Promote the establishment of hygienic, low-cost bio-toilets, based on the faecal diversion principle for easy reuse in organic farming; Promote water-saving, water-low and waterless sanitation technology as in e.g. the Urine Diversion Dehydration Toilets (UDDTs) or “eco-san toilets”, Urine Diversion Flush Toilets (UDFTs), and waterless urinals; and
- (13) Promote education and awareness programmes on waste management issues.

## **4.2. Pollution Prevention**

The policy aims to:

- (1) Implement international and regional laws related to pollution control;
- (2) Promulgate laws to prevent and control environmental pollution in South Sudan;
- (3) Enact legislation to ban smoking in Government institutions, hotels, restaurants, cinemas, theatres, public transport and other public places and impose a fine of SSP 1000 or, in lieu of payment, one month imprisonment on individuals and a higher fine on those people managing such public places;
- (4) Control the use, transportation and storage of fuels in the Republic of South Sudan;
- (5) Ban the burning of tall grass, forests and trees to prevent pollution and protect the environment;
- (6) Impose an annual pollution tax, based on the principle of the polluter pays, on:
  - (a) Each individual, institution or business enterprise that uses a fossil fuel generator;
  - (b) Each individual, institution or business enterprise that uses, among others, a vehicle, motorbike, motorboat, steamer, or aircraft; and
  - (c) Any individual, institution or business enterprise that uses any other means to cause pollution.
- (7) Phase out the practice of flaring of gas from the oil production, which contributes to climate change and causes air pollution and introduce clean technologies for harvesting of gas.

## **4.3. Natural Disasters and Desertification**

Whereas droughts, floods and insect plagues that are natural disasters, bush fires and desertification are anthropologically influenced. These natural disasters, due to changing weather patterns and conditions in the last fifty years have become recurrent phenomena in all ecological zones of South Sudan. Other anthropologically influenced and inadvertent activities or incidences, like oil and hazardous chemical spillage, can pose immediate and long-term threats or risks to public health and the environment.

Loss of vegetation cover along the Sudan-South Sudan border poses one of the greatest environmental challenges. Reckless human activities often lead to over-exploitation of resources e.g. soils, forests and water, which subsequently precedes desertification. Between 50 to 200 km from the common South Sudan-the Sudan border has witnessed a gradual shift and transformation from a semi-desert to a desert environment.

The policy aims to:

- (1) Ensure that a national policy and strategy for disaster management is developed and implemented;
- (2) Promote resource management through proper land use planning that shall regulate and control the exploitation of resources in especially fragile ecosystems;
- (3) Implement the United Nations Convention on Combating Desertification (UNCCD) and other related laws;
- (4) Promote the establishment of meteorological monitoring stations to provide actual data for weather forecasting;
- (5) Develop emergency preparedness, response and intervention plans prior to occurrence of natural disasters;
- (6) Develop digital maps and zones of flood-prone areas in South Sudan;
- (7) Reduce human settlements and any other anthropological activities in flood-prone zones;
- (8) Encourage agro-forestry and the planting of wind-breakers along the common South Sudan-the Sudan border, Eastren Upper Nile State, Eastern Jonglei State, Kapoeta East County and Kapoeta North County to reduce the effects of desertification; and
- (9) Ensure an annual budget for response to and mitigation of disasters.

#### **4.4. Conflict and Environment**

Conflict and environment in South Sudan are complex, inherently interlinked and pervasive. Many of these conflicts have been triggered-off over the use of scarce and shared natural resources. The overlap of rangeland with areas of cultivation, for example, is often a major source of conflict especially between agricultural and pastoral communities. Large livestock numbers herded per unit area per unit time can increase a rangeland's vulnerability to soil vegetation degradation.

Three categories of natural resources are particularly linked to conflict these are: energy sector (oil, gas, fuel wood); water, agricultural lands and rangelands. Post-independent South Sudan is witnessing increasing inter-ethnic and intra-ethnic conflicts due to the following factors:

1. Growing competition and displacements between agricultural and pastoral communities for new land as a result of land degradation and population growth;
2. Increased cattle rustling and revenge attacks among pastoralists in some of the States;
3. Increased vulnerability to food insecurity resulting from droughts and poor harvest; and
4. The proliferation of automatic firearms and the inherent war culture among most South Sudanese communities.

The policy aims to:

1. Address and mitigate the adverse environmental impacts of oil industry, illegal timber logging and charcoal production, declining rangelands and agricultural lands that constitute potential triggers for renewed conflicts between and among various communities;
2. Strengthen environmental awareness and governance as a vital tool in conflict prevention, mitigation and resolution;
3. Prevent environmental degradation and promote ecologically sustainable development issues to the forefront of peace-building activities in South Sudan;
4. Integrate natural resource assessment and management into the existing peace-building efforts in South Sudan;
5. Ensure the necessary arrangements to the resettlement of IDPs are made by the relevant authorities;
6. Encourage local communities and Local Governments to manage grazing lands effectively in order to prevent inter communal conflicts; and
7. Address the root causes of communal conflicts over land use, including land disputes and poverty.

#### **4.5. Ozone Layer Depletion**

The ozone layer can be depleted by free radical catalysts, including nitric oxide (NO), nitrous oxide (N<sub>2</sub>O), hydroxyl (OH), atomic chlorine (Cl), and atomic bromine (Br). While there are natural sources for all of these species, the concentrations of chlorine and bromine have increased markedly in recent years due to the release of large quantities of man-made organohalogen compounds, especially chlorofluorocarbons (CFCs) and bromofluorocarbons. These highly stable compounds are capable of surviving the rise to the stratosphere, where Cl and Br radicals are liberated by the action of ultraviolet light. Each radical is then free to initiate and catalyze a chain reaction capable of breaking down over 100,000 ozone molecules. The breakdown of ozone in the stratosphere results in a reduction of the absorption of ultraviolet radiation. Consequently, unabsorbed and dangerous ultraviolet radiation is able to reach the Earth's surface. Ozone levels over the northern hemisphere have been dropping by 4% per decade. In 2009, nitrous oxide (N<sub>2</sub>O) was the largest ozone-depleting substance (ODS) emitted through human activities.

The policy aims to:

1. Implement *The Vienna Convention, 1985* and *The Montreal Protocol, 1987*;
2. Promote the use of ozone friendly technologies;
3. Establish licensing systems for import of Ozone depleting substances;
4. Develop Ozone depleting substances regulations; and
5. Formulate and implement Hydrochlorofluorocarbons (HCFC) phased out management plan (HPMP).

#### **4.6. Renewable Energy**

The policy aims to:

1. Ensure that all government institutions at all levels, business enterprises, diplomatic missions, NGOs, other development agencies, other organizations and individuals phase out the use of fossil fuel generators and shift to using renewable sources of energy by 2020.
2. Make it a legal offence for an individual, a government institution, a business enterprise, a diplomatic mission, an NGO, a development agency, or any other organization to operate a fossil fuel generator in the territory of the Republic of South Sudan.

3. Impose a penalty for those who continue to use fossil fuel generators after 2020.
4. Exempt from taxes all government institutions that are importing renewable energy equipment or source for use as a renewable source of energy in the country.
5. The Ministry, in consultation with the Ministry responsible for Finance and the Ministry responsible for customs shall reduce taxes payable by business enterprises, NGOs, diplomatic missions and other development agencies for importing renewable energy equipment or sources.
6. The Ministry, in collaboration with the national ministries, state ministries responsible for the environment and the Local Environment Departments, shall encourage Green Economy initiatives to enhance low carbon and resource efficient economy as well as promote carbon sequestration.

## **CHAPTER 5**

### **ENVIRONMENTAL RULE OF LAW**

#### ***5.1. National Environmental Legislation***

The National environmental laws and regulations of the Republic of South Sudan should aim to:

1. Implement the provisions related to the Environment in the South Sudan Transitional Constitution, 2011, and address environmental issues that are specific to the country;
2. Respond to the global agenda and, by necessity, implement all the relevant international and regional Environmental agreements (EAs) to meet its obligations as a Member State of the United Nations; and
3. Implement the new Sustainable Development Goals (SDGs); (See Annex 3).

#### ***5.2. Regional and International Cooperation***

As a Member State of the UN, African Union and, most likely, the East African Community, the Republic of South Sudan will accede to a number of multilateral agreements sooner or later. These agreements provide a solid foundation for promotion of environmental rule of law at global, regional and sub-regional levels. They can also address the issue of lack of funds for environmental protection, by enabling the Republic of South Sudan to access and benefit from multilateral funding opportunities offered through these conventions and agreements.

The policy aims to:

1. Implement all the relevant Multilateral Environment Agreements (MEAs);
2. Work in collaboration with the UN and the international community to implement the new Sustainable Development Goals (SDGs);
3. Implement the relevant African Union (sponsored or endorsed) Multilateral Environment Agreements (MEAs) in collaboration with the members states;
4. Collaborate with the member states of the East African Community to



implement the relevant environment laws of the EAC, especially *The Protocol on the Environment and Natural Resources Management*;

5. Implement the relevant IGAD Environmental agreements in collaboration with the member states; and
6. Implement any other regional agreements such as the Nile Basin Initiative (NBI) and the Great Lakes region agreements.

### **5.3. Implementation of the Multi-lateral Environmental Agreements**

The Republic of South Sudan is the 193<sup>rd</sup> Member State of the United Nations and the 54<sup>th</sup> Member State of the African Union, the 8<sup>th</sup> member of Inter-governmental Authority on development (IGAD) and will become a member state of the East African Community in the near future. Therefore, the Republic of South Sudan is duty-bound to implement many international and regional multilateral environmental agreements (MEAs). Annex (2) provides a detailed list of these agreements.

The Policy aims to:

- 1) Ensure that the Republic of South Sudan accede and ratify the multilateral Environmental Agreements (MEAs); and
- 2) Ensure that the Republic of South Sudan implement all the relevant international and regional Environment Agreements.

### **5.4. Punitive Measures and Sanctions**

The primary function of enforcing any legislation is based on the polluter-pays-principle. This means cases of non-compliance with the existing laws and regulations are subject to punitive measures or sanctions punishable, primarily, in monetary terms. These measures rely on making environmental improvements more rewarding for the polluters in financial and economic terms. They contribute to improving the efficiency and effectiveness of the environmental policy.

The policy aims to:

- (1) Impose environmental taxes and charges either on products or services to ensure that the sales price fully reflects the costs of environmental services and abatement measures;
- (2) Design environmental subsidies and incentives to stimulate development of new technologies to help create new markets for environmental goods and services;

- (3) Impose deposit refunds as a type of performance bond to encourage the return for recycling or proper disposal of the item purchased or its packaging once it is consumed;
- (4) Incorporate environmental criteria into government purchasing requirements and decisions to provide incentives for suppliers;
- (5) Develop liability and compensation schemes to ensure compensation for damage resulting from activities harmful to the environment; and
- (6) Establish an Environment Trust Fund to be referred to as *The National Environment Fund*.

### **5.5. Registration of Environmental Consultants, Consultancies and Firms**

It is observed that there are many Consultants, Consultancies and firms working in the field of the environment in the Republic of South Sudan. The quality of their work is variable and could create a loophole in the environment protection system that can be exploited by unscrupulous practitioners. Therefore, all consultants and consultancy firms working in the field of environment in South Sudan need to be registered with the Ministry of Environment which will keep a record of their list for purposes of authenticity and follow up. Regulation of the work of Consultants, Consultancies and firms can help prevent irregularities that we undermine the integrity of the environmental protection regime.

The Policy aims to:

- 1) Ensure that all consultants, consultancies and firms are registered with the Ministry responsible for the Environment;
- 2) When they apply for registration, the consultants, consultancies and firms should provide their profiles indicating their qualifications, experiences and financial ability.
- 3) They should conduct their services in consistency with the national Environment policy, laws and regulations
- 4) Environmental Consultants, consultancies and firms are required to pay a registration fee and any other fees and levies as may be required by the law.

## **5.6. Environmental Assessments**

Environmental assessment is the Process of estimating and evaluating significant short-term and long-term effects of a program or project on the quality of its location's environment. It also includes identifying ways to minimize, mitigate, or eliminate these effects and/or compensate for their impact. This section of Environmental assessment will tackled environmental Impact Assessment, Environmental Audit, Strategic Environmental Assessment and Environmental Monitoring and Inspection.

The policy aims to:

- 1) Develop Environmental Impact assessment (EIA) regulations and guidelines
- 2) Conduct a regular strategic environmental assessment to generate data and information on the state of the environment and the natural resource base in the Country.
- 3) Ensure that the strategic Environmental Assessment covers all the sectors in the Republic of South Sudan
- 4) Ensure that any development activity fulfils the requirement to conduct an Environmental and Social Impact Assessment (ESIA) and obtains an Environmental Certificate prior to its implementation;
- 5) Ensure that any approved development activity should conduct regular environmental audits; and
- 6) Ensure that the review of all environmental assessments and issuance of permits, licenses and compliance certificates are carried out by the Ministry responsible for the Environment.

## **5.7. Environmental Standards**

Environmental standards are quality yardsticks that are adhered to or maintained for a particular environmental component. Different environmental activities have different concerns and Standards. The environmental standards used in many countries in the world help, in a big way, to assure quality and promote the environmental rule of law.

The Policy aims to:

1. Establish standards and procedures for measurement of the quality of air, water, soil, noise, radiation, effluents and others; and
2. Ensure that every developer of projects, plans and programmes should respect and adhere to the national environmental standards that shall be

issued by the Ministry of Environment after consultation with the key stakeholders.

### **5.8. Environmental Enforcement and Compliance**

Environmental compliance, which is the process of conforming to environmental laws, regulations, standards, guidelines and other requirements, is critical to promoting environmental rule of law and ensuring environmental protection and sustainability. Laws, regulations, standards, and guidelines can only be implemented and achieve the desired outcomes only if they are enforced and complied with. So, it is vital for the Republic of South Sudan to ensure environmental compliance.

The Policy aims to:

1. Develop national compliance plans or National Implementation Plans (NIPs) consistent with the global, regional and sub-regional and national environmental laws to ensure compliance;
2. Establish procedures for becoming a Party to Multi-lateral Environmental Agreements;
3. Establish Environmental Compliance units as an integral part of the national ministry, the state ministries responsible for the Environment and the Local Environment Department to enforce the implementation of the law;
4. Ensure that all sectoral activities are in compliance with the required environmental standards and legal frameworks;
5. Empower law enforcement agencies in the country to ensure environmental compliance;
6. Foster regional and international cooperation through bi-lateral or Multilateral environmental agreements on addressing trans-boundary and global environmental issues;
7. Set aside funds for the environmental compliance units to facilitate their activities;
8. Raise awareness of the public, NGOs, private sector, CBOs, UN agencies and government institutions on the environmental laws;
9. Ensure that regular environmental audits and inspections are conducted by competent and registered environmental consultants, consultancies and firms; and
10. Where environmental audits or regular inspections reveal non-compliance, issue improvement orders to the parties concerned to ensure the necessary corrective measures are taken.

### **5.9. *Handling of Environmental Crimes***

Environmental crimes taking place within the territory of the Republic of South Sudan shall be tackled by competent courts in accordance with the laws of the domestic laws.

The Policy aims to:

1. Investigate any allegation of environmental crimes in collaboration with other government institutions and collect the evidence to establish that an environmental crime has taken place;
2. Ensure that environmental cases that have substantial evidence to warrant prosecution are referred to the Minister of Justice, the prosecuting authority at the three levels of the government, for prosecution;
3. Ensure any fines from environmental cases settled in or outside a court of Justice are remitted or deposited into the national environment protection fund and are used solely for the purpose of regenerating the environment;
4. Ensure that the Legal Advisors of the National Ministry of Environment follows up all the outstanding environmental cases with the Ministry of Justice; and
5. Arrange for witnesses to testify in courts in support of environmental legal cases.

### **5.10. *Attainment of the Sustainable Development Goals***

The Policy aims to:

1. Develop a national action plan for implementation of the Sustainable Development Goals;
2. Ensure that the national action plan is implemented by all the stakeholders and the Sustainable Development Goals are achieved;
3. Coordinate, monitor and review implementation of the national action plan and introduce new measures as appropriate; and
4. Report to the stakeholders, the Council of Ministers and the National Legislative Assembly regularly.

## CHAPTER 6

### CAPACITY BUILDING

The Ministry of Environment is a new national institution with obvious needs for institutional and human capacity building. In addition, there is a need to establish and build the capacities of the state ministries responsible for the environment and the Local Environment Departments to be able to play their roles in protecting and sustaining the environment.

#### ***6.1. Institutional Capacity Building***

The institutional framework for implementing the Policy will reflect the federal character of the Republic of South Sudan, consisting of the national Government, the 10 States and the Counties. Therefore, it is imperative to build institutional capacity at the three levels of the government of the Republic of South Sudan to enable government institutions to protect the environment and promote sustainable development. Once this policy objective is achieved, it would be practicable for environmental management to be decentralized to the lower levels of the government to enable the stakeholders to participate effectively in environmental governance, policy implementation and decision-making processes pertaining to use of environmental resources and conservation of nature.

The policy aims to:

- (1) Establish environmental governance institutions at the national, state and local levels of government;
- (2) Coordinate environmental management with the private sector and local institutions;
- (3) Strengthen the role of local communities in environmental management;
- (4) Build institutional capacity at the national, state and local government levels to ensure effective environmental governance; and
- (5) Promote good (environmental) governance to ensure compliance and enforcement.

#### ***6.2. Human Capacity Building***

##### **6.2.1. Public Environmental Education**

Environmental education, awareness creation and training are the fundamental elements of capacity building for sustainable development. Environmental education and awareness of environmental issues are vital for achieving effective

participation of local communities and other stakeholders in environmental management. This is besides fostering an ethic of environmental stewardship.

The policy aims to:

1. Support environmental education and public awareness activities;
2. Undertake environmental education and public awareness programmes in various media organs to convey environmental messages to the public;
3. Promote indigenous knowledge and understanding in management of the environment; and
4. Integrate environmental education in both formal and non-formal learning institutions.

### **6.2.2. School-based Environmental Education**

School-based environmental education is vital as an integral part of a national strategy for environmental education to raise awareness and to ease implementation of environmental laws and regulations throughout the Republic of South Sudan.

The policy aims to:

- (1) Incorporate environmental education into the National Curriculum;
- (2) Ensure school textbooks and Teacher's Guides include environmental content; and
- (3) Ensure environmental education is provide to school Teachers.

### **6.2.3. Environmental Standards**

Legal and technical instruments can be developed to monitor and evaluate temporal and spatial environmental quality parameters. Threshold values and established benchmarks may then be used as early warning systems to qualify stress levels on environmental functions, which would then prompt timely interventions.

The policy aims to:

- (1) Enact legislations that shall establish environmental benchmarks and standards;
- (2) Monitor regularly the level of environmental degradation based on specified environmental quality parameters;
- (3) The government should subscribe to the principle of "polluter pays"

to ensure that those responsible for environmental damage pay for its clean up and compensate those affected; and

- (4) Develop sector-specific guidelines to promote good environmental practices.

#### **6.2.4. Environmental Laws and Regulations**

The Government of the Republic of South Sudan has no environmental legal frameworks. Most existing legislation is sector-based, inadequate and poorly enforceable. Implicitly, these current legislations and regulations are anachronistic and inconsistent with contemporary environmental issues.

The policy aims to:

- (1) Enact legislation and regulations on management of the environment and sustainable development to implement this policy;
- (2) Define the responsibilities at different levels of governance including those of private sector;
- (3) Ensure that environmental legal frameworks developed at different levels of government are consistent with each other and with sound environmental management practices;
- (4) Ensure that sector-based environmental legal frameworks are in conformity with the requirements of environmental management;
- (5) Incorporate in domestic legislation the provisions of (MEAs) that are relevant to South Sudan; and
- (6) Review environmental policies periodically in order to assure that they continue to be consistent with emerging environmental management issues.

#### **6.2.5. Environmental Impact Assessments**

Following the achievement of comprehensive peace in the Country and the upcoming development activities and investment coupled with other more intensive land use practices, the environment in South Sudan is likely going to be adversely affected. The Ministry of Environment, through an environmental protection agency, will require a systematic environmental impact assessments, audits, monitoring and evaluation of all development projects to mitigate adverse impacts and enhance environmental benefits.

The policy aims to:



- (1) Make the Environmental Impact Assessment (EIA) process legally binding to all proposed projects;
- (2) Develop capacity to monitor the state of the environment in South Sudan;
- (3) Ensure that ESIA guidelines for all sectors are developed;
- (4) Ensure stakeholder participation during the EIA process right from the initial planning stages of the project; and
- (5) Establish an Environmental Resource Database and Information System ERDIS for collection, compilation, dissemination of data that would help in decision-making and policy formulation.

