



**JAMAICA SOCIAL INVESTMENT FUND**  
*“Investing For Community Development”*



**TERMS OF REFERENCE**

**Provision of Solid Waste Management Performance Assessment – Year 3**

**1. GENERAL INTRODUCTION**

The Jamaica Social Investment Fund (JSIF) is a limited liability company incorporated under the Companies Act of Jamaica. It was established in 1996 as a component of the Government of Jamaica’s (GoJ’s) national poverty alleviation strategy. The Fund was designed primarily to channel resources to small-scaled community-based projects. This is done with the use of an Operations Manual for each project that acts as a guide to ensure transparency, accountability and efficiency in project implementation.

The operations of the JSIF were initially funded by a loan negotiated between the GoJ and the World Bank. Though the Fund was initially established as a temporary organization with an initial lifespan of four (4) years, it has been in operation for over 16 years and presently has agreements that will continue in the future.

The JSIF mobilizes resources and channels to community-based socio-economic infrastructure and social services projects. Through a national partnership between central and local government, communities and private and public organizations, the JSIF addresses the immediate demands of communities in a manner that is quick, efficient, effective, transparent and non-partisan.

**2. BACKGROUND**

Jamaica is an island country located in the Caribbean Sea 145 km south of Cuba. The island has a population of approximately 2.5 million. Jamaica has experienced rapid urbanization over the recent decades. As of 2005, 52 percent (1.4 million in 2005) of Jamaica’s population resides in urban areas, an increase of 16.75 percent since 1991. With an estimated annual increase of 1.31 percent per annum, the urban population of Jamaica is projected to be 1.5 million in 2020 and 1.8 million in 2030.

Approximately 840,000 tons of waste is generated annually in Jamaica. Half of this amount originates from the Kingston Metropolitan Area (KMA) alone. In the KMA, households and markets contribute between 50% and 70% of the waste stream, with the remaining amount generated primarily by industrial, commercial and institutional sources.

It has been estimated that approximately two-thirds of the waste generated in Jamaica is collected. The remaining waste (approximately one third) is either dumped or burned in vacant lots, by the road side or into drainage canals, contributing to major health problems for local residents, flooding and uncontrolled methane emissions. The problem is particularly worse within inner-city communities

where collection is seldom occurring due to limited resources for adequate service and recurrent violence.

There are currently no sanitary landfills in KMA. The Riverton site is located approximately 7.5 km northwest of the Kingston downtown area. The waste collected from various areas of KMA is transported to this dump site for disposal. It is estimated that approximately 60% of the waste stream in the country is ultimately disposed of at the Riverton site which is operated as a dump site. Burning, dust, smoke, odor and vermin problems are frequent at the site.

The National Solid Waste Management Authority (NSWMA) was established in 2001 and has the sole jurisdiction for solid waste management in the country. The NSWMA was given its legal mandate with the enactment of the National Solid Waste Management Policy and the National Solid Waste Management Act (2002). The Authority currently collects, treats and disposes of domestic solid waste while simultaneously regulating the sector. This has proven to be difficult in light of the inadequate capacity of the NSWMA. Hence, the Authority is transitioning to a regulatory mode while contracting out collection, treatment and disposal services. The NSWMA is not responsible for the collection, treatment and disposal of commercial, agricultural, industrial or hazardous waste; however, most non-domestic wastes end up at the disposal sites operated by the Authority.

Solid waste services in Jamaica are mainly funded through property taxes. Property owners in Jamaica pay a Land Property tax that is designed to cover public services such as solid waste management. Funding for solid waste services is also provided by annual budgetary allocations from the central government but operations are still underfunded.

### **3. PROJECT DESCRIPTION**

The proposed Integrated Community Development Project is designed to build on the successful implementation of the Inner City Basic Services for the Poor (ICBSP) project approved by the World Bank in 2006. Like the ICBSP, the ICDP is aimed at improving access to urban infrastructure and services and increasing public safety in economically depressed and socially volatile communities in Jamaica. The project will involve four components: (i) Basic Infrastructure and Access to Services (ii); Public Safety Enhancement and Alternative Livelihoods; (iii) Institutional Strengthening for Urban Management and Public Safety; and (iv) Project Administration.