#### **6.2.6. Monitoring, Evaluation and Reporting**

Following the approval of The National Environmental Policy, the Ministry of Environment of the Republic of South Sudan will finalise and start implementation of the strategic plan, which is the vehicle for implementation of this policy and the Law. All the relevant personnel in the line government institutions, non-governmental stakeholders and other relevant agencies at different levels of the national, state and local levels need to be trained and involved in implementation of the Policy.

Periodical monitoring and evaluation are indispensable activities and they shall ensure that the implementation plans are consistent, realizable and pertinent to the Policy. This is a prelude towards sound management and environmental conservation in South Sudan.

The Government of the Republic of South Sudan (RSS) will need to use a range of legal and technical instruments to implement the Policy. These instruments are a means by which the goals and strategic objectives of this policy may be pursued and realized.

The policy aims to:

1. Provide training on policy monitoring, evaluation and reporting to all the relevant personnel in the government institutions at the national, state and local levels prior to their involvement in implementation of the Policy; and
2. Ensure common mechanisms for monitoring, evaluation and reporting on implementation of the Policy are in place and operational.

### **6.2.7. Capacity Building for the Non-governmental Stakeholders**

The private sector, NGOs, CBOs and other stakeholders play an important role in management of the environment. This is simply because they are free from the bureaucratic and political pressures of public institutions.

The policy aims to:

- (1) Build capacity of non-state stakeholders for effective implementation of the environmental policy;
- (2) Promote private sector, NGOs and civil society participation in environmental management; and
- (3) Promote partnership between environmental governance institutions, NGOs, CBOs and other stakeholders.

## CHAPTER 7

### THE NATIONAL ENVIRONMENT FUND

The Republic of South Sudan can generate a significant income from environmental fees, fines and taxes as well as carbon trading on annual basis. The primary function of enforcing any environmental legislation is based on the polluter-pays principle of *The Rio Declaration on Environment and Development, 1992*. This means cases of non-compliance with environmental laws and regulations are subject to punitive measures or sanctions punishable, primarily, in monetary terms. These measures rely on making environmental improvements more rewarding for the polluters in financial and economic terms. They contribute to improving the efficiency and effectiveness of the environmental policy. Of course, the government of the Republic of South Sudan is expected to allocate significant funds for protection of the environment and sustainable development through its annual budgetary allocation at the three levels of the government. Such an allocation needs to continue and be shared, especially by all the institutions involved in the protection and regeneration of the environment. The private sector, individual citizens, residents and visitors as well as NGOs, CBOs, UN agencies, donors and public institutions can do their part using their own financial resources.

#### **7.1. Public Investment**

One most effective way of realizing environmental protection is through public investment. Credible long-term benefits are highly expected from capital public investments and public-private partnerships.

The Policy aims to:

- (1) Establish a National Environment Protection Fund, as a trust fund, by law.
- (2) Ensure the annual budget allocation for the Ministry of Environment is substantially increased to fund environmental programmes throughout the Country.
- (3) Ensure all the environmental taxes, fines, fees, and other revenues are deposited into the National Environment Protection Fund.
- (4) Ensure the National Environment Protection Fund is used solely to finance environmental programmes at the National, State and Local levels.
- (5) Ensure the National Council of Ministers oversees the operation of the National Environment Protection Fund by Law.

- (6) Enact legislation to regulate the operation of the National Environment Protection Fund.
- (7) Promote carbon trading and reinvest the revenues from such trading in the protection and regeneration of the environment;
- (8) Promote appropriate remedial technologies e.g. construction of sanitary landfills for disposal of solid wastes to minimize contamination of surface and sub-surface water;
- (9) Impose a pollution tax on the public sector institutions for use of fossil fuel generators;
- (10) Impose a pollution tax on public sector institutions for use of vehicles, each according to its fuel consumption and frequency of use or movement;
- (11) Impose a pollution tax for each imported vehicle, especially used vehicles (within the legal ceiling of six years old and under);
- (12) Impose a pollution tax for each imported fossil fuel generator;
- (13) Invest in urban water development projects and public sanitation facilities to ensure access to safe and clean drinking water and sanitation services for all;
- (14) Exempt from taxes all government institutions that are importing solar energy equipment for use as a renewable source of energy in the country;
- (15) Ensure public sector institutions pay for environmental impact assessments and environmental audits of their projects, which shall be conducted by Environmental Consultants, Consultancies or Firms, and review of environmental assessments and audits by the Ministry of Environment;
- (16) Impose environmental taxes and charges either on products or services to ensure that the sales price fully reflects all costs of production to cover the costs of environmental services and abatement measures; and
- (17) Develop liability and compensation schemes to ensure compensation for damage resulting from activities harmful to the environment.

## **7.2. Private Investment**

The Policy aims to:

- (1) Encourage the private sector to invest in planting of trees throughout the country;

- (2) Promote Public-Private Partnerships (PPP) with a view to improve environmental services for all;
- (3) Encourage the private sector to shift to environment-friendly technologies and practices;
- (4) Ensure the private sector pays the environmental taxes and charges on goods, works and services to cover the costs of environmental services;
- (5) Impose a pollution tax on the private sector institutions for use of fossil fuel generators;
- (6) Impose a pollution tax on businesses for use of vehicles, each according to its fuel consumption and frequency of use or movement;
- (7) Impose a pollution tax for each imported vehicle, especially used vehicles (within the legal ceiling of six years old and under);
- (8) Impose a pollution tax for each imported fossil fuel generator;
- (9) Ensure the private sector fulfil their corporate environmental responsibility;
- (10) Encourage the private sector to establish recycling plants, waste management companies, environmental consultancies and other environment firms;
- (11) Design environmental subsidies and incentives to stimulate development of new technologies to help create new markets for environmental goods and services;
- (12) Reduce taxes on businesses that are importing solar energy equipment for sale or use as a renewable source of energy in the country;
- (13) Create and give new awards to businesses that have made significant investments in and shown significant commitment to environmental protection and sustainability in order to encourage the change of attitudes towards the environment;
- (14) Ensure private sector institutions pay for environmental impact assessments, environmental audits of their projects, which shall be conducted by Environmental Consultants, Consultancies or Firms, and review of environmental assessments and audits by the Ministry of Environment;
- (15) Incorporate environmental criteria into government purchasing requirements and decisions to provide incentives for suppliers; and

- (16) Impose deposit refunds as a type of performance bond to encourage the return for recycling or proper disposal of the item purchased or its packaging once it is consumed.

### **7.3. Donor Funding**

The Policy aims to:

1. Encourage the Global Environment Facility (GEF) to increase its funding for the environment projects in the Republic of South Sudan;
2. Raise additional funds from Donor community for environmental programmes; and
3. Ensure effective management of donor projects and accountability for donor funds.

### **7.4. Contribution of Individuals**

The policy aims to:

1. Ensure every individual South Sudanese citizen fulfils his/her duty under Article 46 of *The Transitional Constitution, 2011*;
2. Impose environmental taxes and fees on individuals to meet the costs of environmental protection and regeneration services;
3. Ensure individuals abide by the environmental laws of the country and, when they fail to do so, are subject to fine in accordance with the law;
4. Ensure tourists and other visitors to the Republic of South Sudan pay an environment tax since they contribute to pollution of the environment during their stay in the country;
5. Legislate for individuals to be fined for acts that constitute environmental crimes, such as littering, smoking in a public place, spitting tobacco or saliva on the floor in a public place, urinating in an open space;
6. Ensure every individual eating at a restaurant, café, hotel and other commercial venues pay a garbage tax to contribute towards the costs of environmental services;
7. Impose a garbage tax on every household as a contribution towards the costs of garbage collection, transportation to the landfill;

8. Ensure individuals pay the costs of removal of liquid waste from their homes and its transportation and depositing in the waste pond;
9. Impose an annual pollution tax on individuals for use of fossil fuel generators in their homes, farms, or other venues;
10. Impose an annual pollution tax on individuals for use of vehicles, each according to its fuel consumption and frequency of use or movement;
11. Exempt individuals who are importing solar energy equipment for domestic use as a renewable source of energy; and
12. Ensure individuals pay for environmental impact assessments, environmental audits of their projects, which shall be conducted by Environmental Consultants, Consultancies or Firms, and review of environmental assessments and audits by the Ministry of Environment.

### **7.5. *Other Contributions in Kind***

The policy aims to:

1. Promote the construction of decentralized, low-cost “unconventional sewage systems”, for example septic tanks that are regularly emptied and so reduce water pollution due to improper discharge;
2. Encourage individuals, businesses, NGOs, UN agencies, CBOs and government institutions to plant trees in and around homes, businesses, schools, offices, communal gardens, public parks and other recreational open spaces, etc in order to help increase our national forest cover and regenerate the environment;
3. Impose a requirement for each individual to take his or her vehicle to an approved MOT testing centre for an annual MOT test and a MOT Certificate, which shall be a requirement for registration of vehicles and annual renewal of a vehicle license; and
4. Impose a legal duty or requirement on individuals who own houses or homes to keep their homes clean and free of any unwanted wild grass (inside and two metres outside).

## CHAPTER 8

### ENVIRONMENTAL PLANNING

#### ***1. The National Environmental Action Plan***

The Ministry of Environment will lead the process of development of the National Environmental Action Plan of the government of the Republic of South Sudan. The National Environmental Action Plan should aim to promote, facilitate and co-ordinate strategies, plans and activities relating to the environment and to ensure the protection and prudent management of South Sudan's environment.

#### ***2. Contents of the National Environmental Action Plan***

1. The National Environmental Action Plan should be based on and achieve the goal and objectives of the Policy.
2. The National Environmental Action Plan should contain strategies and measures for the management, protection, restoration and restitution of the environment, including measures for:
  - (a) The protection of ecological processes and natural systems as well as the preservation of biodiversity;
  - (b) The promotion of eco-centered development that seeks to strike a balance between ecological sustenance and economic imperatives;
  - (c) The prevention or mitigation of activities contributing to local as well as regional climatic change and the protection of the ozone layer;
  - (d) The protection of South Sudan's natural environment from disturbance, disfigurement, pollution, poisoning or destruction as a result of anthropologically made structures, installations, processes or products;
  - (e) The accession, domestication and implementation of international conventions and treaties to which South Sudan is a party or signatory;
  - (f) Ensure integrated approaches and measures to the maintenance and improvement of the environment that are technically feasible, socially equitable and economically affordable so as to improve the quality of life for the citizens of the Republic of South Sudan; and
  - (g) Sensitize and promote awareness on the prudent use of natural resources of the country to promote a stable intergenerational equity.



### ***3. Consultation on and Confirmation of National Environmental Action Plan***

1. On completion of a National Environmental Action Plan, the Ministry of Environment shall—
  - (a) Consult the relevant national ministries, the state ministries responsible for the environment and other stakeholders; and
  - (b) Present the Plan to the Council of Ministers prior to its presentation to the National Legislative Assembly.
2. Upon approval by the National Legislative Assembly, the National Environment Action Plan will be considered the official Plan of the Government and shall be binding on all government institutions, the private sector and the people of the Republic of South Sudan and reviewed every five (5) years.
3. After carrying out such consultation, the Ministry of Environment shall make the necessary changes to the National Environmental Action Plan in light of the consultations.
4. The Ministry of Environment will publish, launch and disseminate the National Environmental Action Plan to pave way for its smooth implementation.

### ***4. Amendment of The National Environmental Action Plan***

- (1) If it appears to the Ministry that the National Environmental Action Plan that has been approved needs to be amended, the Ministry will hold a consultation meeting with the relevant national ministries, state Ministries responsible for Environment and other key stakeholders.
- (2) After consulting with the key stakeholders, the Ministry may confirm the proposed changes to the National Environmental Action Plan and the plan will thereafter incorporate such changes.

### ***5. Review and Replacement of The National Environmental Action Plan***

Not more than five years (5) after a National Environmental Action Plan has come into operation, or after such longer period as the Ministry of Environment may specify and thereafter at intervals of not more than five years, the Ministry shall review the National Environmental Action Plan and decide whether or not a new plan should be developed.

## Chapter 9

# ACCESS TO INFORMATION, PUBLIC PARTICIPATION AND ACCESS TO JUSTICE

### *1. Access to Information*

The Policy aims to:

- (1) Grant every citizen of the Republic of South Sudan affordable, effective and timely access to Environmental information held by public institutions upon request without having to prove a legal or other interest;
- (2) Ensure Environmental information in the public domain, including information about environmental quality, environmental impacts on health and factors that influence them, information about legislation and policy, and advice about how to obtain information, is compiled and made accessible;
- (3) Clearly define in the national Environment law the specific grounds on which a request for environmental information can be refused;
- (4) Ensure that the Ministry of Environment, in collaboration with other public authorities, regularly collect and update relevant environmental information, including information on environmental performance and compliance by operators of activities potentially affecting the environment;
- (5) Establish relevant systems to ensure an adequate flow of information about proposed and existing activities that may significantly affect the environment;
- (6) Periodically prepare and disseminate at reasonable intervals up-to-date information on the state of the environment, including information on its quality and on pressures on the environment;
- (7) Ensure that all information that would enable the public to take measures to prevent harm to human health or the environment is disseminated immediately in the event of an imminent threat; and
- (8) Provide means for and encourage effective capacity-building, both among public authorities and the public, to facilitate effective access to environmental information.

## **2. Public Participation**

The Policy aims to:

- (1) Ensure opportunities for early and effective public participation in decision-making related to the environment and members of the public concerned are informed of their opportunities to participate at an early stage in the decision-making process.
- (2) Make efforts, as far as possible, to seek proactively public participation in a transparent and consultative manner, including efforts to ensure that members of the public concerned are given an adequate opportunity to express their views;
- (3) Ensure that all information relevant for decision-making related to the environment is made available, in an objective, understandable, timely and effective manner, to the members of the public concerned;
- (4) Ensure that due account is taken of the comments of the public in the decision-making process and that the decisions are made public;
- (5) Ensure that when a review process is carried out where previously unconsidered environmentally significant issues or circumstances have arisen, the public should be able to participate in any such review process to the extent that circumstances permit;
- (6) Consider appropriate ways of ensuring, at an appropriate stage, public input into the preparation of legally binding rules that might have a significant effect on the environment and into the preparation of policies, plans and programmes relating to the environment; and
- (7) Provide means for capacity-building, including environmental education and awareness-raising, to promote public participation in decision-making related to the environment.

## **3. Access to Justice**

The Policy aims to:

- (1) Ensure that any South Sudanese citizen who considers that his or her request for environmental information has been unreasonably refused, ignored, or, in any other way, not handled in accordance with applicable law, has access to a review procedure before a court of law or other independent and impartial body to challenge such a decision, act or omission by the public authority in question;

- (2) Ensure that the members of the public concerned have access to a court of law or other independent and impartial body to challenge the substantive and procedural legality of any decision, act or omission relating to public participation in decision-making in environmental matters;
- (3) Ensure that the members of the public concerned have access to a court of law or other independent and impartial body or administrative procedures to challenge any decision, act or omission by public authorities or private actors that affects the environment or allegedly violates the substantive or procedural legal norms of the State related to the environment;
- (4) Provide broad interpretation of standing in proceedings concerned with environmental matters with a view to achieving effective access to justice;
- (5) Provide effective procedures for timely review by courts of law or other independent and impartial bodies, or administrative procedures, of issues relating to the implementation and enforcement of laws and decisions pertaining to the environment;
- (6) Ensure that proceedings are fair, open, transparent and equitable;
- (7) Ensure that the access of members of the public concerned to review procedures relating to the environment is not prohibitively expensive and should consider the establishment of appropriate assistance mechanisms to remove or reduce financial and other barriers to access to justice;
- (8) Provide a framework for prompt, adequate and effective remedies in cases relating to the environment, such as interim and final injunctive relief. States should also consider the use of compensation and restitution and other appropriate measures;
- (9) Ensure the timely and effective enforcement of decisions in environmental matters taken by courts of law, and by administrative and other relevant bodies;
- (10) Provide adequate information to the public about the procedures operated by courts of law and other relevant bodies in relation to environmental issues;
- (11) Ensure that decisions relating to the environment taken by a court of law, or other independent and impartial or administrative body, are publicly available, as appropriate and in accordance with national law;
- (12) Promote appropriate capacity-building programmes in environmental law for judicial officers, other legal professionals and other relevant stakeholders on a regular basis; and

- (13) Encourage the development and use of alternative dispute resolution mechanisms where these are appropriate.

## **Chapter 10**

# **CORPORATE SOCIAL AND ENVIRONMENTAL RESPONSIBILITY**

### ***1. Objectives of the Policy***

The objectives of the Policy on corporate social and environmental responsibility are to:

- (a) Outline regulatory provisions for private sector institutions operating in the Republic of South Sudan to adopt best practices that are environmentally sustainable, ethically acceptable and socially friendly;
- (b) Ensure private sector institutions produce and publish reports on environmental, social and economic and financial matters;
- (c) Require private sector institutions, during the conduct of an environmental impact assessment, to consult the respective communities on certain proposed operations prior to project implementation;
- (d) Hold private sector institutions operating in South Sudan liable for all damages incurred by third parties as well as obligate them for all compensation; and
- (e) Provide for remedies for aggrieved persons.

### ***2. The Role of Private Sector***

The Private Sector will be assigned a legal duty to protect the environment and promote sustainable development.

Among others, the Private Sector will be required to:

- (a) Adhere to the national environmental policy, laws and regulations of the Republic of South Sudan;
- (b) Play an active role in implementation of national environmental action plans and campaigns;
- (c) Cut down on its greenhouse gas emissions;

- (d) Invest in the green economy and transfer of environment-friendly technologies;
- (e) Fulfill their corporate social responsibility in the areas of their operation; and
- (f) Play an active and proactive role in protecting the environment and promoting sustainable development.

### **3. Report Preparation and Publishing**

1. Every company will be bound by a legal duty to prepare and publish a report annually on—
  - (a) any significant environmental, social, cultural, economic and financial impacts as a result of any of its operations in the preceding year;
  - (b) an assessment of the significant environmental social, cultural, economic and financial impacts of any proposed activities;
  - (c) the employment policies and practices of the company which shall include the effects of its operations and any proposed operations on employability of South Sudanese nationals; and
  - (d) revenues, taxes and other payments generated from the areas of the company's operation and made to either national or state governments of South Sudan;
  - (e) grants, loans, tax exemptions or other benefits received from either national or state governments of South Sudan;
  - (f) any assistance or donations to any political party in South Sudan either directly or indirectly with a view to win favour; and
  - (g) the way in which the company's management have discharged their duties.
2. Each company is required to take reasonable steps to make the report available to—
  - (a) the Ministry of Environment;
  - (b) its employees, stakeholders or local communities; and
  - (c) any other person with an interest in the report.

#### ***4. Environmental Impact Assessment and Consultations***

1. Where a company proposes to embark upon a major project anywhere in the Republic of South Sudan, it will be required, before making any final decision about the project, to take reasonable steps to consult and respond to any opinions expressed by any stakeholders, local communities, the Ministry of Environment or any persons who may be affected by that project.
2. Each company will be required to produce, as part of any consultation, an environmental, social, economic, cultural and financial impact assessment of the proposal.

#### ***3. Provision of Information by Companies***

2. Each company will be required to ensure that a list of background information used for the preparation of any report and assessment is prepared.
3. Each company will send a copy of the report referred to above to—
  - (a) The Ministry of Environment;
  - (b) The Ministry responsible for Finance and Economic Planning; and
  - (c) The Ministry of Justice where the company is a listed and registered

#### ***4. Roles of Subsidiaries, Partners and Subcontractors of a Company***

It will be the duty of a company to ensure that any subsidiary, partner or subcontractor which is working with it complies with the Policy.

#### ***5. Environmental and Social Responsibilities by Management***

1. The Management of a company will be required, when operationalizing its plans, to act in such a manner that would most likely promote the success of the company as well as consolidate best ethical practices. The company is expected to consider—
  - (a) the environmental social, cultural and economic impacts of their operations and any proposed operations;
  - (b) the interests of all their stakeholders/investors, local communities and employees when making any decisions in respect of those operations or proposed operations;



- (c) to take all necessary steps to minimise any negative environmental, social, cultural and economic impacts of any such operations or proposed operations; and
  - (d) to prepare an annual report which identifies any potential environmental, social, cultural and economic risks the company's operations would bring about and any mitigation and restoration strategies.
2. It will be the duty of the management of a company to unveil in its annual report any best practices, experiences or failures they may have had as regards to—
- (a) the environment;
  - (b) social and cultural matters; and
  - (c) disclosure of economic and financial information.

## ***6. Liabilities of the Management of a Company***

The Management of any company operating in South Sudan will be liable for any adverse environmental, cultural or social impacts of their operations that may be caused due to—

- (a) any inadvertent negligence or intentionally done; and
- (b) any purposive misconduct.

## ***7. Role of the Ministry of Environment***

1. The Ministry will have the power, if environmental laws, Regulations or guidelines are being seriously breached, defied or ignored, to issue directions to any company. It will be a legal offence for a company to ignore or contravene any such directions.
2. For the purposes of enabling the Ministry to determine whether environmental laws, regulations or guidelines are being seriously breached, defied or ignored, the Ministry needs to have the power to investigate the matter in question and this power includes the right to summon any person, institution or business enterprise to give evidence and the right to require the provision of such information by any person, institution or business enterprise as may be reasonably required for that investigation.
3. For the purposes of ensuring compliance with environmental laws, regulations and guidelines, the Ministry will carry out specified number of random environmental audits of companies.
4. Given that some companies will obstruct the work of the Ministry, it will be

an offence for any person or business enterprise to obstruct any investigation by the Ministry of the Environment.

## **8. *Violations and Penalties***

1. Each company/investor who or which breaches any provision of the environmental laws will be considered to have committed an offence and will be punishable by—
  - (a) imprisonment for not less than 1 year or a fine of not less than 50,000 SSP;
  - (b) a fine of not less than 200,000 SSP; or being prohibited from doing any businesses or operating in South Sudan for a period of not less than 5 years;
  - (c) Ordering a company/investor to pay reparations to local communities for damages incurred by a company's operations; or
  - (d) completely ceasing of operations in South Sudan, should serious breaches of the law persist after notification to stop violations fail.

## ANNEXES

### **1. Annex (1): The Rio Declaration on Environment and Development, 1992**

The United Nations Conference on Environment and Development,

Having met at Rio de Janeiro from 3 to 14 June 1992,

Reaffirming the Declaration of the United Nations Conference on the Human Environment, adopted at Stockholm on 16 June 1972, (\*) and seeking to build upon it,

With the goal of establishing a new and equitable global partnership through the creation of new levels of cooperation among States, key sectors of societies and people,

Working towards international agreements which respect the interests of all and protect the integrity of the global environmental and developmental system,

Recognizing the integral and interdependent nature of the Earth, our home,  
Proclaims that:

#### Principle 1

Human beings are at the centre of concerns for sustainable development.

They are entitled to a healthy and productive life in harmony with nature.

#### Principle 2

States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.

#### Principle 3

The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.

#### Principle 4

In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.

#### Principle 5

All States and all people shall cooperate in the essential task of eradicating poverty as an indispensable requirement for sustainable development, in order to decrease the disparities in standards of living and better meet the needs of the majority of the people of the world.

#### Principle 6

The special situation and needs of developing countries, particularly the least developed and those most environmentally vulnerable, shall be given special priority. International actions in the field of environment and development should also address the interests and needs of all countries.

#### Principle 7

States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.

#### Principle 8

To achieve sustainable development and a higher quality of life for all people, States should reduce and eliminate unsustainable patterns of production and consumption and promote appropriate demographic policies.

#### Principle 9

States should cooperate to strengthen endogenous capacity-building for sustainable development by improving scientific understanding through exchanges of scientific and technological knowledge, and by enhancing the development, adaptation, diffusion and transfer of technologies, including new and innovative technologies.

#### Principle 10

Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.

#### Principle 11

States shall enact effective environmental legislation. Environmental standards, management objectives and priorities should reflect the environmental and developmental context to which they apply. Standards applied by some countries may be inappropriate and of unwarranted economic and social cost to other

countries, in particular developing countries.

#### Principle 12

States should cooperate to promote a supportive and open international economic system that would lead to economic growth and sustainable development in all countries, to better address the problems of environmental degradation. Trade policy measures for environmental purposes should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade. Unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country should be avoided. Environmental measures addressing transboundary or global environmental problems should, as far as possible, be based on an international consensus.

#### Principle 13

States shall develop national law regarding liability and compensation for the victims of pollution and other environmental damage. States shall also cooperate in an expeditious and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction.

#### Principle 14

States should effectively cooperate to discourage or prevent the relocation and transfer to other States of any activities and substances that cause severe environmental degradation or are found to be harmful to human health.

#### Principle 15

In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

#### Principle 16

National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.

#### Principle 17

Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority.

#### Principle 18

States shall immediately notify other States of any natural disasters or other emergencies that are likely to produce sudden harmful effects on the environment

of those States. Every effort shall be made by the international community to help States so afflicted.

Principle 19

States shall provide prior and timely notification and relevant information to potentially affected States on activities that may have a significant adverse transboundary environmental effect and shall consult with those States at an early stage and in good faith.

Principle 20

Women have a vital role in environmental management and development. Their full participation is therefore essential to achieve sustainable development.

Principle 21

The creativity, ideals and courage of the youth of the world should be mobilized to forge a global partnership in order to achieve sustainable development and ensure a better future for all.

Principle 22

Indigenous people and their communities and other local communities have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognize and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development.

Principle 23

The environment and natural resources of people under oppression, domination and occupation shall be protected.

Principle 24

Warfare is inherently destructive of sustainable development. States shall therefore respect international law providing protection for the environment in times of armed conflict and cooperate in its further development, as necessary.

Principle 25

Peace, development and environmental protection are interdependent and indivisible.

Principle 26

States shall resolve all their environmental disputes peacefully and by appropriate means in accordance with the Charter of the United Nations.

Principle 27

States and people shall cooperate in good faith and in a spirit of partnership in the fulfilment of the principles embodied in this Declaration and in the further development of international law in the field of sustainable development.

**Annex (3): Proposed Sustainable Development Goals, 2015 to 2030**

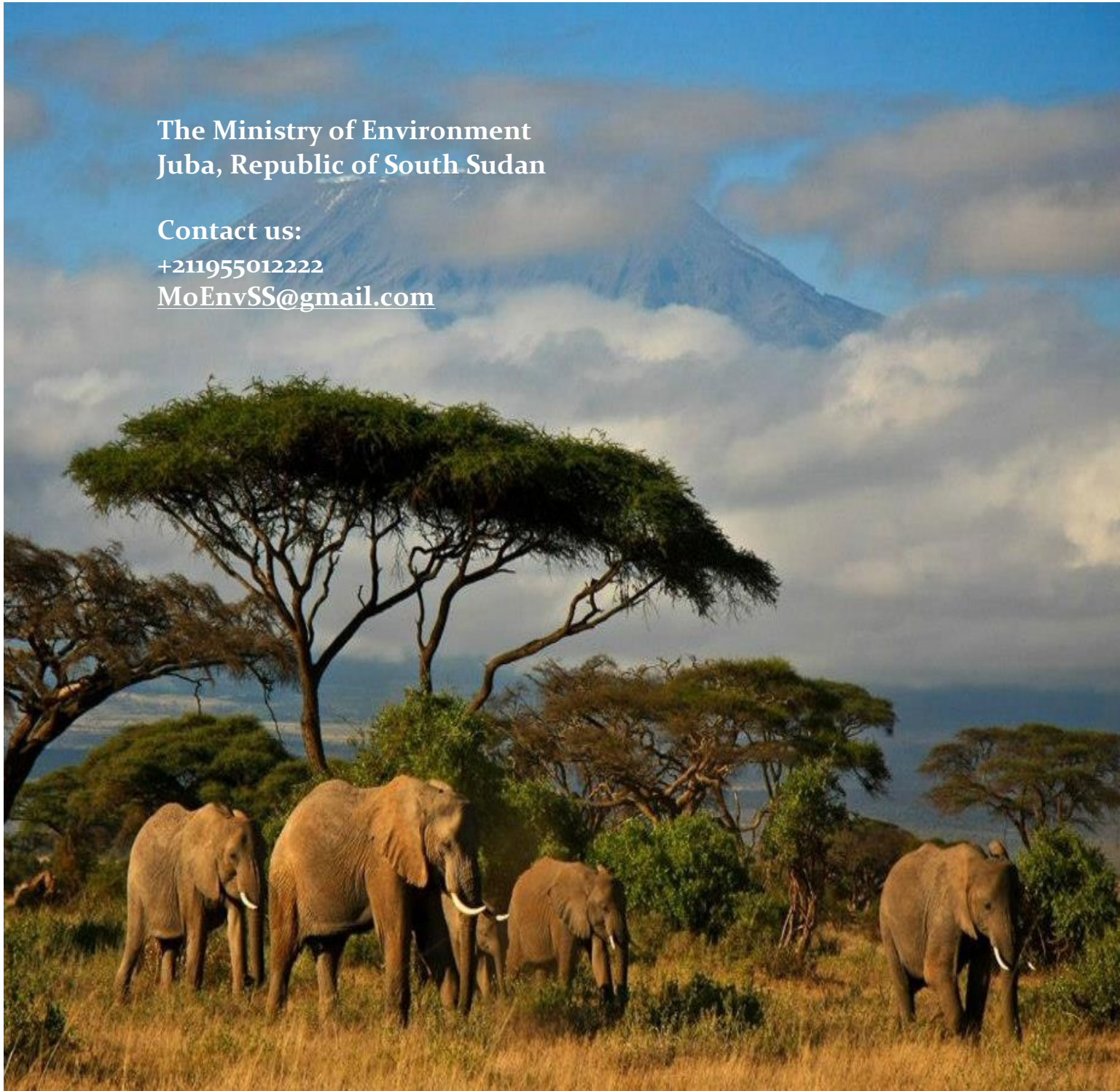
1. End poverty in all its forms everywhere;
2. End hunger, achieve food security and adequate nutrition for all, and promote sustainable agriculture;
3. Attain healthy life for all at all ages;
4. Provide equitable and inclusive quality education and life-long learning opportunities for all;
5. Attain gender equality, empower women and girls everywhere;
6. Secure water and sanitation for all for a sustainable world;
7. Ensure access to affordable, sustainable, and reliable modern energy services for all;
8. Promote strong, inclusive and sustainable economic growth and decent work for all;
9. Promote sustainable industrialisation;
10. Reduce inequality within and among countries;
11. Build inclusive, safe and sustainable cities and human settlements;
12. Promote sustainable consumption and production patterns;
13. Promote actions at all levels to address climate change;
14. Attain conservation and sustainable use of marine resources, oceans and seas;
15. Protect and restore terrestrial ecosystems and halt all biodiversity loss;
16. Achieve peaceful and inclusive societies, rule of law, effective and capable institutions; and
17. Strengthen and enhance the means of implementation and global partnership for sustainable development.

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DECEMBER 2011

# REPUBLIC OF SOUTH SUDAN

## MINISTRY OF HEALTH



# NATIONAL POLICY ON MEDICAL WASTE MANAGEMENT

FIRST DRAFT

NOVEMBER 2011

## TABLE OF CONTENTS

1. DEFINITIONS.....	3
2. BACKGROUND.....	4
2.1. Preamble.....	4
2.2. Situation Analysis.....	4
3. MISSION STATEMENT.....	5
3.1. Goal.....	5
3.2. Objective.....	5
3.3. Scope of Application.....	5
3.4. Guiding Principles.....	5
4. AWARENESS RAISING AND EDUCATION.....	6
4.1. Policy Objectives.....	6
4.2. Policy Strategies.....	6
5. SAFETY OF THE HEALTH PERSONNEL.....	7
5.1. Policy Objectives.....	7
5.2. Policy Strategies.....	7
6. SAFE MANAGEMNT OF MEDICAL WASTE.....	8
6.1. Policy Objectives.....	8
6.2. Policy Strategies.....	8
7. MONITORING AND EVALUATION.....	10
7.1. Policy Objectives.....	10
7.2. Policy Strategies.....	10
7.3. Healthcare Waste Management Indicators.....	11
Waste Management Indicators.....	11
Occupational Health and Safety Indicators.....	11
Environmental Indicators.....	11
8. DOCUMENTATION AND INFORMATION.....	12
8.1. Guidelines on Medical Waste Management.....	12
8.2. National Medical Waste Management Plan.....	12
8.3. Report on progress of the National Medical Waste Management System.....	12
8.4. Report on Medical Waste Management in States.....	12
8.5. Report on Medical Waste Management in Counties.....	12
8.6. Report on generated and treated waste.....	12
8.7. Medical Waste Management Plan.....	12
9. INSTITUTIONAL FRAMEWORK.....	13
RSS Ministry of Health.....	13
RSS Ministry of Environment.....	13
State Ministry of Health.....	14
State Ministry of Environment.....	14
County Health Department.....	14
Waste Producer.....	14

10.	FINANCIAL IMPLICATIONS .....	15
11.	POLICY IMPLEMENTATION .....	15

## 1. DEFINITIONS

“Medical waste” refers to all the waste generated by healthcare services, research facilities, and laboratories performing medical procedures. The waste is further classified into groups or waste streams as follows:

- *General waste* not contaminated with blood, pus, and patient’s body liquids, including food, textiles, disposable towels, paper, cardboard, glass, plastic, metal, beverage, food and medical packaging (including saline and nutrition bottles and bags);
- *Infectious waste* or waste that is suspected to contain pathogens (bacteria, viruses, parasites, or fungi) in sufficient concentration or quantity to cause a disease. Infectious waste includes cultures and stocks; blood bags; any waste from isolation wards; and gloves, dressings, swabs, tampons, bandages, infusion sets, syringes, tubing, and any other items contaminated with blood and body fluids (excluding sweat, saliva, tears and urine unless they contain visible blood);
- *Sharps* or items that may cause cuts or puncture wounds, including needles, hypodermic needles, scalpels and other blades, surgical instruments, saws, vials, broken glass items, and similar contaminated objects;
- *Pathological waste* including body parts, tissues, and organs such as placentas;
- *Hazardous waste* containing heavy metals such as mercury;
- *Chemical waste* including X-ray developer and fixer solutions;
- *Cytostatic and cytotoxic waste* (genotoxic waste);
- *Pharmaceutical waste*; and
- *Radioactive waste*.

“Medical waste management” means proper classification of waste at the point of its generation, separate collection, labelling, on-site and off-site transport, temporary storage, treatment, and disposal.

“Decontamination of infectious waste and sharps” means use of thermal or chemical processes to remove, inactivate, or destroy pathogens contained in waste to the level where they are no longer capable of transmitting infection, and the waste is rendered safe for handling and disposal.

“Autoclave” means any stationary or mobile technical unit dedicated to the wet thermal decontamination of infectious waste and sharps by steam at temperatures insufficient to cause chemical breakdown of waste or to support pyrolysis or combustion.

“Microwave” means any stationary or mobile technical unit dedicated to the wet thermal decontamination of infectious waste and sharps by electromagnetic waves at temperatures insufficient to cause chemical breakdown of waste or to support pyrolysis or combustion.

“Incinerator” means any stationary technical unit dedicated to the thermal treatment of waste with or without recovery of the combustion heat generated. This includes the incineration by oxidation of waste as well as other thermal treatment processes such as pyrolysis, gasification or plasma processes in so far as the substances resulting from the treatment are subsequently incinerated.

“Waste destruction unit” or “brick incinerator” means any simple form of single-chamber or two-chamber stationary incinerator dedicated to thermal treatment of infectious waste and sharps only.

## **2. BACKGROUND**

### **2.1. Preamble**

The National Policy on Medical Waste Management sets out to ensure that patients, health workers, communities and the environment are protected from risks associated with unsafe medical waste handling, treatment and disposal. This policy document will achieve this objective by providing guiding principles for proper management of all types of medical waste.

### **2.2. Situation Analysis**

Article 4.1 of the Transitional Constitution of the Republic of South Sudan proclaims that every person and community has the right to a clean and healthy environment but also the obligation to protect the environment for the benefit of present and future generations. The Constitution calls upon all levels of government to undertake appropriate legislative action to develop energy policies that will ensure that the basic needs of the people are met while at the same time protecting and preserving the environment.

Currently, the Republic of South Sudan lacks dedicated regulations on environment protection and medical waste management, beyond regulations which are in draft format only, such as the Environmental Protection Bill (2010), and South Sudan National Environment Policy (2011).

It is expected that the Republic of South Sudan will be a party to key international conventions such as the Kyoto Protocol, Basel Convention and the Stockholm Convention on Persistent Organic Pollutants and therefore will be obliged to limit pollutions, protect human health and the environment.

The Ministry of Health and Partners (World Bank, UN agencies, NGOs, CBOs, States Ministries of Health and County Health Departments) conducted a Health Facility Mapping project which included assessment on medical waste management practices in South Sudan.

The findings of the project indicated the following factors:

- Waste management and medical waste management are deficient;
- Only 10% of the facilities surveyed have incinerators to dispose of their waste;
- 66% of the of the facilities surveyed use a waste pit mostly for open-air burning of waste;
- 11% of the of the facilities surveyed dispose of their waste in uncontrolled manner in the bush;

The investigations put South Sudan among the countries in the sub-Saharan region at greater risk to unsafe medical waste management and improper medical waste disposal practices.

In view of above challenges, and taking into consideration the local conditions, requirements of the international agreements, and WHO policy and strategies, a National Policy on Medical Waste Management of the Republic of South Sudan has been developed.

### **3. MISSION STATEMENT**

To protect the patients, the health workers, the communities, and the environment from unsafe medical waste management practices.

#### **3.1. Goal**

To minimize negative effects of management of medical waste on human health and the environment. The policy also aims at sustainable use of resources, and relative reduction of costs associated with medical waste management.

#### **3.2. Objective**

To provide an enabling environment that will ensure safe and appropriate management of medical waste.

#### **3.3. Scope of Application**

The policy covers all sources generating medical waste, both public and private.

#### **3.4. Guiding Principles**

The principles guiding the policy are:

- The appropriate education principle ensures that health workers have adequate access to training and informational materials on safe medical waste management, and they implement improved practices at their workplace.
- The appropriate procurement principles ensure distribution and monitoring of equipment and related supplies such as safety boxes, auto-disable and disposable syringes, protective clothes, gloves, masks, disinfection and decontamination of blood transfusion services, insulated boxes for transportation; waste treatment installations, etc.
- The precautionary principle is a key principle governing health and safety protection. It is defined and adopted under the Rio Declaration, Principle 15 as: "Where there are threats of serious or irreversible damage to the environment, lack of full scientific certainty should not be used as a reason for postponing cost-effective measures to prevent environmental degradation."
- The duty of care principle stipulates that any person handling or managing hazardous substances or related equipment is ethically responsible for using the utmost care in that task.
- The polluter pays principle implies that all producers of waste are legally and financially responsible for the safe and environmentally sound disposal of the waste they produce. This principle also attempts to assign liability to the party that causes damage.
- The proximity principle recommends that treatment and disposal of hazardous waste take place at the closest possible location to its source in order to minimize the risks involved in its transport. The principle may be extended to non-hazardous waste categories such that every community should recycle or dispose of the waste it produces, inside its own territorial limits.
- The monitoring and supervision principle implies that relevant institutions supervise and monitor health facilities at all levels to evaluate needs and actions for overall healthcare system improvement.

#### **4. AWARENESS RAISING AND EDUCATION**

The starting point for any improvements in the healthcare sector is awareness of the problem and the knowledge of how to solve the problem.

##### **4.1. Policy Objectives**

- To eliminate unsafe practices and improper handling of healthcare materials and waste.
- To ensure that all health workers have necessary knowledge on risk mitigation and of rules of proper waste classification and management.

##### **4.2. Policy Strategies**

- Develop and disseminate informational materials and guidelines among health workers in both public and private sectors and communities on proper medical waste management practices.
- Establish a regular training course for healthcare workers on infection control, risk mitigation and sound medical waste management.
- Review existing academic curricula of health training institutions and build human resource capacity through strengthening under- and post graduate training, promoting distance learning and in-service training.
- Encourage information sharing on safe practices and proper medical waste management.
- Co-ordinate programs and training activities of other institutions and NGOs for healthcare sector to ensure that they are in compliance with adopted standard and guidelines on medical waste management.
- Take effective actions to enhance waste management awareness among the decision makers and ensure participation of private sector, NGOs and the community for sound management of medical waste.
- Evaluate periodically effectiveness of the training course, and guidelines implementation through inspections and audits of the healthcare units.

##### **Public awareness**

The public has a right and a responsibility to know about healthcare practices and waste management safety issues. Health workers are expected to inform their recipients of the need for healthcare safe practices and the consequences of unsafe practices.