Solid waste management is a critical sub-component of Components 1 and 2 with the intent to curtail some of the issues indicated previously. This intervention involves the implementation of a number of activities including the provision of skip and skip enclosures for temporary containment of waste to be disposed of by NSWMA; provision of waste receptacles for separation of household waste at source; training and employment of environmental wardens whose role is to build waste management awareness and maintain clean communities; implementation of community clean-up and beautification initiatives; provision of compactor trucks and other waste management equipment to the NSWMA; and the execution of a Results Based Financing (RBF) initiative aimed at improving waste management by providing performance based incentives to the NSWMA, the environmental wardens and the community-based organizations (CBOs).

## ***Results-based Financing***

In light of the challenges mentioned above, the World Bank is exploring the application of results-based financing (RBF) for municipal solid waste (MSW), in order to provide incentives to improve MSW services and outcomes. RBF encompasses a range of mechanisms designed to enhance access to and delivery of infrastructure and social services through the use of performance-based incentives, rewards, or subsidies. RBF mechanisms have in common that a funding entity (typically a government or sub-governmental agency) provides a financial incentive, conditional on the recipient undertaking a set of pre-determined actions or achieving a pre-determined performance or outputs. Resources are disbursed not against individual expenditures or contracts on the input side, but against demonstrated and independently verified results that are largely within the control of the recipient.

The RBF design proposed for Jamaica would consist of incentives at three levels: (i) in-kind incentive to NSWMA in the form of two trucks for providing regular collection services; (ii) financial incentives to CBOs for managing the community solid waste management programme which will include monitoring and supervision of the environmental wardens, monitoring and recording of NSWMA waste collection in the community, and managing the community recycling and composting initiative; and (iii) incentives to environmental wardens for keeping the skips and the neighborhood clean in the form of a performance bonus up to 10% of their monthly wage. The level of the incentive would be based on an independent evaluation of the performance within each community.

Improving the delivery of solid waste services is a major challenge for Jamaica. Therefore, the proposed RBF design aims at addressing this challenge as an essential ingredient for environmental sustainability and reduction of crime and violence. The full design for the RBF activities are provided in Annex 1 below along with current implementation arrangements in order to help the independent verification agent (IVA) understand exactly what will be evaluated and how money will be disbursed.

## **4. OBJECTIVE, PURPOSE AND EXPECTED RESULTS**

In ensuring that the project objectives and more specifically those of the solid waste management sub-component are met by way of detailed assessment, monitoring, recording and reporting, the IVA will be the point person/entity for ensuring that the RBF component of the project is executed without prejudice or bias. The main objective of the IVA is to ensure that the performance of the NSWMA, CBOs and environmental wardens is assessed and reported in accordance with the RBF design.

The IVA will be required to:

- Review and understand performance requirements and scoring mechanisms for assessing the performance of the environmental wardens, CBOs and NSWMA.
- Conduct random unannounced visits to communities to assess the performance of the environmental wardens, CBOs and NSWMA.
- Review and verify documents prepared by the CBOs relating to solid waste management performance in the community including data concerning frequency of waste collection by NSWMA, quantity of plastic bottles recycled and organics composted.
- Use information collected to score the performance of the environmental wardens, CBOs and NSWMA and determine if performance meets predetermined threshold standards.

- Prepare performance report for the environmental wardens, CBOs and NSWMA and submit recommendations for payment or non-payment of RBF incentives to JSIF.
- Conduct stakeholder meetings with JSIF, NSWMA, CBOs, environmental wardens, other relevant parties and the residents of communities.

## 5. SCOPE OF THE WORK

This assignment covers the third year of a solid waste management performance assessment project to be implemented in fifteen communities as indicate in **Table 1** below. The IVA will be required to conduct solid waste management performance assessment of: (i) eighty (80) environmental wardens; (ii) fifteen (15) CBOs; and (iii) the NSWMA for eight months. This contract is anticipated to commence on or after November 1, 2018.