The RSS Ministry of Health, in partnership with other concerned Government and State Ministries and Agencies (e.g., Ministry of Environment, Ministry of Higher Education, Science and Technology; Ministry of Labour, Public Service and Human Resource Development; Ministry of Information and Broadcasting, etc.), should accept the role of advocacy for promoting safe practices within the country and identify priority target groups and strategies for dissemination of messages.

## **5. SAFETY OF THE HEALTH PERSONNEL**

The RSS Ministry of Health recognises that human resources are the most valuable asset in the health sector and they need to be adequately protected.

### **5.1. Policy Objectives**

- To establish a reporting system and develop an action plan on safety of the health personnel.
- To establish a system for occupational health and safety in the healthcare facilities.
- To ensure that all health workers are fully immunized against Hepatitis B virus.
- To ensure healthcare facilities, both public and private, have adequate supplies of post HIV exposure prophylaxis.
- To ensure that personnel handling medical waste are provided with protective materials.

### **5.2. Policy Strategies**

- Create a reporting system on accidents related to healthcare materials and waste handling to define needs and actions for improved practices.
- Develop and implement a plan for vaccination of all health workers against Hepatitis B virus.
- Supply healthcare facilities with HIV exposure prophylaxis.
- Improve provision of personal protective equipment.
- Integrate medical waste management with infection control, patient safety and injection safety activities.
- Harmonize guidelines on infection control, medical waste management and other safe practices issues following the set norms and standards.

## **6. SAFE MANAGEMNT OF MEDICAL WASTE**

Management of medical waste should support the international conventions and should be consistent with policies and strategies of World Health Organization and other international bodies.

### **6.1. Policy Objectives**

- To ascertain that all wastes generated by healthcare facilities are properly classified, collected, labelled, stored, transported, treated and disposed in a safe and environmentally sound manner.
- To develop adequate infrastructure for collection, transportation, disposal and treatment of medical waste for all levels of healthcare service.
- To select best available techniques for treatment and disposal of medical waste to prevent the disease burden, environmental pollution and climate change.
- To build centralized facilities for decontamination of infectious waste and sharps in larger urban areas, where appropriate.
- To ensure that all waste treatment technologies are listed, approved and licensed by the relevant Ministry.
- To ensure that all treatment technologies are monitored and tested regularly by the RSS and State Ministries of Environment.
- To ensure an adequate and continuous supply of equipments, consumables and other medical supplies by establishing and maintaining a secure, cost-effective logistics system.
- To ensure proper product selection for safe practices and for proper medical waste management.

### **6.2. Policy Strategies**

- Improve provision of equipment serving for safe waste collection such as sharp boxes, containers and plastic bags.
- Support efforts to establish solid waste collection and transportation system and construction of secure engineered landfill sites.
- Spur efforts to recycle and reuse components of non-hazardous and non-infectious part of the healthcare waste stream.
- For decontamination of infectious medical waste and sharps "Best Available Techniques" (BAT) shall be established and used. Choosing the most appropriate method of operation.
  - "Techniques" shall include both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned;
  - "Available" techniques shall mean those developed on a scale which allows implementation in the healthcare sector, under economically and technically viable conditions, taking into consideration the costs and advantages, whether or not the techniques are used or produced locally or in neighbouring countries, as long as they are reasonably accessible to the operator;
  - "Best" shall mean most effective in achieving a high general level of protection of the environment as a whole.
- Frequently monitor and test waste treatment installations.



### **Best Available Technologies for treatment of infectious medical waste and sharps**

Different methods for the treatment and destruction of high risk medical waste are available and include:

- 1) Thermal treatment:
    - Autoclave
      - Pre-vacuum systems,
      - Fractionated systems.
    - Microwave
  - 2) Incineration:
    - Rotary kiln,
    - Grate firing,
    - Co-incineration.
  - 3) Other methods:
    - Physical chemical treatment,
    - Recovery (chemical waste).
- Identification of the best technology shall be evaluated carefully and in accordance to the national regulations and technical guidelines of international conventions. The following indicators shall be considered:
    - Technology is fulfilling the BAT requirements.
    - Technology is adequate for the treatment of specific waste stream and category of waste.
    - Technology is safe and environmental sound.
  - In order to follow the "cradle to grave" approach and due concerns of pollution caused by waste incineration (flue gas, bottom ash, contaminated fly ash and waste water from the flue gas treatment), and due to it relatively high investment and operational cost, alternative waste treatment methods shall be favoured when feasible.

## **7. MONITORING AND EVALUATION**

Monitoring and evaluation of activities within the medical waste management system is critical, as it allows the collection of necessary information on the progress and extent of implementation of the suggested management system in the healthcare services.

### **7.1. Policy Objectives**

- To ensure the development, implementation and administration of mechanisms for monitoring and evaluation encompassing both the public and private healthcare facilities.
- To use the monitoring and evaluation data for decision making for appropriate programmatic changes in order to improve service delivery, safe practices and medical waste management. These data based changes are also needed to ensure the safety of health workers, patients and personnel involved in medical waste management.
- To ensure the enforcement and establishment of participatory monitoring and evaluation mechanisms, these are to encompass both the public and private healthcare facilities.
- To establish and ensure a reliable system for detection, investigation and management of events following unsafe practices and improper medical waste management.

### **7.2. Policy Strategies**

- Develop monitoring and evaluation mechanisms encompassing both public and private healthcare facilities.
- Promote participation in monitoring and evaluation mechanisms in both the public and private healthcare facilities in conjunction with the Ministry of Environment.
- Assure regular monitoring and evaluation of safe practices and proper medical waste management practices in both public and private healthcare facilities.
- Build capacity for strengthening the systems for detection, investigation and management of events following unsafe practices and improper medical waste management.
- Train supervisors to analyze and use data from monitoring and evaluation activities in order to achieve objectives.
- Build monitoring and evaluation on routine tracking of program implementation parameters. Monitoring, or supervision, over these activities shall be fulfilled:
  - By the healthcare facility on internal daily handling of medical waste and compliance of the system with the prevalent regulations;
  - By the relevant authorities for the parameters relating to procedures inside of the healthcare institution;
  - By the inspectors for environmental protection for the parameters relating to procedures outside of the healthcare institution.

An important element of the monitoring program shall be regular audits where independent parties investigate which milestones have been reached by utilizing various indicators. A list of indicators is included in the following section. For each audit the present state - determined by the indicators – is compared with previous states.

### **7.3. Healthcare Waste Management Indicators**

#### **Waste Management Indicators**

The development of the medical waste management can among others be determined through measuring the following indicators:

- Compliance with the Republic of South Sudan legislation;
- Implementation level of the national and local Medical Waste Management Plan;
- Information on quantities of infectious waste and sharps generated and treated;
- Information on quantities of other medical waste collected and disposed separately in accordance to their chemical and physical properties;
- Consumption of equipment and materials serving for collection of medical waste (e.g. bins, containers, sharp boxes, bags);
- Number and distribution of licensed medical waste treatment installations;
- Number of trainings on medical waste management;

#### **Occupational Health and Safety Indicators**

The following three indicators could be used to determine the impact on the state of the occupational health and safety:

- Number of staff trained on proper waste management.
- Number of staff vaccinated against Hepatitis B;
- Number of needle stick injuries;

#### **Environmental Indicators**

One of the overall goals of improved medical waste management is to reduce its impact on the environment, and meet international standards. This can among others be done through measuring the following indicators regularly:

- Emission parameters of waste incineration process: particulate matter/dust, TOC, HCl, SO<sub>2</sub>, NO<sub>x</sub>, Pb, Cd and Hg;
- Quality parameters of waste incineration process: organic matter in ashes;
- Microbial inactivation efficacy of thermal treatment, and physical chemical process.

## **8. DOCUMENTATION AND INFORMATION**

### **8.1. Guidelines on Medical Waste Management**

The RSS Ministry of Health with its relevant departments and in collaboration with the RSS Ministry of Environment, is responsible for development and distribution of guidelines on medical waste management, taking into account available within the Republic of South Sudan medical waste treatment and disposal methods and technologies.

### **8.2. National Medical Waste Management Plan**

The RSS Ministry of Health with its relevant departments in collaboration with the RSS Ministry of Environment and line Ministries is responsible for developing, updating and implementing a National Medical Waste Management Plan, including strategy and implementation plan, for short, mid- and long term period. The Plan and budgeting shall be revised every 5 years.

### **8.3. Report on progress of the National Medical Waste Management System**

The RSS Ministry of Health in cooperation with the State Ministries of Health, and the RSS Ministry of Environment is responsible to summarize the medical waste management system in accordance to the indicators mentioned above. The report shall be handed over to the Government of South Sudan and officially published.

### **8.4. Report on Medical Waste Management in States**

The State Ministry of Health is responsible to collect and collate all information received from the County Health Departments regarding waste management and submit an annual report to the RSS Ministry of Health.

### **8.5. Report on Medical Waste Management in Counties**

The County Health Department is responsible to collect and collate all information received from the county, payam and boma healthcare facilities regarding waste and submit an annual report to the State Ministry of Health.

### **8.6. Report on generated and treated waste**

Healthcare facilities must investigate waste generation rate for each category of medical wastes they produce, and means of their disposal, and report the result to the responsible County Health Department every year.

### **8.7. Medical Waste Management Plan**

Healthcare facilities are responsible for development of a plan and budget for short, medium and long terms of medical waste management. The report must be sent to County Health Department.

## **9. INSTITUTIONAL FRAMEWORK**

The institutional framework for medical waste management in the Republic of South Sudan shall be based on the following rationale:

- The RSS Ministry of Health has the overall responsibility to provide health services and should also have the overall responsibility of ensuring proper medical waste management.
- The RSS Ministry of Environment is responsible for developing standards and regulations as well as licensing and monitoring waste management operations to protect environment and public health therefore needs to be involved in all medical waste management related activities.

Line Ministries and stakeholders directly or indirectly linked to health sector and medical waste management activities:

- Tertiary Teaching Hospitals, in collaboration with the RSS Ministry of Health and all relevant academic institutions, shall ensure that safe practices and proper medical waste management is included in the training curricula of health workers.
- Ministry of Finance and Economic Planning is responsible for the national budget, coordinates and approves external donor financing programs, monitoring their implementation and evaluating their impact.
- Ministry of Housing and Physical Planning advises and supports States and local governments in their responsibilities for physical planning and housing, and build their capacity to assume all functions vested by the Constitution and RSS policy.
- Counties are responsible for solid waste collection and treatment.

### **RSS Ministry of Health**

The Department of Preventive Medicine of the RSS Ministry of Health has the role to provide leadership in establishing and encouraging safe, efficient, and cost effective medical waste management in the country.

The RSS Ministry of Health is responsible for:

- Development, implementation and regular update of the National Medical Waste Management Plan.
- Development of guidelines on medical waste management.
- Facilitation and coordination of the implementation of the Policy and the Plan.
- Mobilization of national and international funds to implement the medical waste management program.
- Building and upgrading capacity in medical waste management for technical staff on all administrative levels.
- Establishing a national training program for medical and logistic staff on medical waste management.
- Increasing public awareness on the adverse impacts on unsafe handling of medical waste.
- Reporting to Government of the Republic of South Sudan on the implementation of the National Medical Waste Management Plan.
- Sectoral coordination with other public/private entities involved in waste management.

### **RSS Ministry of Environment**

RSS Ministry of Environment duties to include the:

- Development and implementation of overall waste management policies and plans.

- Development of overall guidelines and standards for waste management operations.
- Licensing, monitoring and inspecting medical waste treatment facilities if appropriate.

#### **State Ministry of Health**

At the state level, State Ministry of Health shall be responsible to ensure implementation of safe practices and proper waste management.

#### **State Ministry of Environment**

At the state level, State Ministry of Environment shall be responsible to ensure implementation of safe practices and proper waste management, and licensing, monitoring and inspecting medical waste treatment facilities.

#### **County Health Department**

At the county level, the County Health Department shall be responsible to ensure implementation of safe practices and proper medical waste management.

#### **Waste Producer**

In accordance to the "duty of care" principle the waste producer (healthcare facilities) is responsible for the safe handling and monitoring of the generated medical waste in accordance to the national regulations.

In accordance with the polluter pays principle, the costs of waste management shall be borne by the original waste producer. Therefore the annual costs for investments, operation and maintenance for the management of medical waste have to be calculated and provided.

All professional and non-professional health-related organizations, relevant line Ministries and Agencies, practitioners in the private sector shall be responsible to ensure that their members and employees comply with this Policy.

#### **10. FINANCIAL IMPLICATIONS**

The RSS Ministry of Health and health Partners (International and Local) and Bilateral Agencies will finance the implementation of this policy.

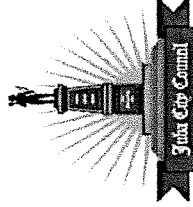
The RSS Ministry of Health and Partners, including public, private and NGO sectors shall include safe practices and medical waste management strategies in their budgets. These budgets should include adequate costs to support the sustained implementation of this policy in the following areas:

- Awareness rising and education,
- Safety of the health personnel,
- Safe separation, collection, storage and transportation of healthcare commodities and materials, and disposal of same using environmentally acceptable methods,
- Monitoring and evaluation,
- Reporting on medical waste management.

#### **11. POLICY IMPLEMENTATION**

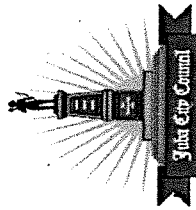
The RSS Ministry of Health will serve as the leading body, in coordination with the appropriate sister Ministries and Agencies, and shall be responsible for the implementation of the South Sudan National Policy on Medical Waste Management.

**Republic of South Sudan**  
CENTRAL EQUATORIA STATE



**JUBA CITY COUNCIL**

**BY - LAWS 2013**



**JUBA CITY COUNCIL**



## TABLE OF CONTENTS

Section	Page
<b>Chapter One</b>	
<b>Preliminary Provisions</b>	
1. Title and Commencement	1
2. Repeal and Saving	1
3. Purpose	1
4. Authority and Application	2
5. Interpretations	2
<b>Chapter Two</b>	
<b>Guiding Principles</b>	
6. Guiding Principles	3
<b>Chapter Three</b>	
<b>Cleaning of Juba City</b>	
7. Cleaning of Houses and Business Places	4
8. Littering and Dumping of Waste to the Streets and open Spaces	5
9. Allowing, Letting water or Urine into the Streets	7
10. Washing of Cars along the main Roads	7
<b>Chapter Four</b>	
<b>Sale of goods</b>	
11. Sale of goods	8
12. Sale or Distribution of Expired Goods	8



- 13. Display of Goods in Verandas 8
- 14. Maintenance of Shops 9
- 15. Shops with Temporary Building Materials 9
- 16. Security Lights 9

**Chapter Five**

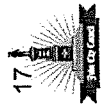
**Repairing and spraying of vehicles**

- 17. Repairing and Spraying of Vehicles 10
- 18. Panel Biting and Spraying Cars in Garages 10
- 19. Carpentry and Welding Workshops 11
- 20. Burial within Residential Areas 11
- 21. Building within Grave Yards Areas 12
- 22. Molding of Cement Blocks 13

**Chapter Six**

**Restaurants, Hotels and Lodges**

- 23. Restaurants Places 13
- 24. People working in Restaurants, Lodges, Guesthouses and Hotel Places 14
- 25. The Environment Health in Hotels 14
- 26. The Environment Health in Restaurants 14
- 27. The Environment Health in Lodges or guesthouses 14
- 28. Open Air Eating Places 15
- 29. Sale of Ice Cream or drinks fruits 15
- 30. Tea Sellers 16
- 31. Workers (Waiters) dressing in Food Places 16
- 32. Inspection of food places 16
- 33. Closure of Local Lodges or guesthouses in Residential Areas 17



**Chapter Seven**  
**Night Clubs, Discos and Bar Places**

- 34. Organization of Night Clubs and Disco Places 17
- 35. Party or Occasions within Residential Areas 18
- 36. Operation time for Liquor Bars 18
- 37. Business in Juba City Shall be Categorizes between Wholesalers and Retailers 19

**Chapter Eight**  
**Random Slaughter of Animals**

- 38. Random Slaughter of Animals 19
- 39. Movement of Animals 20

**Chapter Nine**

**Combating Money Laundering and Hawking**

- 40. Combating Money Laundering and Hawking 21
- 41. Hawkers in Juba City Council 22
- 42. Encroachment and Obstruction into Roads 22
- 43. Practice of Prostitution 23
- 44. Building Small and random Tukuls (Rokuba) for Rent 24
- 45. Building without Construction Permit 24

**Chapter Ten**  
**Organization of Public Transport**

- 46. Entering and Movement of Heavy Trucks 25
- 47. Parking of Fuel and Sewage Tankers in Residential Areas 27



48. Public Transport	27
49. Taxi – Cab Operation within the Juba City Council	30
50. Motor Cycle (Boda-Boda) Motor Carrier Carts and Handcarts	30
51. Petrol Stations	31

**Chapter Eleven**  
**Destruction and Uprooting of Trees in Residential Areas and Streets**

52. Destruction and Uprooting of Trees in Residential Areas and Streets in Juba City Council	32
--	----

**Chapter Twelve**  
**Establishment of water closes and Pit latrine in residential areas**

53. Establishment of Water Closes and Pit latrine in the residential Areas	32
54. General Nuisance	32
<i>Certificate – Juba City Legislative Council Assent of the Mayor of the Juba City Council</i>	34
	35

**Juba City Council**  
**By – Laws, 2013**

In accordance with the provisions of section (39/1,2) read together with section (40/1,2,3) of the Local Government Act, 2009, Juba City Legislative Council, shall enact by – laws to regulate the work, conduct and behaviour of the citizens in Juba City Council within the limits of its jurisdiction.

**Chapter One**  
**Preliminary Provisions**

**1. Title and Commencement:**

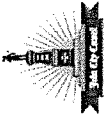
These by- laws may be cited as "Juba City Council By – Laws, 2013" and shall become into force on the ratification by Juba City Legislative Council with the assent of H.W. Mayor of Juba City Council.

**2. Repeal and Saving:**

The by – laws, 2013 is hereby repealed, provided that, all orders and regulations made or issued there under shall remain in force until they repealed or amended in accordance with the provisions of these By- Laws.

**3. Purpose:**

The purpose of these by- laws is to regulate the work of Juba City Council and provide the penalties which govern the criminal acts or violation of the provisions of by-laws or local orders that may be adjudicated upon by the Courts, and any other issues related thereto.



#### 4. Authority and Application:

- (1) These By - Laws is made in accordance with the provisions of section (37/1,2) of the Local Government Act, 2009, which grants the Juba City Legislative Council authority to enact legislation for establishment of the system in Juba City Council.
- (2) The provisions of these By - Laws shall be applied to all public institutions and private businesses and all people within Juba City Council.

#### 5. Interpretations:

- (1) In these by- laws unless the context otherwise requires, the following words and expressions shall have the meanings assigned to them respectively:

**“By – Laws”** means any local legislation made by Council in accordance with the provisions of local Government Act, 2009.

**“Provisional Orders”** means orders having force of law issued by H.W. the Mayor in the absence or when the Legislative Council is on recess.

**“City Council”** means a Council established in an urban area in accordance with the provisions of local government Act, 2009.

**“Legislative Council”** means the elected Legislative Council of Juba City Council.

**“Mayor”** means the elected Mayor of Juba City Council.

**“Chief Executive Officer”** means the head of civil servants of Juba City Council.

**“Block Council”** means the coordinative unit of the Juba City Council comprised of a number of Quarter Councils, which shall exercises delegated powers within the Council.

**“Quarter Council”** means basic Administrative unit of Block Council, which shall exercises de-concentrated powers.



**“Chairperson”** means the Chairperson of a Council elected by the councillors.

**“Councillor”** means an elected member of the Block Council.

**“City Council Guards”** means City Council local law enforcer.

**“Goods”** means manufactured goods, locally produce or imported by the seller.

**“Property”** means the general property in goods.

**“Seller”** means a person who sells goods.

**“Buyer”** means a person who buys goods.

**“Confiscation”** means to take something away from somebody, especially as a punishment.

**“Auction”** means any property to be sold out to public by government or owner.

- (2) Terms not specifically defined herein, which are defined in other laws in force, shall have the meanings set force in those laws, unless the context is inconsistent.

### Chapter Two

#### Guiding Principles

##### 6. Guiding Principles:

- (1) Juba City Council (Local Government Councils) is the third level of government in Republic of South Sudan.
- (2) The establishment of Juba City Council (Local Government Councils) based on the principles of decentralization that, demands devolution of the authority and powers to the lowest level close to the people.
- (3) Juba City Blocks are community government which exists at the level of Quarter Councils closest to the people.



- (4) Juba City Council Institutions shall be committed, respected and promoted.