**Table 1:** Communities involved in the RBF scheme.

<b>RBF COMMUNITIES</b>				<b>PARISH</b>
<b>YEAR 1 (Pilot)</b>	<b>YEAR 2</b>	<b>YEAR 3 – Current TOR</b>	<b>YEAR 4</b>	
Central Village	Central Village	Central Village	N/A	St. Catherine
Knollis	Knollis	Knollis	N/A	St. Catherine
Federal Gardens	Federal Gardens	Federal Gardens	N/A	St. Andrew
N/A	Jones/Craig Town	Jones/Craig Town	Jones/Craig Town	St. Andrew
N/A	Rema	Rema	Rema	St. Andrew
N/A	Hannah Town	Hannah Town	Hannah Town	Kingston
N/A	Denham Town	Denham Town	Denham Town	Kingston
N/A	Tivoli	Tivoli	Tivoli	Kingston
N/A	Rose Town	Rose Town	Rose Town	St. Andrew
N/A	Greenwich Town	Greenwich Town	Greenwich Town	St. Andrew
N/A	Majesty Garden	Majesty Garden	Majesty Garden	St. Andrew
N/A	Maxfield Park	Maxfield Park	Maxfield Park	St. Andrew
N/A	Shelter Rock	Shelter Rock	Shelter Rock	St. Catherine
N/A	March Pen	March Pen	March Pen	St. Catherine
N/A	Canaan Heights	Canaan Heights	Canaan Heights	Clarendon

In order to achieve the outlined project objectives, the IVA's specific duties include:

### ***1. Site Monitoring and Assessment***

The IVA will conduct weekly unannounced field visits to monitor and assess the performance of RBF entities including NSWMA, Environmental Wardens, and CBOs. The IVA must visit the sites on a day when the NSWMA is scheduled for waste collection from the community. The IVA will visit areas targeted for inspection including skip locations and areas in the wider community such as roadways and designated dumpsites to make assessment (Each warden will have an assigned work area delineated by JSIF and the CBO). The IVA will assess the CBOs and environmental wardens based on four indices: i) cleanliness around skips; ii) cleanliness of the community; iii) percentage or quantity of plastic bottles recycled; and iv) percentage or quantity of organic waste composted. The NSWMA will be evaluated based on two indices: i) frequency of waste collection from the communities; and ii) absence of waste from the skips. The IVA will use the scorecard provided in the project specific RBF procedural document in Annex D of the ICDP operations manual prepared by the World Bank or a scorecard pre-approved by the JSIF to record the score of the wardens, CBOs and NSWMA.

**The duration for site assessment is limited to a maximum of one (1) hour per week for each community in the RBF programme.** The IVA will be required to prepare notes of observations and take photographs to substantiate findings in prepared reports.

### ***2. Review of Documents and Collection of Data***

On the day of each site assessment, the IVA will review and validate the documents maintained by the CBOs with a view to ensure transparency. These documents include NSWMA waste collection log, environmental wardens' daily register, and recycling and composting logs. **The estimated duration for this activity is a maximum of thirty (30) minutes.**

### ***3. Complete Reports and Recommendations for RBF Payment***

The IVA will calculate the performance score for NSWMA quarterly and provide an average annual score over the four year period. The IVA will compare the NSWMA average score with the predetermined performance standard to ascertain whether or not the threshold was achieved. Based on the results, the IVA will be required to make recommendations to JSIF indicating whether or not performance incentives should be made to the NSWMA.

The IVA is tasked with the responsibility to calculate the Wardens and CBOs overall scores quarterly and semi-annually, respectively. Subsequently, the IVA will determine if the threshold performance requirements were achieved and to make recommendations to JSIF for incentive payments to Wardens and CBOs congruent with performance level.

The information should be presented in a tabular format.

## **6. REQUIRED OUTPUTS/DELIVERABLES**

- Review and provide analysis of IVA reports for Year 1 and Year 2
- Conduct field visits to each community twice per month.
- Prepare and submit monthly site assessment and monitoring summary reports to JSIF.
- The IVA shall produce four quarterly reports annually (approximately 10-20 pages, excluding annexes) detailing the performance of the NSWMA, environmental wardens and CBOs. The report should include the following:

- i. **Brief introduction and background** outlining the funding source; implementing agency; solid waste management issues in the country and underserved communities; communities involved in the RBF; and project goals and objectives.
  - ii. **Methodology of assessment** including the number of assessment areas per community; how assessment areas were determined and the boundaries; warden assigned to each assessment area (tabular format); method of selecting areas to assess during monitoring events; criteria used to assess performance of NSWMA, environmental wardens and CBOs; and the grading and scoring scheme.
  - iii. **Results and discussion of assessment outlining** the number of areas assessed in each community and the associated warden; the grade (A, B, C, D) assigned to each area assessed based on cleanliness; cleanliness of areas around skips; quantity of waste recycled; quantity of waste composted; types of documents reviewed and verified (wardens supervision log; NSWMA waste collection log; recycling and composting logs; and plastic bottle sales record); number of times NSWMA collect waste from the communities (regularity index); approximate level (percentage full) of waste in skips at the time of assessment (absence of waste index); calculations showing scores of environmental wardens; NSWMA, and CBOs. Results must be substantiated with photographs either directly imbedded in the report or in an annex.
  - iv. **Recommendation for incentive payments** to NSWMA, wardens and CBOs.
  - v. **Limitations of the RBF scheme**
  - vi. **Conclusions and recommendations**
- The IVA shall produce an annual or end of project performance report (15-20 pages, excluding annexes). The report should take the format indicated above and summarizes the details of the project activities, accomplishments, challenges and limitations experienced during the period under review.
  - The IVA shall conduct quarterly stakeholder meetings in consultation with the JSIF.

**Table 2: IVA Deliverable and Planning Guide Sheet**

ACTIVITIES	UNIT	ESTIMATED FREQUENCY	TOTAL				
			Year 1	Year 2	Year 3	Year 4	SUM
<b>Professional Inputs</b>			<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>SUM</b>
Site Visits	No.	Bi-monthly (and ad hoc)	72	360	360	288	<b>1080</b>
Report Writing – Site visit reports outlining the state of solid waste management in each community as it relates to the project.	No.	Monthly	12	12	12	12	<b>48</b>
Report Writing – Tabular Performance Analysis of NSWMA, CBOs and Wardens with Payment Recommendations.	No.	Quarterly	4	4	4	4	<b>16</b>
Report Writing	No.	Annually	1	1	1	1	<b>4</b>
Meetings	No.	Quarterly	4	4	4	4	<b>16</b>
<b>Reimbursable Expenses</b>			<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>SUM</b>
Travel	Km						
Administrative Support	Sum						

## 7. EVALUATION CRITERIA

The JSIF will evaluate all bids using quality and price criteria and in accordance with World Bank's Guidelines: Selection and Employment of Consultants by World Bank Borrowers (January 2011). Bidding entities must demonstrate their ability to deliver the requirements and must respond to ALL the criteria outlined below. It should however be noted that meeting the requirements does not translate to automatic selection. The evaluation team has the right to select the consultant that they consider the best fit to perform the scope of works outlined in the TOR.

### **Expression of Interest (100) – Minimum 75 points**

The entity should be able to provide at least minor environmental assessment services. Solid waste management experience will be an asset. A company or individual profile must be provided. Supporting materials such as brochures and other materials may be included.

A brief statement [max. 500 words] of the firm's or individual's capabilities must be provided.

#### ▪ **General Experience of the Entity relevant to the assignment (35 points)**

- Established and in operation and undertaking environmental assignments including assessments for more than four (4) years - 35
- Established and in operation and undertaking environmental assignments including assessments between two to four years - 25
- Established and in and operation undertaking environmental assignments including assessments for less than two (2) years - 15

#### ▪ **Specific Experience of the NGO (45 points)**

NGOs should demonstrate prior experience working with Government entities, individuals and community based organizations by submitting work samples of at least five (5) assignments successfully undertaken. Briefly describe the services provided and the resulting impact.

- Undertaken more than four (4) similar assignments (i.e. environmental or solid waste management assignments, for example solid waste management consultancy; environmental site assessment; and environmental or solid waste management audits. - 45
- Undertaken between three (3) and four (4) similar assignments, for example solid waste management consultancy; environmental site assessment; and environmental or solid waste management audits. - 35
- Undertaken between one (1) and two (2) similar assignments, for example solid waste management consultancy; environmental site assessment; and environmental or solid waste management audits. - 25

#### ▪ **Experience in Working with Inner-City and Underserved Communities (20)**

- Undertaken work assignments in inner-city and underserved communities for two (2) or more years – 20
- Undertaken work assignments in inner-city and underserved communities for less than two (2) years – 15

### **Technical Proposal (100) – Minimum 75 points**



- **Adequacy of the proposed methodology and work plan (55 points)**
  - Technical approach and methodology (25 points)
  - Work plan (15 points)
  - Organization and staffing with relevant experience (15 points)
- **Key Professional Qualifications and Competence (45 points)**

The NGO should be able to field a team with some knowledge and competence in the following (particularly in solid waste management):

- Plastic bottle recycling
- Composting
- Environmental surveillance

Technical Proposal (100)

## **8. DURATION OF CONTRACT (RENEWABLE)**

The duration of this contract is twelve (12) months. The contract is anticipated to commence on or after November 1, 2018.