**Chapter Three**  
**Cleaning of Juba City Council**

**7. Cleaning of Houses and Business Places:**

- (1) Every person is required to clean his/her house and its surrounding up to the neighbor and the road near by every day.
- (2) Whoever allows his/her house and its surroundings to be littered with garbage (plastic bottles or nylon bags) shall be liable for a fine not exceeding 100SSP, or imprisonment for a term not exceeding one week or with both.
- (3) All owners of business places are required to clean their business places and its surrounding up to the neighbor and the road near by every day.
- (4) Whoever allows his/her business place and its surrounding to be littered with garbage (plastic bottles or nylon bags) shall be liable for a fine not exceeding 100SSP for one plastic bottle found in his/her place or imprisonment for a term not exceeding two weeks or with both or his/her business place shall be closed.
- (5) All occupants of government houses in Juba City Council are required to clean their compounds and immediate surrounding up to the neighbor or the road nearby.
- (6) Whoever contravenes with this By-law shall be liable for a fine not exceeding 200SSP or imprisonment for a term not exceeding two weeks or with both.



- (7) All Government Institutions, Private sectors and NGOs are required to clean their compounds and its surrounding up to the neighbor and the road near by every day.
- (8) Whoever contravenes with this By-law shall be liable for a fine not exceeding 500SSP or imprisonment for a term not exceeding one month or with both.
- (9) All business places and markets around Juba City Council are required not to use plastic bags for services.
- (10) Whoever contravenes with this By-law shall be liable for a fine not exceeding 5,000SSP or imprisonment for a term not exceeding Five months or confiscation of plastic bags or with both.

**8. Littering and Dumping of Waste to the Streets or open spaces:**

- (1) No agency or public institutions, or private vehicles shall be allowed to litter or throw or dump waste besides the streets or roads or open spaces.
- (2) Any agency or public institutions or private vehicles who contravenes with this By-law shall be liable for a fine not exceeding 2,500SSP or imprisonment for term not exceeding two months or with both or the vehicle used shall be confiscated.
- (3) No person shall be allowed to litter or dump or throw waste into the streets, open spaces, or streams nearby.
- (4) Any person who contravenes with this By-law shall be liable for a fine not exceeding 250SSP or imprisonment for a term not exceeding two weeks or with both.
- (5) All collected garbage must be kept in a container with well fitted top lid or garbage designate bag till final disposal.



- (6) Whoever contravenes with this By-law shall be liable for a fine not exceeding 100SSP or imprisonment for a term not exceeding one week or with both.
- (7) All waste water must be drained into a proper built cesspool or a covered soak away pit.
- (8) Whoever contravenes with this By-law shall be liable for a fine not exceeding 100SSP or imprisonment for a term not exceeding one week or with both.
- (9) All persons are prohibited from burning garbage in their premises that can cause environmental pollution.
- (10) Whoever contravenes with this By-law shall be liable for a fine not exceeding 100SSP or imprisonment for a term not exceeding one week or with both.
- (11) All Garages owners are required to re-organize their places, and immediately arrange to evacuate all cars and machinerifes lying on the premises which provide ground for breeding of mosquitoes, and a hide out for rodents.
- (12) Whoever contravenes with this By-law shall be liable for a fine not exceeding 500SSP or imprisonment for a term not exceeding one Month or with both.
- (13) All big truck drivers are required to dispose of their waste safety after off loading goods.
- (14) Whoever contravenes with this By-law shall be liable for a fine not exceeding 250SSP or imprisonment for a term not exceeding two weeks or with both.

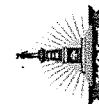


**9. Allowing, Letting water or Urine into the Streets or open spaces:**

- (1) No Institution, Hotel, Lodge, Restaurants, Guesthouse or local Bars shall be allowed to let or allow water or urine from his/her place into the neighbor or street or open space.
- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 2,500SSP or imprisonment for a term not exceeding two months or with both.
- (3) No person shall be allowed to allow or let water or urine from his/her bath shelter to neighbor or street or open space.
- (4) Whoever contravenes with this By-law shall be liable for a fine not exceeding 100SSP or imprisonment for a term not exceeding one week or with both.
- (5) All Health Officer has a right to enter any house or place within Juba City Council for inspection.
- (6) Whoever reject any Officer on duty from doing inspection shall be liable for a fine not exceeding 500SSP or imprisonment for a term not exceeding one month or with both.

**10. Washing of Cars along the main Roads:**

- (1) No person shall be allowed to wash cars or motorcycles along the main roads without approval from Block Council concern or Juba City Council.
- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 100SSP or imprisonment for a term not exceeding one week or with both.



**Chapter Four**  
**Sale of Goods**

**11. Sale of Goods:**

- (1) No person shall be allowed to sell his/her goods along the main roads or streets in Juba City Council.
- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 500SSP or imprisonment for a term not exceeding one month or with both.

**12. Sale or Distribution of Expired Goods:**

- (1) No person, whole seller or retailer shall be allowed to sell or distribute expired goods.
- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 5,000SSP or imprisonment for a term not exceeding six months or both and in collaboration with other laws.

**13. Display of Goods in Verandahs:**

- (1) No person shall be allowed to display his/her goods in verandahs and in front of his/her shop.
- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 500SSP or imprisonment for a term not exceeding one month or withdrawal of business license or with both.

**14. Maintenance of Shops:**

- (1) All person of business places in Juba City Council are required to carry out maintenance of their places annually as follows:



- (a) *The inside walls shall be painted with white colour.*
- (b) *The outside walls shall be painted with cream colour.*
- (c) *The doors shall be painted with light blue colour.*

- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 1,000SSP or imprisonment for a term not exceeding two months or their business places shall be close down.

**15. Shops with temporary building materials:**

- (1) All shops in Juba City Council, residential areas and along the main roads, constructed with temporary building materials shall be constructed with permanent materials.
- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 2,000 SSP or imprisonment for a term not exceeding two months or with both or withdrawal of business license.

**16. Security Lights:**

- (1) All business places are required to install Security lights at all business premises.
- (2) Whoever fails to install the security lights shall be liable for a fine not exceeding 300 SSP or imprisonment for a term not exceeding three weeks or with both.



## Chapter Five

### Repairing and Spraying of Vehicles

#### 17. Repairing and Spraying of Vehicles:

- (1) No person shall be allowed to engage in repair or patch of motor vehicles and dispose refused oil along the main streets or in the residential areas.
- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 500SSP or imprisonment for a term not exceeding one month or with both.
- (3) All absolute (Scraps) of cars are not allowed to be kept by the road sides or in front of buildings, residential houses or in public places.
- (4) Whoever contravenes with this By-law shall be liable for a fine not exceeding 500SSP or imprisonment for a term not exceeding one Month or with both.
- (5) No person is allowed to dismantle Cars for the purpose of maintenance in the public streets, under the trees, in front of the buildings , public institutions , or in residential areas unless with approval from City Council authority.
- (6) Whoever contravenes with this By-law shall be liable for a fine not exceeding 500SSP or imprisonment for a term not exceeding one Month or with both.

#### 18. Panel Biting and Spraying Cars in Garages:

- (1) All Garages Owners or Agencies are required to carry out panel biting and spray of Cars after obtaining approval from Public Security and Traffic Police.



- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 1,000SSP or imprisonment for a term not exceeding two months or withdrawal of license and if he/she found without business license should be liable for fine not exceeding 1,500SSP or imprisonment for a term not exceeding three Months or with both.
- (3) All Garages are not allowed to operate within residential areas or in the streets or in open spaces or squares.
- (4) Whoever contravenes with this By-law shall be liable for a fine not exceeding 1,000SSP or imprisonment for a term not exceeding two months or the vehicle found shall be confiscated or with both.

#### 19. Carpentry and Welding Workshops:

- (1) All Carpentry Owners are required to keep their Saw-dust in garbage designated bags for safe disposal.
- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 500SSP or imprisonment for a term not exceeding one month or with both.
- (3) All Owners of welding shops are not allowed to display their products along the main roads or residential areas and to keep their waste scraps inside their shops.
- (4) Whoever contravenes with this By-law shall be liable for a fine not exceeding 500SSP or imprisonment for a term not exceeding one month or with both.

#### 20. Burial within Residential Areas:

- (1) No dead person shall be buried within residential area, only shall be in authorized Public graveyards or cemeteries with Death Certificate.





- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 500SSP or imprisonment for a term not exceeding one month or with both.

**21. Building within Grave Yards Areas:**

- (1) No person shall be allowed to construct a permanent Building within the grave yard Areas.
- (2) Whoever Construct a permanent building within a grave yard Areas shall be liable for a fine not exceeding 5,000SSP or Imprisonment for a term not exceeding Five Months and the Structure will be demolish.
- (3) No person shall be allowed to Practice trading in grave yard Areas.
- (4) Whoever practice trading in grave yards Areas shall be liable for a fine not exceeding 3,000SSP or imprisonment not exceeding three Months or the goods shall be confiscated.
- (5) No person shall be allowed to erect any temporary shelters for the purpose of living in the grave yard Areas.
- (6) Whoever erects any temporary shelters within grave yard Areas shall be liable for a fine not exceeding 500SSP or imprisonment for a term not exceeding one month and the structures erected shall be demolish.
- (7) No person shall be allowed to dump any garbage or drained waste waters into grave yard Areas.
- (8) Whoever dumps garbage or release waste waters into Grave yard Areas shall be liable for a fine not exceeding 300SSP or imprisonment for a term not exceeding three weeks or with both.



**22. Molding of Cement Blocks:**

- (1) No person or company or agency shall be allowed to engage in molding cement blocks along the main roads and in residential areas.
- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 500SSP or imprisonment for a term not exceeding one month or his/her properties shall be confiscated.

**Chapter Six**

**Restaurants, Hotels and Lodges or Guest Houses**

**23. Restaurant Places:**

- (1) All restaurants places shall have license or permit and the holder shall display his/her permit at a visible place.
- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 250SSP or imprisonment for a term not exceeding three weeks or closure of the restaurant place.
- (3) All restaurants constructed with local materials are required to construct with permanent materials.
- (4) Whoever not compliance with this By-law shall be liable for a fine not exceeding 1,000SSP or imprisonment for a term not exceeding two months or closure of the restaurant place or with both.
- (5) All restaurants shall have public health provisions, good sewage and septic tanks.
- (6) Whoever contravenes with this By-law shall be liable for a fine not exceeding 500SSP or imprisonment for a term not exceeding one month or closure of the restaurant place or with both.



**24. People working in Restaurants, Lodges, Guesthouses and Hotels places:**

- (1) Any person working in the restaurant places, food shops, stores shall have a valid health medical certificate.
- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 200 SSP or imprisonment for a term not exceeding two weeks or with both.

**25. The Environment Health in Hotels:**

- (1) The environment health in hotel shall be clean from dirt, dust or any other contamination during storage, distribution and sale of food.
- (2) Whoever contravenes with this by-law shall be liable for a fine not exceeding 4,000 SSP or imprisonment for term not exceeding four months or with both.

**26. The Environment Health in Restaurants:**

- (1) The environment health in restaurants shall be clean from dirt, dust or any other contamination during storage, distribution and sale of food.
- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 2,000 SSP or imprisonment for term not exceeding two months or with both.

**27. The Environment Health in Lodges or guesthouses:**

- (1) The environment health in lodge or guesthouse shall be clean from dirt, dust or any other contamination during storage, distribution and sale of food.



- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 3,000 SSP or imprisonment for term not exceeding three months or with both.

**28. Open Air Eating Places:**

- (1) Every open air eating Place shall operate under the following requirements:
  - (a) *City Council Authority shall approve its design structure and should contain adequate sanitary facilities.*
  - (b) *All person(s) carrying or handling the food must have valid medical health certificate.*
  - (c) *The permit holder shall provide adequate fire lighting facilities located strategically within the structure.*
- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 250SSP or imprisonment for a term not exceeding two weeks or with both.

**29. Sale of Ice Cream or drinks fruits:**

- (1) Any person engage in Ice Cream or drinks fruits business shall obtain permit from Concern Authorities.
- (2) All Ice Cream or drinks fruits shall be protected from dirt, dust or any other contamination during storage, distribution and sale.
- (3) Every permit holder shall:
  - (a) *Maintain the premise clean at all time.*
  - (b) *Keep all utensils, vessels used for Ice Cream Storage, distribution or Sale, clean and sterilized.*
  - (c) *Not to employee any person suffering from infectious or contagious, transmittable or venereal diseases, and in*



case of any infection, the Medical Health Officer should be notified immediately.

- (4) Whoever contravenes with this By-law shall be liable for a fine not exceeding 500SSP or imprisonment for a term not exceeding one month or with both or withdrawal of licenses.

**30. Tea Sellers:**

- (1) Any person engage in tea business should obtain permit and Public Health Medical Certificate from Block Council or Juba City Authority.
- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 50 SSP or Closure of the tea place.

**31. Workers (Waiters) dressing in food places:**

- (1) Any person who works in food places shall dressed clean dress authorized by the Public Health Department.
- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 350 SSP or imprisonment for a term not exceeding three weeks or with both.

**32. Inspection of Food Places:**

- (1) Any Health Inspector on duty has a right to inspect food places, food shops and stores within Juba City Council.
- (2) Whoever reject an officer from doing inspection shall be liable for a fine not exceeding 1,000SSP or imprisonment for a term not exceeding two months or with both.



**33. Closure of Local Lodges or guesthouses in Residential Areas:**

- (1) All owners of plots and operators of local lodges in residential areas without approval from relevant authorities are required to cancel this purpose of business which becomes source of insecurity and health hazard.
- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 3,000SSP or imprisonment for a term not exceeding three months or with both and the lodge or guesthouse shall be closed.

**Chapter Seven**

**Night Clubs, Discos and Bar places**

**34. Organization of Night Clubs and Disco places:**

- (1) Any person who own night club(s) and disco place(s) shall:
  - (a) Operate in location approved by Block Council concern or Juba City Council.
  - (b) Acquire license and operation certificate from Block Council or Juba City Council.
  - (c) Ensure that, children or any person under age of 18 years shall not be allowed to purchase beverages such as beer, alcohol or spirit drinks.
  - (d) Provide adequate security and light system within the vicinity of the facility.
  - (e) Ensure clean environment and provide basic sanitary and toilets, urinal for both males and females.
  - (f) Ensure that, drainages or sewage shall not lead to contamination or pollution or any water sources and general environment.



- (g) Requested to make necessary procedures with authorities of Block Council or Juba City Council to permit operation of their businesses.
- (h) All owners and managers of night clubs, discos and bars are allowed to operate from 5:00p.m to 11:00p.m daily.

(2) Whoever contravenes with paragraphs a, b, c, d, e, f, g and h above shall be liable for a fine not exceeding 3,000SSP or imprisonment for a term not exceeding three months or with both.

**35. Party or Occasions within Residential Areas.**

- (1) Any person residing within the Quarter Council intended to have a party should obtain a permit from Quarter Council or Block Council Authority.
- (2) Whoever contravenes with this By-law he/she shall be liable for a fine not exceeding 100 SSP or imprisonment for a term not exceeding one week or with both.

**36. Operation time for Liquor bars:**

- (1) All liquor bars within Residential areas shall be operate from 5:00 pm to 11:00 pm daily during working days with the exception of Saturdays, Sundays and public holidays.
- (2) All liquor bars requested to be registered and licensed.
- (3) All liquor beer shall not be sold to boys or girls under age of 18 years.
- (4) Whoever contravenes with this By-law shall be liable for a fine not exceeding 500 SSP or imprisonment for a term not exceeding one month or with both.



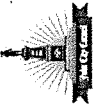
**37. Business in Juba City shall be categories between Wholesalers and Retailers:**

- 1. Any trader dealing with essential commodities shall not be allowed to sell beer or alcohol within the same shop.
- 2. Whoever contravenes with this By-law shall be liable for a fine not exceeding 500SSP or imprisonment for a term not exceeding one month or withdrawal of his license.
- 3. All wholesale traders shall not be allowed to sell Petty or retail goods within his/her wholesale shop.
- 4. Whoever contravenes with this By-law shall be liable for a fine not exceeding 2,000SSP or imprisonment for a term not exceeding two months or with both or withdrawal of the license.

**Chapter Eight  
Random Slaughter of Animals**

**38. Random Slaughter of Animals:**

- (1) All animals shall be slaughter after medical checkup and stamp.
- (2) All animals shall have vaccination card from public health of veterinary department.
- (3) All animals shall be slaughter only at the slaughter house.
- (4) No butcher shall be allowed to slaughter any animal, be it cow, bull, goat, sheep or pig outside the authorized slaughter houses.
- (5) No animals shall be slaughtered in the residential areas or in unauthorized places.



**Chapter Nine**  
**Combating Money Laundering and Hawking**

**40. Combating Money Laundering and Hawking:**

- (1) The purpose of this By-law shall be to:
- (a) *Protect economic performance and prevent and control circulation of fault currencies.*
  - (b) *Prohibit illegal open and unauthorized dealings in money outside official institutions.*
- (2) This By-law is provides that:
- (a) *All dealers or institutions dealing in local and foreign currencies shall be required to possess all relevant legal requirements from Central Bank of Republic of South Sudan (CBSS) and other related Institutions.*
  - (b) *All money dealers shall be registered and licensed by the Central Bank of South Sudan (CBSS).*
  - (c) *Any authorized person(s) or institutions shall not be allowed to practice money exchange, buying and selling outside the forex.*
- (3) Any person(s) or unauthorized institutions whoever contravenes with paragraph a , b and c above shall be liable for a fine not exceeding 10,000SSP or imprisonment for a term not exceeding six months and the money shall be confiscated or closure of business place or with both.
- (4) Any person(s) or unauthorized institutions who violate this by-law for second time he/she shall be liable for a fine not exceeding 15,000SSP or imprisonment for a term not exceeding six months and the money shall be confiscated or with both and in collaborations with other laws .



(6) All workers working in slaughter house shall dress clean uniform which authorized by the Public Health Department.

(7) Any employee in slaughter house shall obtain medical health certificate from concern authority.

(8) Whoever contravenes with subsections 1, 2, 3, 4, 5, 6, and 7 above shall be liable for fine not exceeding 3,000SSP or imprisonment for a term not exceeding three months or with both.

(9) All Chicken traders or distributors shall obtain business permit from Juba City Council, Health Certificate from authorized Public Health Department or Veterinary Certificate for Stock before distribution.

(10) Whoever contravenes with this By-law shall be liable for a fine not exceeding 250SSP or imprisonment for a term not exceeding two weeks or with both.

**39. Movement of Animals:**

(1) Any person in possession of cows, sheep, goats and pigs shall be required to tie them in his/her compound or residence.

(2) Any animal found not tied down or seen roaming about in Juba city Council shall be captured and kept in custody.

(3) Whoever contravenes with subsections 1 and 2 above shall be liable for a fine not exceeding 100 SSP per each animal.

(4) Whoever fails to show himself/herself or fail to pay the fine within 48 hours the animal captured shall be confiscated.



**41. Hawkers in Juba City Council.**

- (1) Any person without a valid permit or hawks in undesignated area risks having their goods impounded or confiscated.
- (2) Each person engage in hawking shall have a badge and wear it at a visible place.
- (3) Juba City Administrative Officers have a right to inspect any goods/items being hawked.
- (4) No Hawkers' shall be allowed to operate their business without approval from Juba City Council or Block Council authority.
- (5) Whoever contravenes with this By-law shall be liable for a fine not exceeding 500 SSP or imprisonment for a term not exceeding one month or with both.
- (6) All Foreigners residing within Juba City Civil Residents are required to report their living to the Area Quarter Councils Authorities upon settlement or when quitting the Area.
- (7) All Foreigners with Temporary Travel Permit shall renew their permit as required by the Immigration Authorities stating a type of work they are doing in Juba City.
- (8) Whoever contravenes with subsections 6 and 7 above the Area Quarter Councils Authorities shall report to the Concern Authorities for Investigation and deportation.

**42. Encroachment and Obstruction into Roads:**

- (1) No person shall be allowed to extend his/her building, fence, into a neighbor's plot, government's plot, open space or road.
- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 500SSP or imprisonment not exceeding one month or with both and the structure shall be demolish.



- (3) No person shall be allowed to destroy the lighting on the public road and pavements of the tarmac save.
- (4) Whoever contravenes with this By-law shall be liable for a fine not exceeding 250SSP or imprisonment for a term not exceeding two weeks or with both.
- (5) No vehicle shall be allowed to destroy or to knock the lighting and a telephone line pole, sign post, communicational antennas and pavement of the tarmac road.
- (6) Whoever contravenes with this By-law shall be liable for a fine not exceeding the total expenses for damage and the vehicle should be detained till he/she clear the bill.