## **9. REQUIRED QUALIFICATIONS**

It is anticipated that this assignment will be undertaken by a Consultant with a good track record, skills/expertise and meet the following requirements:

- Must be a legally registered entity.
- Relevant knowledge and experience in environmental assessment/surveillance, or related areas such as wastewater/sanitation, or urban planning/management.
- Work and practical experience in Jamaica's inner-city communities would be an advantage.
- Good analytical and writing skills, as evidenced by strong training/certification in a relevant field such as environmental science/management, solid waste management, resources auditing, economics, urban planning, or equivalent.
- Ability to work in areas with high rates of crime and violence.
- Able to remain unbiased as a third party evaluator

## **10. WORK ARRANGEMENTS**

This assignment will be supervised by the JSIF; however the IVA should not notify JSIF prior to making site visits and conducting assessments once the programme has started. Also, the NSWMA, CBOs, and environmental wardens should not be notified of impending monitoring and assessment by the IVA. The JSIF can be notified of monitoring and evaluation exercises after the fact at the discretion of the IVA. The IVA would be required throughout the duration of the assignment to interact with staff from JSIF and the NSWMA, as well as the individual wardens and CBOs to obtain and verify information.

All deliverables will be reviewed by the JSIF within 10 days of receipt. If needed, comments will be provided, with any revisions required by those comments to be made within three days.

Providing the deliverables are found to be of acceptable quality by the JSIF, the recommendations for payments of incentives will be forwarded to the World Bank for approval and disbursement.

## **11. PAYMENT SCHEDULE**

The IVA will be remunerated monthly in equal payments based upon the delivery of a completed monthly reports and the associated deliverables which meet the required quality threshold. The final payment for the contract shall be remunerated following submission of the annual report and any other deliverables.

## Annex 1: Results-Based Financing Design Document

### Solid Waste Sector Context

Studies and surveys undertaken indicate that Jamaicans generate approximately 1.6 million tons of domestic waste annually.<sup>1</sup> Half of this amount originates from the Kingston Metropolitan Area (KMA) alone. In the KMA, households and markets contribute between 50% and 70% of the waste stream, with the remaining amount generated primarily by industrial, commercial and institutional sources.

It has been estimated that approximately two-thirds of the waste generated in Jamaica is collected. The remaining waste is either dumped in vacant lots, by the road side or into drainage canals, contributing to major health problems for local residents, flooding and uncontrolled pollution. The problem is particularly worse within inner city communities where collection is seldom occurring due to an insufficient number of trucks to serve all communities, lack of storage facilities within the communities, and the unplanned nature of development in these areas which makes access difficult.<sup>2</sup>

These communities are characterized by decrepit waste management infrastructure, poor collection, inadequate access, and lack of awareness. Consequently, residents resort to inappropriate disposal of waste including burning, burial, and dumping in gullies, streets and private properties. These disposal practices have resulted in several environmental and health problems such as beach pollution, pest and disease outbreaks, unpleasant odour, flooding, and property damage. The dire solid waste management problem in the inner-city communities is perceived by many to be a major contributor to the high levels of criminal activities. There are currently no sanitary landfills in KMA. The main disposal site, the Riverton dumpsite is located approximately 7.5 km northwest of the Kingston downtown area. The waste collected from various areas of KMA is transported to this dump site for disposal. It is estimated that approximately 60% of the waste stream in the country is ultimately disposed of at the Riverton dumpsite. Burning, dust, smoke, odour and vermin problems are frequent at the site.