**43. Practice of Prostitution.**

- (1) No person shall be allowed to practice prostitution in any house or place of business or lodges or guesthouse or hotels or restaurants or in the markets.
- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 500 SSP or imprisonment for a term not exceeding one month or with both.
- (3) No person(s) shall be allowed to allow his/her house or place of business or lodge or guesthouse or hotel or restaurant to practice prostitution.
- (4) Whoever contravenes with this By-law he/she shall be liable for a fine not exceeding 1,000 SSP or imprisonment for a term not exceeding two months and his/her place of business shall be closed down upon withdrawal of the trading license in case of South Sudanese National or the plot shall be confiscated or deportation in case of Foreigner.
- (5) No person shall be allowed to practice Homosexual (Lesbian) within Juba city council.



(6) Whoever contravenes with this by-law he/she shall be liable for impertilment for a term not exceeding six months.

**44. Building Small and Random Tukuls (Rokuba) for Rent:**

- (1) All landlords should avoid erecting small and random tukuls for renting within their plots.
- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 500 SSP or imprisonment for a term not exceeding one Month and the Tukuls shall be demolish.

**45. Building without Construction Permit:**

- (1) No business holders, companies and organizations shall be allowed to construct houses or business places randomly without approvals from Juba City Council.
- (2) Whoever violates approved building plans or maps shall be liable for a fine not exceeding 2,000 SSP or imprisonment not exceeding two Months or with both.
- (3) No person(s) or institutions or companies or business places or lodges or guesthouses or hotels or restaurants shall be allowed to place a generator, machine or any other heavy objects outside plots boundary.
- (4) Whoever laces a generator, machine or other heavy objects outside plot's boundary shall be liable for a fine not exceeding 1,000 SSP or imprisonment for a term not exceeding two months or the equipment shall be confiscated.
- (5) No person(s) or institution or company or hotel or lodge or guesthouse or restaurant or business places shall be allowed to construct a drainage system, septic and water tank contrary to approved plan or map by Juba City Council.



(6) Whoever contravenes with this By-law shall be liable for a fine not exceeding 6,000 SSP or imprisonment for a term not exceeding six months or with both or the drainage system, septic tank and water tank shall be demolish.

(7) No person shall be allowed to change the plot's allotment purpose without the notice of Juba City Council.

(8) Whoever contravenes with this By-law shall be liable for a fine not exceeding 2,000 SSP and payment of the fees for changing the purpose.

(9) Any person who sells his/her plot shall pay to Block Council concern, the sum of 5% from the sale value of the plot.

(10) Whoever contravenes with this By-law shall be liable for a fine not exceeding 2,000SSP.

(11) No person shall be allowed to leaved building remnants after completion of construction.

(12) Whoever fails to clear out building remnants after completion of construction shall be liable for a fine not exceeding 2,000 SSP or imprisonment for a term not exceeding two months.

**Chapter Ten**

**Organization of Public Transport**

**46. Entering and Movement of Heavy Trucks:**

- (1) All heavy commercial trucks, long vehicles, fuel tankers shall be allowed to:
  - (a) Enter Juba City Council from 10:00a.m to 1:00p.m and from 3:00p.m to 5:00p.m and from 6:00p.m. to 10:00p.m. daily.



- (b) Move within Juba City Council from 5:00a.m. to 7:00a.m and from 10:00a.m to 1:00p.m and from 3:00p.m. to 6:00p.m. daily.
- (2) No heavy trucks, long vehicles, tippers and other Lorries shall be allowed to use the main road from Juba town roundabout through Muduria roundabout to the Ministries road and from Muduria roundabout through Juba teaching hospital to Mobil roundabout daily during working hours.
- (3) No water tankers and tipper, Lorries shall be allowed to use main roads in the town from 6:00p.m. to 7:00a.m. daily.
- (4) All heavy trucks, long vehicles, tipper Lorries and vehicles carrying Murom, aggregates, soil, hard core (stones) and sand shall be covered with canvas sheeting.
- (5) Whoever contravenes with this By-law shall be liable for a fine not exceeding 250 SSP or imprisonment for a term not exceeding two weeks or withdrawal of driving license or with both.
- (6) All the following vehicles shall be exempted from these By-Laws:
- (a) Government of RSS, State, Local Government.
  - (b) Ministry of Defense and other Organized Forces.
  - (c) Diplomatic Corps (CD).
  - (d) UN agencies and International Humanitarian Organizations.
- (7) No heavy commercial trucks, long vehicles, fuel tankers shall be allowed to park along the main roads more than three days.
- (8) No broken Vehicle is allowed to remain park on the main roads for more than one Week.



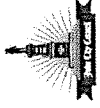
- (9) Whoever contravenes with subsections 7, 8 above shall be liable for a fine not exceeding 500SSP or imprisonment for a term not exceeding one month or with both.

**47. Parking of Fuel and Sewage Tankers in Residential Areas:**

- (1) No fuel or sewage tankers shall be allowed to park within residential areas.
- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 500SSP or imprisonment for a term not exceeding one month or with both.
- (3) All buses shall be parked at a bus park/ terminus and will only stop to pick or drop passengers at a designated bus stop.
- (4) All buses in Bus Park/ terminus must follow direction and instructions of Juba City Council and traffic Authorities.
- (5) Hawking of goods at bus terminus without a permit of the city council is illegal
- (6) Whoever contravenes with subsections 3, 4 and 5 above shall be liable for a fine not exceeding 100SSP or imprisonment for a term not exceeding one week or with both.

**48. Public Transport:**

- (1) All public transport operating in Juba City Council shall be insured and licensed.
- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 500SSP or imprisonment for a term not exceeding one month or with both.
- (3) All public transport vehicles shall obtain route permits from Juba City Council.





- (4) Whoever contravenes with this By-law shall be liable for a fine not exceeding 500SSP or imprisonment for a term not exceeding one month or with both.
- (5) All Public transport Vehicles shall be drive by qualified South Sudanese who possess documents of eligibility and health certificate.
- (6) Whoever contravenes with this By-law shall be liable for a fine not exceeding 300SSP or imprisonment for a term not exceeding three weeks or with both.
- (7) All public transport Vehicles shall have marks printed on both sides indicating the routes approved to them.
- (8) Whoever contravenes with this By-law shall be liable for a fine not exceeding 250SSP or imprisonment for a term not exceeding two weeks or with both.
- (9) All public transport Vehicles shall have fire extinguisher for safety of vehicles.
- (10) Whoever contravenes with this By-law shall be liable for a fine not exceeding 100SSP or imprisonment for a term not exceeding one week or with both.
- (11) All public transport Vehicles shall have CE number plate from the Authorities Concern.
- (12) Whoever contravenes with this By-law shall be liable for a fine not exceeding 100SSP or imprisonment for a term not exceeding one week or with both.
- (13) All drivers shall not be allowed to be drunk during driving time.
- (14) All bus conductors should be seated while on duty.



- (15) Whoever contravenes with subsections 13 and 14 above shall be liable for a fine not exceeding 100SSP or imprisonment for a term not exceeding one week or with both.
- (16) All Foreign Nationals shall be allowed to drive public transport vehicles on the following conditions:
  - (a) *Shall obtain legal driving documents from CES traffic police.*
  - (b) *Shall have undergone health and driving tests.*
  - (c) *Whoever contravenes with this By-law shall be liable for a fine not exceeding 500 SSP or imprisonment for a term not exceeding one month or with both.*
- (17) All public transport and vehicles operating within Juba City Council shall renew their registration and insurance annually.
- (18) Whoever contravenes with this By-law shall be liable for a fine not exceeding 500 SSP or imprisonment for a term not exceeding one month or with both.
- (19) No driver shall be allowed to block a road for VIP Cars, Ambulance Vehicles, Fire brigade, Rescue force on duty.
- (20) Whoever contravenes with this By-law shall be liable for a fine not exceeding 500 SSP or imprisonment for a term not exceeding one month or with both.
- (21) All Vehicles (government, NGOs, CD & Private) are not allowed to move, numberless or using single plate number in front or behind unless with leave from authorities concern.
- (22) Whoever contravenes with this By-law shall be liable for a fine not exceeding 500 SSP or imprisonment for a term not exceeding one month or with both.



**49. Taxi - Cab Operation within the Juba City Council:**

- (1) All owners of Taxi – Cab shall be registered and obtain permit from Juba City Council Authorities.
- (2) All owners of Taxi – Cab shall be expected to take his/her Car for inspection after three Months.
- (3) All Taxi Drivers shall be required to behave in a civil and orderly manner and ensure the safety of all passengers entering into or alighting from the Vehicle.
- (4) All Taxi – Cab shall be painted in Yellow Color or with authorized color.
- (5) Whoever contravenes with this By-law shall be liable for a fine not exceeding 100 SSP or imprisonment for a term not exceeding one week and withdrawal of the Licenses.

**50. Motorcycle (Boda boda), Motor carrier carts and handcarts:**

- (1) All motorists shall obtain driving license from traffic police.
- (2) No individual, Government Officials, Organized Forces, NGOs and Commercial motorcycle (Boda-boda) shall be allowed to ride motorcycle on road without number plate.
- (3) Whoever contravenes with subsections 1 and 2 above shall be liable for a fine not exceeding 50 SSP or a motorbike shall be arrested and detained in Juba City Council until he/she completes the legal requirements and after six months if he/she fail to do so, the motorbike shall be confiscated.
- (4) No person shall be allowed to Covering and bending number plate to the extent of not seeing correctly.
- (5) No person shall be allowed to ride a motorcycle at the age below 18 years.
- (6) No person shall be allowed to pull items with motorcycle on the road: e.g. timbers, metals, bamboo among others.



- (7) No person shall be allowed to caring more than two people on motorcycle.
- (8) Whoever contravenes with subsections 4, 5, 6 and 7 above shall be liable for a fine not exceeding 100 SSP or imprisonment for a term not exceeding one week or a motorcycle shall be confiscated or with both.

**51. Petrol Stations:**

- (1) All petrol stations shall not be allowed to hide petrol or diesel and sell it in black market.
- (2) All petrol stations shall not be allowed to sell petrol or diesel in barrel to individuals (hawkers or retailers) without permit from Juba City Council.
- (3) Whoever contravenes with subsection 1, and 2 above shall be liable for a fine not exceeding 1,000 SSP or imprisonment for a term not exceeding two months or closure of Petrol Station.
- (4) No person shall be allowed to sell the petrol or diesel along the main roads in liters or bottles within Juba city.
- (5) Whoever contravenes with this By-law shall be liable for a fine not exceeding 500 SSP or imprisonment for a term not exceeding one month or with both or the petrol or diesel shall be confiscated.
- (6) No fuel tanker or trailer shall be allowed to sale fuel (petrol or Diesel) along the roads or in residential areas without approval from City Council Authorities.
- (7) Whoever contravenes with this By-law shall be liable for a fine not exceeding 10,000 SSP or imprisonment for a term not exceeding six months or with both or the petrol and diesel shall be confiscated or with both.



## Chapter Eleven

### Destruction and Uprooting of Trees In

#### Residential Areas and Streets

#### 52. Destruction and Uprooting of Trees in Residential Areas and Streets in Juba City Council:

- (1) No person shall be allowed to tree-felling and uprooting of trees on public roads and residential areas without obtaining permission from relevant authorities.
- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 200 SSP or imprisonment for a term not exceeding two weeks or with both.

## Chapter Twelve

### Establishment of Water Closes and Pit Latrine in the residential areas

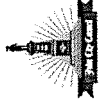
#### 53. Establishment of water closes and pit latrine in the residential areas:

- (1) All owners of the Plots within Juba City Council are requested to establish water close or pit latrine in his/her residential areas.
- (2) Whoever contravenes with this By-law shall be liable for a fine not exceeding 250 SSP or imprisonment for a term not exceeding two weeks or with both.

#### 54. General Nuisances.

- (1) No person shall be allowed to disturbed public tranquility, touting for passengers near Hospitals, Courts, and Schools.

- (2) Any person is required to observe traffic or zebra crossing.
- (3) No person shall be allowed to playing any game, riding or driving or propelling on a foot path.
- (4) No person shall be allowed to spoil any building by writing signs or graffitiing (graphing)
- (5) Whoever contravenes with subsections 1,2,3, and 4 above shall be liable for a fine not exceeding 100 SSP or imprisonment or for term not exceeding one week or with both.





Central Equatoria State  
Juba City Legislative Council

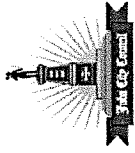
Date: 15 April 2013.

**Certificate**

I hereby certify that the Juba City Legislative Council has passed and adopted the Juba City Council by – laws, 2013 in sitting No. 15 / 2013, of the second session dated 15<sup>th</sup> April ..... 2013.

Signed under my hand in Juba this 15<sup>th</sup> ..... day of the Month of April ..... 2013.

Hon. Michael Lado Allah-Jabu.  
Chairperson  
Juba City Legislative Council  
JCLC – Juba.



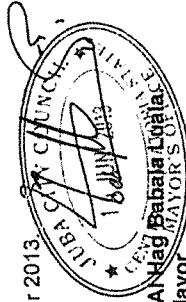
Central Equatoria State  
Juba City Council

Date: 14 ..... / April ..... 2013

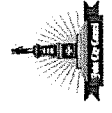
**Assent of the Mayor of the Juba City Council**

In accordance with the provisions of Section 53 (4) and Section 57 (d) of the Local Government Act, 2009, I Ustaz, Mohamed El haj Babala Luala, Mayor of Juba City Council, hereby Assent to Juba City Council by – laws, 2013 and sign it into law.

Signed under my hand in Juba, this 14<sup>th</sup> ..... day of the month of April ..... in the year 2013



Ustaz/ Mohamed A. El haj Babala Luala  
Mayor  
Juba City Council  
JCC/Juba.



## **Rejaf County – Jubek State**

### **By – Laws, 2016- 2017**

In accordance with the provisions of section (39/1, 2, 3) read together with section (40/1, 2, 3) of the local Government act, 2009, Rejaf county, shall enact by – laws to legislate the work, conduct and behavior of the citizens in Rejaf county within the limits of its jurisdiction.

## **Chapter One**

### **Preliminary Provisions**

#### **1. Title and Commencement:**

These by- laws may be cited as “Rejaf County by – laws, 2016- 2017” and shall become into force on the ratification by Rejaf legislative council with the assent of Hon commissioner of Rejaf county.

#### **2. Repeal and Saving:**

The by- laws, 2016-2017 is hereby repealed, provided that, all orders and regulations made or issued there under shall remain in force until they repealed or amended in accordance with the provisions of these by – laws.

#### **3. Purpose:**

The purpose of these by- laws is to regulate the work of Rejaf county and provide the penalties which govern the criminal acts or violation of the provisions of by – laws or local orders that may be adjudicated upon by the courts, and any other issues related thereto.

#### **4. Authority and Application:**

(1) These by – laws is made in accordance with the provisions of section (37/1,2) of the local government act,2009, which grants the Rejaf executive council to enact legislation for establishment of the system in Rejaf county.

(2) The provisions of these by – laws shall be applied to all public institutions and private businesses and all people within Rejaf county

## **Chapter Two**

## **Cleaning of Rejaf County**

### **5. Cleaning of houses and Business Places**

(1) Every person is required to clean his/her house and its surrounding up to the neighbor and the road near by every day.

(2) Whoever allows his/her house and its surrounding to be littered with garbage (plastic bottle or nylon bags) shall be liable for a fine not exceeding 1000 SSP, or imprisonment for a term not

Exceeding one week or with both.

(3) All owners of business places are required to clean their business places and its surrounding up to the neighbor and the road near by every day.

(4) Whoever allows his/her business place and its surrounding to be littered with garbage (plastic or nylon bags) shall be liable for a fine not exceeding 1000 SSP, for one plastic bottle found in his/her place or imprisonment for a term not exceeding two weeks or with both or his/her business place shall be closed.

(5) All Government institutions, private sectors and NGOs are required to clean their compounds and its surrounding up to the neighbor and road nearby every day.

(6) Whoever contravenes with this by – laws shall be liable for a fine exceeding 5000 SSP or imprisonment for a term not exceeding five months or with both.

(7) All business places and markets around Rejaf County are required not to use plastic bottle for services.

(8) Whoever contravenes with this by- law shall liable for a fine not exceeding 500 SSP or imprisonment for a term not exceeding five months confiscation of plastic bottle or with both.

### **6. Littering and Dumping of Waste to the Streets or open Spaces:**

(1) No agency or public institutions, or private vehicles shall be allowed to litter or throw or dump

Waste besides the streets or roads or open spaces.

(2) Any agency or public institutions or private vehicles who contravenes with this by- law shall be liable for a fine not exceeding 5000 SSP or imprisonment for term not exceeding two months

Or with both or the vehicles used shall be confiscated.

(3) No person shall be allowed to litter or dump or throw waste into the streets, open spaces, or

Streams nearby.

(4) Any person who contravenes with this by – law shall be liable for a fine not exceeding

1500 SSP or imprisonment for a term not exceeding two weeks or with both.

(5) All collected garbage must be kept in a container with well fitted top lid or garbage

Designate bag till final disposal.

(6) Whoever contravenes with this by – law shall be liable for a fine not exceeding 1000 SSP or

Imprisonment for a term not exceeding one week or with both.

(7) All waste water must be drained into a proper built cesspool or a covered soak away pit.

(8) Whoever contravenes with this by- law shall be liable for a fine not exceeding 1000 SSP or

Imprisonment for a term not exceeding one week with both.

(9) All persons are prohibited from burning garbage in their premises that can cause

Environmental pollution.

(10) Whoever contravenes with this by – law shall be liable for a fine not exceeding 1000 SSP or

Imprisonment for a term not exceeding one week or with both.

(11) All garages owners are required to re-organized their places, and immediately arrange to

Evacuate all cars and machineries lying on the premises which provide ground for breeding

Of mosquitoes, and a hide out for rodents.

(12) Whoever contravenes with this by – law shall be liable for a fine not exceeding 5000 SSP or

Imprisonment for a term not exceeding one month or with both.

(13) All big truck drivers are required to dispose of the waste safely after off-loading goods.

(14) Whoever contravenes with this by- law shall be liable for a fine not exceeding 2500 SSP or

Imprisonment for a term not two weeks or with both.

#### **7. Allowing, Letting water or Urine into the Streets or open spaces:**

(1) No institutions, Hotel, Lodge, Restaurants, Guesthouse or local Bars shall be allowed to

Let or allow water or urine from his/her place into the neighbor or street or open space.

(2) Whoever contravenes with this by- law shall be liable for a fine not exceeding 2,500 SSP

Or imprisonment for a term not exceeding two months or with both.

(3) No person shall be allowed to allow or let water or urine from his/her bath shelter to neighbor

Or street or open space.

(4) Whoever contravenes with this by- law shall be liable for a fine not exceeding 1000 SSP or

Imprisonment for a term not exceeding one week or with both.



(5) All health officers has a right to enter any house or place within Rejaf Payam for inspection

(6) Whoever reject any officer on duty from doing inspection shall be for a fine not exceeding

500SSP or imprisonment for a term not exceeding one month or with both.

### **8. Washing of Cars along the Main Roads:**

(1) No person shall be allowed to wash cars or motorcycles along the main roads without

The approval from the payam concern or Rejaf County.

(2) Whoever contravenes with this by – law shall be liable for a fine not exceeding 500SSP

Or imprisonment for a term not exceeding one week or with both.

## **Chapter Three**

### **Sale of Goods**

#### **9. Sale of Goods:**

(1) No person shall be allowed to sell his/her goods along the main roads or streets in Rejaf County.

(2) Whoever contravenes with this by- law shall be liable for a fine not exceeding 1000 SSP or

Imprisonment for a term not exceeding one month or with both.

#### **10. Sale or Distribution of Expired Goods:**

(1) No person, whole seller or retailer shall be allowed to sell or distribute expired goods.

(2) Whoever contravenes with this by- law shall be liable for a fine not exceeding 5,000SSP

Or imprisonment for a term not exceeding six months or both and in collaboration with

Other laws.

### **11. Display of Goods in Verandahs:**

(1) No person shall be allowed to display his/her goods in verandah and in front of his/her stop.

(2) Whoever contravenes with this by- law shall be liable for a fine not exceeding 1000 SSP or

Imprisonment for a term not exceeding one month withdrawal or business licenses or with

Both.

### **12. Maintenance of Shops:**

(1) All person of businesses places in Rejaf County are required to carry out maintenance of

Their places annually as follows.

- a) The inside walls shall be painted with white color.
- b) The outside walls shall be painted cream color.
- c) The doors shall be painted with light blue color.

(2) Whoever contravenes with this by- law shall be liable for a fine not exceeding 2,000SSP

Or imprisonment for a term not exceeding two months or their business places shall be

Closed down.

### **13. Shops with Temporary Building Material:**

(1) All shops in Rejaf county, residential areas and along the main roads, constructed with

Temporary building materials shall be constructed with permanent materials unless if the land isn't owned by him.

(2) Whoever contravenes with this by- law shall be liable for a fine not exceeding 2,000 SSP or

Imprisonment for a term not exceeding not two months or with both or withdrawal of

Business license.

## **Chapter Four**

### **Repairing and Spaying of Vehicles**

#### **15. Repairing and Spaying of Vehicles:**

(1) No person shall be allowed to engage in repair or patch of motor vehicles and dispose

Refused oil along the main streets or in the residential areas.

(2) Whoever contravenes with this by- law shall be liable for a fine not exceeding 1000 SSP

Or imprisonment for a term not exceeding one month or with both.

(3) All absolute (scraps) of cars are not allowed to be kept by the roads sides or in front

Or buildings, residential houses or in public places.

(4) Whoever contravenes with this by- law shall be liable for a fine not exceeding 1000 SSP

Or imprisonment for a term not exceeding one month with both.

(5) No person is allowed to dismantle cars for the purpose of maintenance in the public

Streets, under the trees, front of the buildings, public institutions, or the residential

Areas unless with approval from Rejaf county.

(6) Whoever with this by- law shall be liable for a fine not exceeding 1000 SSP or imprisonment?

For a term not exceeding one month or with both.

#### **16. Panel Biting and Spraying Cars in Garages:**

(1) All garages owners or Agencies are required to carry out panel biting and spray of cars after

Obtaining approval from public security and traffic police.

(2) Whoever contravenes with this by- law shall be liable for a fine not exceeding 1,000 SSP or

Imprisonment for a term not exceeding two months or withdrawal of license and if he/she

Found without business license should be liable for a fine not exceeding 1,500 SSP or

Imprisonment for a term not exceeding three months or with both.

(3) All garages are not allowed to operate within residential areas or in the streets or in open

Spaces or squares.

(4) Whoever contravenes with this by- law shall be liable for a fine not exceeding 1,000 SSP

Or imprisonment for a term not exceeding two months or the vehicles found shall be

Confiscated or with both.

## **17. Carpentry and Welding Workshops:**

(1) All carpentry owners are required to keep their saw-dust in garbage designated bags for

Safe disposal.

(2) Whoever contravenes with this by- law shall be liable for a fine not exceeding 1000 SSP or

Imprisonment for a term not exceeding one month or with both.

(3) All owners of welding shops are allowed to display their products along the main roads

Or residential areas and to keep their waste scraps inside their shops.

(4) Whoever contravenes with this by- law shall be liable for a fine not exceeding 1000 SSP

Or imprisonment for a term not exceeding one month or with both.

## **18. Burial within Residential Areas:**

(1) No dead person shall be buried within residential areas, only shall be in authorized public

Graveyards or cemeteries with death certificate.

(2) Whoever contravenes with this by- law shall be liable for a fine not exceeding 1000 SSP or

Imprisonment for a term not exceeding one month or with both.

## **19. The Environment Health in Hotel:**

(1) The environment health in hotel shall be clean from dirty, dust or any other contamination

During storage, distribution and sale of food.

(2) Whoever contravenes with this by- law shall be liable for a fine not exceeding 2500 SSP or

Imprisonment for a term not exceeding four months or with both.

**20. The Environment Health in Restaurants:**

(1) The environment health in restaurants shall be clean from dirty, dust or any other

Contamination during storage, distribution and of food.

(2) Whoever contravenes with this by- law shall be liable for a fine not exceeding 2,000 SSP

Or imprisonment for a term not exceeding two months.

**21. The Environment Health in Lodges or Guesthouses:**

(1) The environment health in lodges or guesthouses shall be clean from dirty, dust or any

Other contamination during storage, distribution and sale of food.

(2) Whoever contravenes with this by – law shall be liable for a fine not exceeding 1,500 SSP

Or imprisonment for a term not exceeding three months or with both.

**Chapter Five**

**Random Slaughter of Animals**

**22. Random Slaughter of Animals:**

(1) All animals shall be slaughter after medical checked up and stamp.

(2) All animals shall have vaccination card from public health of veterinary department.

(3) All animals shall be slaughter only at the slaughter house.

(4) No butcher shall be allowed to slaughter any, be it cow, bull, goat, sheep or pig outside

The authorized slaughter houses.

(5) No animals shall be slaughter in the residential areas or in unauthorized places.

**23. Parking of Sewage Tankers in Residential Areas:**

(1) No sewage tankers shall be allowed to park within residential areas.

(2) Whoever contravenes with this by- law shall be liable for a fine not exceeding 5000 SSP or

Imprisonment for a term not exceeding one month or with both.

**Chapter Six**

**Establishment of Water Closes and Pit Latrine in the Residential Areas**

**24. Establishment of Water Closes and Pit Latrine in the Residential Areas:**

(1) All owners of the plots within Rejaf county are requested to establish water close or

Pit latrine in his/her residential areas.

(2) Whoever contravenes with this by- law shall be liable for a fine not exceeding 2000 SSP or

Imprisonment for a term not exceeding two months or with both.

**Date: ---/-----/2017**

**Certificate**

I hereby certify that the Rejaf executive council has passed and adopted the Rejaf county by-laws,2016-2017 in sitting No...../ dated...../.....2017

Signed under my hand in Rejaf this .....day of the month of .....2017.

**Mr. / Gasim Eresto Ibrahim**

**Secretary of Executive Council**



**Date:---/-----/2017**

**Assent of the commissioner of Rejaf County**

In accordance with the provision of section 52(D/F) of the local Government act 2009. I Hon. Maj. General /Martin Wani Jangara, Commissioner of Rejaf County, hereby Assent to Rejaf County by-laws, 2016-2017 and sign it into law.

Sign under my hand in Juba, this .....day of the month of .....  
In the year 2017.

**Hon. Maj. General/ Martin Wani Jangara**

**Commissioner**

**Rejaf County**

**Jubek State**

**Japan International Cooperation Agency (JICA)**

**DATA COLLECTION SURVEY ON SOLID WASTE  
MANAGEMENT IN JUBA, THE REPUBLIC OF  
SOUTH SUDAN**

**Waste Unit Generation Survey in Juba**

**Final Report**

**September 2017**

**Juba, the Republic of South Sudan**

## Table of Content

<b>Content</b>	<b>Page</b>
<b>Introduction</b>	<b>3</b>
<b>Objectives</b>	<b>3</b>
<b>Roadmap</b>	<b>4</b>
<b>Data collection</b>	<b>4</b>
<b>Explanation &amp; Result</b>	<b>5 __ 7</b>
<b>Conclusion</b>	<b>7</b>
<b>Pictures</b>	<b>8 __ 9</b>
<b>Attachment</b>	<b>10 __ 12</b>

## **Introduction**

Municipal Solid Waste Management (MSWM) is the major problem being faced by municipalities, because it is not only a technical problem but it is also strongly influenced by political, legal, socio-cultural, environmental and economic factors, as well as available resources.

Juba as the capital of south Sudan face uphill challenges to properly manage the waste, this study funded and supervised by the Japan International Cooperation Agency (JICA) focused on household waste, the objective of the study is to determine the amount waste generated per person per day, which is the first step in the best practice for waste management.

- In Juba City, waste management is not a complicated process because the mixed waste is brought to the main streets by the inhabitants, no segregation is done and Juba City Council is responsible for collecting the garbage along the streets.
- The overall goal of urban SW management is to collect, treat where applicable and dispose of solid wastes generated by all urban population groups in an environmentally and socially satisfactory adopted manners using the most economical means available. Local governments are usually authorized to have responsibility for providing SW management services, and most local government laws give them exclusive ownership over waste once it has been place outside a home or establishment for collection.

## **Objectives**

- 1- Measure waste amount generated per person per day in Juba
- 2- Estimate total waste amount generated in Juba

## Roadmap

The data collection and analysis will follow roadmap that will start by:

- Implementation Period from 22nd September, 2017 - 2 October, 2017 (Total 11 days)
- the Selection of target households: 30HHs/block
- Announcement to community
- Deliver plastic bags everyday (1 bag/day for each household)
- Interview and weigh a sample according to the recording sheet
- Input data into excel format and prepare the final report

### Profile of Juba city

Juba is the capital of south Sudan has an approx. area of 71.22 km<sup>2</sup> and approx. population of 1.5 million . Because Juba has few flood areas the population density is more or less evenly distributed which is 21,061.5 /km<sup>2</sup>. Because of lack of asphalted or paved roads, there is difficulty in waste collection because most of the roads are inaccessible especially during the rainy season (May-Oct.). Some basic information of Juba City related to waste collection is mentioned in Table1:

**Table 1: Basic Information of SWM in Juba City**

JCC service area	71.22km <sup>2</sup>
Number of zones	5 zones (A-Kator,B-Juba,C-Munuki,D-the whole of Jebel market,Nyakuron west, west of customs roundabout, west of 7th Day Adventist Church up to Lou Clinic, E-Headquarter for Environment & Sanitation, it specializes in Hotels).
Area of disposal site	Juba Controlled Dumping Site 25 hectares
Central garage	In central Juba city adjacent to Juba Central Prison

Source: JUBA CITY SWM REPORT

## Data collection

- **Each block have two surveyors and team leader**

**The surveyors with the team leaders carried out the following preparatory work:-**

1. Visited the selected 30 house in each of the 3 blocks, made interview with the families.

2. Distributed for the 30 selected houses plastic bags, one day before start collecting the waste from them.
3. Notify 30 houses in each of the 3 blocks the time and date of the start of the waste collection which will be continuous for 5 days.
4. Truck for waste collection were prepared for proper handling of the waste for each of the 3 target areas
5. The surveyors weighted, recorded the readings for each house and record the data on the sheet.
6. The surveyors numbering the houses in each block from 1 to 30.

## **Collection and Measurement of Waste Amount**

The outline of measurement was carried according to table 2 below:

**Table 2: The outline of measurement**

Period	11 Days
Target Place	Residential Area : Munuki Block (30HHs), Juba Block (30HHs), Kator Block (30HHs)
Sampling method	Random selection from all households in target places
Number of samples	90 household (3blocks*3blocks)
Measurement items	Weight

## **Result of the Waste Unit Generation of Households Waste Survey of Juba city**

The field survey was carried out according to the schedule work plan, the collected data from the households in three selected area were analyzed, this section present the basic data on the 3 study areas that will represent Juba city, then will be followed by the result of physical data of the weighing and measurements of the waste.

## **Result of the Waste Unit Generation of Households Waste Survey of Juba Block**

Results of solid waste collected from the selected 30 households of Juba block area over the survey period three house submitted their generated waste for

more than one day waste (25kg) on the first day and 3 houses burn their waste before the surveyors come to the house, one house didn't generate waste and some houses taken the waste away before the surveyors come to the house.

**Table 3: Summary of Waste Unit Generation Survey in Juba Block**

Unit Waste Generation (kg/person/day)	Estimated Population (persons)	Total waste generated (ton/day)
0.571	450,000	257

### **Result of the Waste unit Generation of Households waste Survey of Munuki Block**

Results of solid waste collected from the selected 30 households of Munuki block area over the survey period one house Refused to cooperate , on the first day some hoses taken their waste out before the surveyors come to the house And some houses mixed waste for two days .

**Table 4: Summary of Waste Unit Generation Survey in Munuki Block**

Unit Waste Generation (kg/person/day)	Estimated Population (persons)	Total waste generated (ton/day)
0.572	675,000	386

### **Result of the waste unit Generation of Households waste Survey of Kator Block**

Results of solid waste collected from the selected 30 households of Kator block area over the survey period all the houses are cooperated with survey team because of good explanation from the team surveyors.

**Table 5: Summary of Waste Unit Generation Survey in Kator Block**

Unit Waste Generation (kg/person/day)	Estimated Population (persons)	Total waste generated (ton/day)
0.798	375,000	299

## Summary of Waste Unit Generation Survey in Juba (September 2017)

Block	Unit Waste Generation (kg/person/day)	Estimated Population (persons)	Total waste generated (ton/day)
Munuki Block	0.572	675,000	386
Juba Block	0.571	450,000	257
Kator Block	0.798	375,000	299
<b>TOTAL</b>	<b>0.654</b>	<b>1,500,000</b>	<b>942</b>

\* Irregular data is extracted.

### Achievements

- the survey implemented on time we planed
- the team of survey from each block are gain experience about to do like this survey
- hold meeting on the 30/9/2017 attended by the survey team and Blocks Directors, Ministry of Environment, Ministry of Health and mayor representative to explain to them the process of survey and we discussed the challenges and achievements of the survey and the same meeting of the Juba-Rejaf WM group.

### Conclusions

Information on the Unit Waste Generation is important in management programs and plans for waste handling collection, transportation, treatment and disposal.

The study of Unit Waste Generation of the houses waste Survey for Juba city reach to the following conclusions:

- The average of the waste generated in kg/person/day for Juba city = 0.654
- the contents of waste is leaves of trees ( more than 50% ) because there is a lot of trees in juba houses
- food waste is very few and sometimes there is no food waste because of the economic situation of Juba .





Opening of the survey by Munuk Director



Numbering of houses



Sample of waste

**Gosai Ahmed Mohammed**

Solid Waste Management Expert

# Attachment

## Raw data of each household in Munuki Block

Waste Unit Generation

Juba Block

Irregular data

No.	25 Sep (Mon)	26 Sep (Tue)	27 Sep (Wed)	28 Sep (Thu)	29 Sep (Fri)
	kg/person/day	kg/person/day	kg/person/day	kg/person/day	kg/person/day
1		0.107	0.232	0.178	0.143
2	0.533	0.067	0.3	0.2	0.3
3	1.25		0.55	0.6	0.5
4	0.75	0.417	0.417	0.75	0.417
5		0.208	0.208	0.25	0.208
6		0.571	0.286	0.571	0.571
7	0.225	0.1	0.625	0.275	0.175
8	0.8	0.45	0.05	0.25	0.325
9	0.308	0.192	0.615	0.73	
10	0.25		2.5	0.8	0.85
11	2.4	1.2		2.1	0.9
12	0.643	0.25	0.857	1	0.143
13		0.409	0.727	0.09	0.727
14	3.667	0.833	1.5	0.667	0.5
15	0.313	0.313	0.125		0.313
16	0.727		0.045	0.227	
17	0.241	0.333			0.018
18	0.357	0.357	1.428	0.571	0.429
19	0.75	1.375	0.25	0.5	0.438
20	0.714	0.714	0.857	0.714	0.429
21	1.316	0.25	0.375	0.125	0.625
22	0.4	0.05	0.1	0.35	0.5
23	0.929		0.5	0.143	0.214
24	0.563	1.063	0.375	0.563	0.5
25		1.5		1.286	
26	0.7	0.4	0.225	0.225	0.4
27		0.286	0.393	0.607	
28	2.857	0.286	0.143	0.5	1.214
29	0.333	0.25	0.167	0.042	0.125
30	0.5	0.556	0.5		

Average 0.571 kg/person/day

\*Irregular data is extracted.

## Raw data of each household in Munuki Block

Waste Unit Generation

Munuki Block

Irregular data

No.	25 Sep (Mon)	26 Sep (Tue)	27 Sep (Wed)	28 Sep (Thu)	29 Sep (Fri)
	kg/person/day	kg/person/day	kg/person/day	kg/person/day	kg/person/day
1	0.154	0.192	0.154	0.307	0.462
2	0.308	0.682	0.318	0.272	0.375
3	0.231	0.385	0.269	0.159	0.367
4		1.583	0.25	0.417	0.1
5	0.294	0.176	0.286	0.286	0.571
6	0.286	0.088	0.2	0.3	0.45
7	0.423	0.462	0.385	0.192	0.462
8					
9	0.344	0.15	0.1		0.1
10	0.344	0.156	0.125	0.125	0.094
11	0.8		0.5		0.6
12			1.857	0.5	1
13	0.143		1.857	0.571	
14	1.188	1.063	1.857	1	0.875
15	0.5	1.333	0.778	1	0.722
16	1.15	0.15	0.708	0.625	0.833
17	0.688	0.313	0.556	0.611	0.611
18	0.25	0.417	0.5	0.083	0.417
19		0.136	0.363	0.181	0.409
20	1.889	1.944	1.333	1.5	0.722
21	1.75	0.25	1.25		2
22	0.125	0.25	0.25	0.375	0.313
23	0.833		0.444	0.833	0.667
24	0.417	0.633	0.5	0.367	0.233
25	0.417	0.5	0.5	0.75	1.583
26	1.1	1.9	1.1	0.7	0.8
27		0.25	0.167	0.083	0.167
28	0.667	0.5	0.75	0.167	1.083
29		0.25	0.1	0.4	0.1
30	0.571	0.571	0.214	0.143	

Average 0.572 kg/person/day

\*Irregular data is extracted.

## Raw data of each household in Kator Block

Waste Unit Generation

Kator Block

Irregular data

No.	25 Sep (Mon)	26 Sep (Tue)	27 Sep (Wed)	28 Sep (Thu)	29 Sep (Fri)
	kg/person/day	kg/person/day	kg/person/day	kg/person/day	kg/person/day
1	1.333	0.933	0.667	0.333	0.267
2	1.208	0.5	0.25	0.313	0.25
3	0.312	0.5	0.25	0.313	0.188
4	0.417	0.75	1.667	1.333	1.083
5	1.115	0.808	0.615	0.653	0.461
6	1.25	1	0.687	1	0.5
7	1.3	0.25	0.45	0.25	0.3
8	0.833	1.667	2.333	0.667	0.833
9	0.6	0.9	0.9	1.35	0.6
10	0.5	1.167	0.419	0.417	0.333
11	1.47	0.7	0.3	0.7	0.4
12	1.308	1.231	0.615	0.615	0.384
13	1.7	1	0.7	0.65	0.45
14	1.156	0.594	0.562	0.781	0.313
15	0.615	0.769	1.23	0.615	0.731
16	0.6	0.5	0.8	0.85	1.25
17	1.03	0.5	0.208	0.25	0.167
18	0.9	0.75	0.65	0.8	0.15
19	0.8	1	0.6	0.6	0.55
20	0.286	0.857	0.478	0.643	0.095
21	0.333	2.333	0.286	0.5	0.167
22	0.818	0.364	1	1.136	0.364
23	1.059	0.324	0.409	0.5	0.618
24	1.182	1.636	0.529	1.273	0.182
25	1.536	1.143	0.636	0.928	0.179
26	0.444	1.944	0.357	0.286	0.333
27	1.053	0.632	1	1.21	0.895
28	1.5	0.667	0.875	0.792	0.958
29	1.9	1.4	0.65	1.45	1.1
30	1.8	2.1	1.7	1.2	2.1

Average 0.79806 kg/person/day

\*Irregular data is extracted.

# JCC コンパクターの運行記録 (例)

## ■ コンパクター (0239) の運行記録

Department of Environment and Sanitation  
Juba City Council Jubek State  
Time and motions Study

Date \$ weeks	Name of the driver	Types of Vehicle \$ Plate No	No. Trip		Time of departure from the garage	Time of the collection garbage from the first collection point up to the last collection point	Time of arrival at the dumping side	Time of arrival at garage	Remarks	signature
			First Trip	Second Trip						
Monday	Lado Robert	Jubek-G, 0239	1		9:20 AM	9:30 AM 1:41 PM	2:20 PM	3:22 PM	From 3:22 to 5:00 PM Wash 0.9	<i>[Signature]</i>
Tuesday	Lado Robert	Jubek-G, 0239	1		11:30 AM	11:35 AM 3:15 PM	4:25	5:16		<i>[Signature]</i>
Wednesday	Lado Robert	Jubek-G, 0239	1	1	9:00 AM	9:20 AM 2:41 PM 3:30 PM 4:20 PM	2:59 PM	3:50 PM 6:15		<i>[Signature]</i>
Thursday	Lado Robert	Jubek-G, 0239	1		11:00 AM	11:15 AM 2:50 PM	3:30 PM	4:33 AM		<i>[Signature]</i>
Friday	Lado Robert	Jubek-G, 0239	1	1	9:00 AM	9:10 AM 2:00 PM 3:00 PM 5:15 PM	2:31 PM	3:12 PM 6:12 PM		<i>[Signature]</i>
Saturday	Lado Robert	Jubek-G, 0239	1		9:15 AM	9:20 AM 2:30 PM	3:00 PM	4:00 PM		<i>[Signature]</i>
Sunday										

Deputy Director of Environmental Management

## ■ コンパクター (0240) の運行記録

Department of Environment and Sanitation  
Juba City Council Jubek State  
Time and motions Study

Date \$ weeks	Name of the driver	Types of Vehicle \$ Plate No	No. Trip		Time of departure from the garage	Time of the collection garbage from the first collection point up to the last collection point	Time of arrival at the dumping side	Time of arrival at garage	Remarks	signature
			First Trip	Second Trip						
Monday	ALEX	0240	ONE							
10/17/2017		0240	ONE		8:00 AM	8:20 AM	5:15 PM	6:12 PM		<i>[Signature]</i>
Tuesday	ALEX	0240								
11/7/2017		0240	ONE	1	8:20 AM	8:20 AM	3:00 PM			<i>[Signature]</i>
Wednesday	ALEX		ONE	TWO	8:00 AM	8:20 AM	1:00 PM	4:00 PM		
12/1/2017		0240	ONE	TWO	8:00 AM	8:20 AM	3:00 PM	6:00 PM		<i>[Signature]</i>
Thursday	ALEX	0240	ONE	TWO	8:00 AM	8:20 AM	3:00 PM	6:00 PM		<i>[Signature]</i>
13/1/2017		0240	ONE		8:00 AM	8:20 AM	2:50 PM	5:15 PM		<i>[Signature]</i>
Friday	ALEX	0240	ONE	TWO	8:00 AM	8:20 AM	2:50 PM	5:15 PM		
14/1/2017		0240	ONE	TWO	8:00 AM	8:20 AM	2:50 PM	5:15 PM		<i>[Signature]</i>
Saturday	ALEX	0240	ONE	TWO	8:00 AM	8:20 AM	2:50 PM	5:15 PM		<i>[Signature]</i>
15/1/2017		0240	ONE	TWO	8:00 AM	8:20 AM	2:50 PM	5:15 PM		<i>[Signature]</i>
Sunday	ALEX	0240	ONE	TWO	8:00 AM	8:20 AM	2:50 PM	5:15 PM		<i>[Signature]</i>
16/1/2017		0240	ONE	TWO	8:00 AM	8:20 AM	2:50 PM	5:15 PM		<i>[Signature]</i>

Deputy Director of Environmental Management

## 2. PILOT PROJECT ACTION PLAN (Revised date 11/03/2018)

NAME	Juba City Council	
TITLE	Improvement of Solid Waste Collection at the Residential Areas in JCC	
OUTLINE OF AREA	The Pilot Project area covers three Blocks of Juba City Council; Each block has 40 households which makes 120 House Holds as the beginning of the pilot Project. At Juba Block there is Hai commercial and Juba Na Bari, at Kator Block there Atlabara B & C and at Munuki Block we have Munuki Block B and Hai Mauna.	
Stakeholders	<ul style="list-style-type: none"> <li>• National Government ( Ministry of Environment and Forestry)</li> <li>• State Government ( Ministry of Health and Environment, Ministry of Physical Infrastructure)</li> <li>• Juba City Council</li> <li>• Rejaf County</li> <li>• Experts</li> <li>• Private sectors</li> <li>• NGOs</li> <li>• Quarter Councils</li> <li>• Community</li> </ul>	
Final Goal	To raise the collection ratio in Juba City Council upto 14%	
Duration	5 years ( 2018- 2023)	
Component and Responsibilities	<b>Activities</b>	<b>Responsible Organization</b>
	1. First Meeting with the selected Households and the Community [done]	Director of the three Blocks, Quarter Council Chairperson (Mr. Silva Nyersuk, Munuki Block B, Mr. AgidioSvaldohai Commercial Residential Area and Mr. JosephEresto, Atlabara C residential area) and Zonal Administrative Officers, Community of the target area.
	2. Identification of the 120 Households, the	Block Directors, Quarter Council Chairperson and Zonal Administrative Officers, Community of the target area.

	temporary Transfer station. [done]	
	3. Identification of the Temporary Dumping Site ( <del>Luri, Lado County (North part of Juba), Munuki-Luri County dumping site (Western part of Juba)</del> ) and Kator-Rejaf County dumping site (Southern Part of Juba )	National Ministry of Environment and Forestry, County Commissioner, City Council, State Government, Community Chiefs, Juba- Rejaf Solid Waste Management Group.
	4. Second Meeting with the Primary Collection Service Providers (PCSP)[done]	The Block Directors and the Quarter Council, Chamber of Commerce
	5. Third Meeting for the selection of 12 PCSP	The Block Directors and the Quarter Council Its as follows: 1. Joseph Kobajo (Munuki block) 2. Denis lado( Munuki block) 3. Emmanuel Kiju (Munuki block) 4. Joseph Mono ( Munuki block) 5. Salah Samuel wani ( Kator block) 6. Joseph John Wani (Kator Block)



		7. David Komando (Kator block) 8. Umba Geoffrey Yuggu (Kator block) 9. Dut Garang Bak (Juba Block) 10. Rondiang James Henry (Juba block) 11. James Wani Anthony (Juba block) 12.
	6. Provision of bicycle Carts [done]	The Block Directors
	7. Start of the collection <del>March, 2018-</del> April, 2018	Block Directors, Quarter council Chairpersons, the Selected Households, PCSP.
	8. Initial payment of the PCSP (April – June, 2018)	Block Directors (three Months in advance)
	9. Monitoring and Supervision of the PCSP	Zonal Administrators, Quarter Councils, Environmental Officers, Public Health Officers and the Community.

### 3. DEMARCATION

#### 1. MUNUKI BLOCK

	Name	National	State	Juba city					Rejaf Payam	Community
				JCC		Block Directors		QC		
				Dept. of Env.	PCSP	Kator	Munuki	Juba		

<b>HOUSEHOLDS</b>											
Awareness Raising											
Announcement by	Mr. SilvasNyersuk										
Explanation of collection system (PCSP) by	Mr. Stephen Vigilio										
Payment System Agreement by	Hillary										
Discharge system Explanation by	Twice a week Mondays and Fridays From 09:00 am										
Preparation of equipment by											
<b>TRANSFER STATION</b>											
Construction by	Mr. Stephen Vigilio										
Finance by	Mr. Stephen Vigilio										
Operation by	Mr. Stephen Vigilio										
Land Agreement by	Mr. Stephen Vigilio, Mr. SilvasNyersuk										
<b>LANDFILL SITE</b>											
Land acquisition by	Mr. Joseph Loro										
Explanation by	Mr. Stanslaus										

	Mogga and the Director.										
Construction /Rehabilitation	The national, state and RejafPayam										
Financial Preparation	Mr. Joseph Loro										

## DEMARCATATION

### 2. JUBA BLOCK

	Name	National	State	Juba city						Rejaf Payam	Community
				JCC		Block Directors			QC		
				Dept. of Env.	PCSP	Kator	Munuki	Juba			
<b>HOUSEHOLDS</b>											
HOUSEHOLDS											
Awareness Raising											
Announcement by	Mr. AgidioSvaldo, QC Chairperson								✓	✓	
Explanation of collection system (PCSP) by	Mr. MoggaNgwangki										
Payment System Agreement by	Hillary										
Discharge system Explanation by	Twice a week Tuesdays and Saturdays										

	From 09:00 am										
Preparation of equipment by	Mogga										
<b>TRANSFER STATION</b>											
Construction by	Mr. MoggaNgwang ki										
Finance by	Mr. MoggaNgwang ki										
Operation by	Mr. MoggaNgwang ki										
Land Agreement by	Mr. MoggaNgwang ki, AgidioSvaldo										
<b>LANDFILL SITE</b>											
Land acquisition by	Mr. Joseph Loro										
Explanation by	Mr. StanslausMogga and the Director.										
Construction /Rehabilitation	The national, state and RejafPayam										
Financial Preparation	Mr. Joseph Loro										

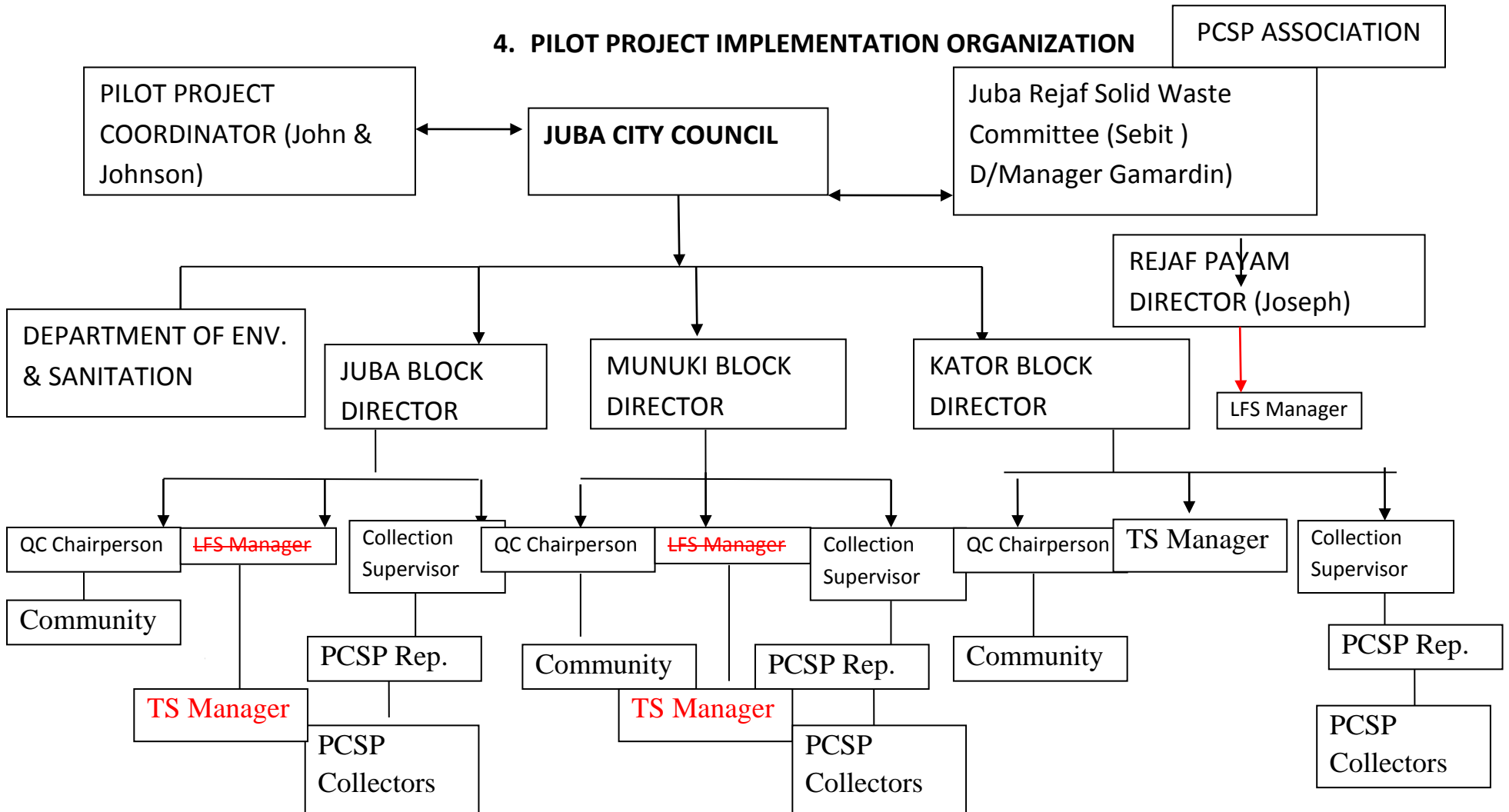
## DEMARCATATION

### 3. KATOR BLOCK

	Name	National	State	Juba city						Rejaf Payam	Community
				JCC		Block Directors			QC		
				Dept. of Env.	PCSP	Kator	Munuki	Juba			
<b>HOUSEHOLDS</b>											
Awareness Raising											
Announcement by	Mr. Joseph Eresto										
Explanation of collection system (PCSP) by	Mr. TimonWani										
Payment System Agreement by	Hillary										
Discharge system Explanation by	Twice a week Mondays and Thursdays From 09:00 am										
Preparation of equipment by	Mr. TimonWani										
<b>TRANSFER STATION</b>											
Construction by	Mr. TimonWani										
Finance by	Mr. TimonWani										
Operation by	Mr. TimonWani										
Land Agreement	Mr.										

by	TimonWani& Joseph Eresto										
<b>LANDFILL SITE</b>											
Land acquisition by	Mr. Joseph Loro										
Explanation by	Mr. StanslausMogg a and the Director.										
Construction /Rehabilitation	The national, state and RejafPayam										
Financial Preparation	Mr. Joseph Loro										

#### 4. PILOT PROJECT IMPLEMENTATION ORGANIZATION



## 1. JUBA BLOCK COUNCIL

NAME	POSITION	RESPONSIBILITY
1.Mr. AgidioSvaldo	QC Chairperson	<ul style="list-style-type: none"> <li>• Conduct meetings</li> <li>• Awareness Raising</li> <li>• Announcements</li> <li>• General Coordination</li> </ul>
<del>2.Name later (Adm. Officer)</del>	<del>LFS Manager</del>	<ul style="list-style-type: none"> <li>• <del>Managing the LFS</del></li> <li>• <del>Supervises the Incoming Vehicles</del></li> <li>• <del>Render reports to the director.</del></li> </ul>
3.Nasia Hassan ( Public Health Officer)	Collection Supervisor	<ul style="list-style-type: none"> <li>• Supervises the pilot area</li> <li>• Allocation of Collection Vehicles</li> <li>• Reports to the Director.</li> </ul>
4.Benjamin Lado (Council Guard)	TS Manager	<ul style="list-style-type: none"> <li>• Managing the TS</li> <li>• Monitors the PCSP</li> <li>• Reports to Supervisor</li> </ul>
5.Not yet (Private Sector)	PCSP representative	<ul style="list-style-type: none"> <li>• Collection of waste</li> <li>• Represents his group in meetings</li> </ul>

## 2. KATOR BLOCK COUNCIL

NAME	POSITION	RESPONSIBILITY
1.Mr. Joseph Eresto	QC Chairperson	<ul style="list-style-type: none"> <li>• Conduct meetings</li> <li>• Awareness Raising</li> <li>• Announcements</li> <li>• General Coordination</li> </ul>



<del>2.Mr. Nora Napatali (Adm. Officer)</del>	<del>LFS Manager</del>	<ul style="list-style-type: none"> <li><del>• Managing the LFS</del></li> <li><del>• Supervises the Incoming Vehicles</del></li> <li><del>• Render reports to the director.</del></li> </ul>
3.Christine Francis ( Public Health Officer)	Collection Supervisor	<ul style="list-style-type: none"> <li>• Supervises the pilot area</li> <li>• Allocation of Collection Vehicles</li> <li>• Reports to the Director.</li> </ul>
4.Adam Gore (Council Guard)	TS Manager	<ul style="list-style-type: none"> <li>• Managing the TS</li> <li>• Monitors the PCSP</li> <li>• Reports to Supervisor</li> </ul>
5.Not yet (Private Sector)	PCSP representative	<ul style="list-style-type: none"> <li>• Collection of waste</li> <li>• Represents his group in meetings</li> </ul>

### 3. MUNUKI BLOCK COUNCIL

NAME	POSITION	RESPONSIBILITY
1.Mr. Silva Nyarsuk	QC Chairperson	<ul style="list-style-type: none"> <li>• Conduct meetings</li> <li>• Awareness Raising</li> <li>• Announcements</li> <li>• General Coordination</li> </ul>
<del>2.Jackline Viatore (Adm. Officer)</del>	<del>LFS Manager</del>	<ul style="list-style-type: none"> <li><del>• Managing the LFS</del></li> <li><del>• Supervises the Incoming Vehicles</del></li> <li><del>• Render reports to the director.</del></li> </ul>
3.Rose Okello ( Public Health Officer)	Collection Supervisor	<ul style="list-style-type: none"> <li>• Supervises the pilot area</li> <li>• Allocation of Collection Vehicles</li> <li>• Reports to the Director.</li> </ul>

4. Not Yet (Council Guard)	TS Manager	<ul style="list-style-type: none"> <li>• Managing the TS</li> <li>• Monitors the PCSP</li> <li>• Reports to Supervisor</li> </ul>
5. Not yet (Private Sector)	PCSP representative	<ul style="list-style-type: none"> <li>• Collection of waste</li> <li>• Represents his group in meetings</li> </ul>

## 5. IMPLEMENTATION SCHEDULE

## 6. RULES AND REGULATIONS FOR PILOT PROJECT

### Generally

Dept of Env.& sanitation-JCC is responsible for collecting the Commercial waste such as:

1. Waste from the markets
  2. Waste from the restaurants
  3. Waste from the hotels
  4. Waste from the Government and private offices
  5. Waste from the construction materials
  6. Shops along the main road
- The operation and management of collection is the responsibility of Dept of Environment and Sanitation
  - The collection of fee is the responsibility of the department of Environment and Sanitation- JCC
  - The three Blocks are responsible for collecting the waste from the residential areas (Households)
  - Blocks are responsible for collection of garbage fees on behalf of the PCSP from the residential areas.
  - The collection of medical waste is the responsibility of Dept of Environment and Sanitation, temporally.
  - The below rules and regulation will later become the rule for Solid waste management in Juba City.

## 1. The Collection of Solid Waste Management Rule

- It's an obligation of the selected Households (120HHs) to collect the waste, put them in plastic bags and hand them to the PCSP.
- The schedule of the collection will be twice a week.
- Collection from house to house by the PCSP in their respective jurisdiction
- The collection time is from 09:00 am - 12:00 noon.
- After Collection the PCSP transport the collected waste to the Transfer Station.
- It's the responsibility of each block to transport the waste from the Transfer station to the Temporary Landfill site.

## 2. Fee Collection

- The collection fee is 30 SSP(\*under discussion) per Households per collection
- Collection is twice a week is equal to 60 SSP\* per week per Household.
- Each House Hold will pay 240SSP\* per month.
- The Block Directors will pay for the first three months which is equivalent to 9600SSP\* per month per Block
- Each House hold will not pay the collection fee for the first three months.
- Each household will pay the garbage collection fee per collection by themselves after the three months.
- The rate collectors will collect the garbage fee from each Household every collection.
- The collected amount will be paid to the\* PCSP weekly by the Block Directors.

## 3. Responsibility

- The operation and management of the transfer Station and the Temporary landfill site is the responsibility of the Blocks and Rejaf County & ~~Lodu Counties~~
- The construction of the Transfer Station is the responsibility of the Blocks

- The construction of the Temporary Landfill site is the responsibility of JCC and Rejaf county & Loda Counties.
- The operation and maintenance of the collection vehicles is the responsibility of the Department of Environment and sanitation and the three blocks- JCC

## Collection Method

### 1. Munuki Block

The waste will be collected and transported from Munuki Block B pilot project area to the Transfer Station by the PCSP and the Block will transport the waste to the Temporary Dumping site.

**Distance:** the distance from the pilot project area of Munuki block B to the Temporary dumping site ~~at Juba Nabari is approximately 2.5 km that means the bicycle (5km/h) will spend approximately 30 minutes to reach the Temporary Landfill Site.~~ Of Rejaf County is approximately 13.0 Km.

### 2. Juba Block

The waste will be collected and transported from Hai Commercial pilot project area to the Transfer Station by the PCSP by the ~~tri-cycle bicyele cart~~ and the Block will transport the waste to the temporary Dumping site.

**Distance:** the distance from the pilot project area of Hai Commercial to the Temporary dumping site ~~at Juba Nabari is approximately 7.5 km that means the motoreycle (10km/h) will spend approximately 45 minutes to reach the Temporary Landfill Site.~~ Of Rejaf County is approximately 12.0 Km.

### 3. Kator Block

The waste will be collected and transported from Atlabara C pilot project area to the Transfer Station by the PCSP by ~~tri-cycle bicycle cart~~, the Kator Block will then transport the waste from Transfer Station to the Temporally Landfill Site twice a week.

**Distance:** ~~the distance from the pilot project area of Atlabara C to the Transfer Station near KonyoKonyo Market is approximately 3.0 km that means the tri-cycle (5km/h) will spend approximately 35 minutes to reach the Transfer Station.~~ The distance from the Transfer Station at Atlabara C near KonyoKonyo Market to the Temporary dumping site at Gumbo is approximately 10.0 km ~~that means the collection vehicle (15km/h) will spend approximately 30 minutes to reach the Temporary Landfill Site.~~