The National Solid Waste Management Authority (NSWMA) was established by Act of Parliament in 2001 with the mandate to “take all such steps as are necessary for the effective management of solid waste in Jamaica in order to safeguard public health, ensure the waste is collected, stored, transported, recycled, reused or disposed of in an environmentally sound manner and to promote safety standards in relations to such waste”.<sup>3</sup> The NSWMA was given its legal mandate with the enactment of the National Solid Waste Management Policy and the National Solid Waste Management Act (2002). The Authority currently collects, treats and disposes domestic solid waste while simultaneously regulating the sector.<sup>4</sup> This has proven to be difficult given inadequate infrastructure and funding of the NSWMA. Despite NSWMA

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<sup>1</sup> NSWMA

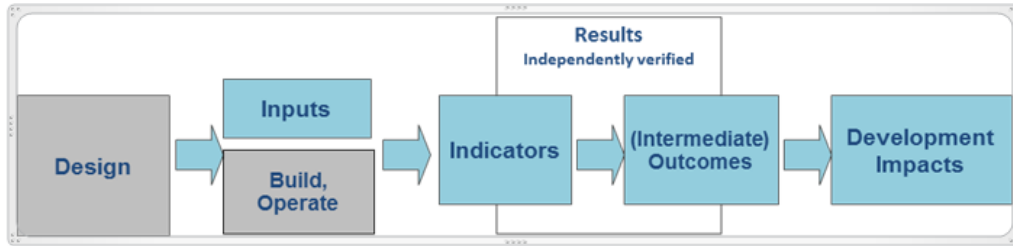
<sup>2</sup> Information from Ms. Jennifer Edwards, Executive Director of the National Solid Waste Management Authority, and the October 2013 Cabinet Meeting

<sup>3</sup> October 2013 Cabinet Meeting

<sup>4</sup> The NSWMA is not responsible for the collection, treatment and disposal of commercial, agricultural, industrial or hazardous waste; however, most non-domestic wastes end up at the disposal sites operated by the Authority.

owning 100 trucks, the average number of units that are functional on a given day over the past 2 years is between 50 and 55. As a result, the NSWMA contracts 80 supplementary units at an average cost of J\$30,000/US\$300 per truck per day equivalent to J\$876,000,000/US\$8,760,000 per annum.<sup>5</sup>

Solid waste services in Jamaica are mainly funded through property taxes.<sup>6</sup> Over the last four years the capital budget of the Authority has ranged from J\$40,000,000/US\$400,000 to zero.



The budget shortfall for 2013/14 was approximately J\$5.4 billion/US\$54 million.<sup>7</sup>

### Rationale for Results-Based Financing

Results-based financing (RBF) is an umbrella term that includes output-based aid, provider payment incentives, performance-based inter-fiscal transfers, and conditional cash transfers among other financing mechanisms that only provide a reward based on performance or outcomes. For all RBF mechanisms, a principal entity provides a financial or in-kind reward, conditional on the recipient of that reward undertaking a set of predetermined actions or achieving a predetermined performance goal.<sup>8</sup> Resources are disbursed not against individual expenditures or contracts on the input side, but against demonstrated and verified results/outputs that are largely within the control of the recipient.<sup>15</sup> The contracting spectrum for RBF is shown in **Figure 1**, below.

**Figure 1: Contracting Spectrum of Results-Based Financing**

In general, RBF has the advantage of providing transparency since the value and criteria for allocating the reward, incentive, grant or subsidy is usually made public. There is also a benefit to the government, as the performance risks associated with the project are shifted to the service providers/recipients, who do not get paid if they do not deliver the output/results that they agreed upon. The results are verified by an independent verification agent (IVA) who is required to be an unbiased individual or organisation able to accurately report the outcomes.

The solid waste management activities under ICBSP include waste infrastructure provision as well as beautification initiatives such as community clean-ups and tree plantings. From the solid waste activities in ICBSP, it was recognized that heightened community participation

<sup>5</sup> Information from Ms. Jennifer Edwards, Executive Director of the National Solid Waste Management Authority, and the October 2013 Cabinet Meeting

<sup>6</sup> The NSWMA is funded 15% from the Consolidated Fund, 80% from property taxes and 5% from their own revenue, primarily through commercial collection of waste.

<sup>7</sup> The recurrent budget submitted in 2013 was J\$7.2 billion/US\$72 million and the approved budget was \$1.8 billion/US\$18 million.

<sup>8</sup> Mumssen, Y., Johannes, L., & Kumar, G. (2010). Output-Based Aid: Lessons Learned and Best Practices. Directions in Development: Finance. Washington, DC: World Bank.

must be induced for a lasting change in waste management behaviours. The solid waste infrastructure design and allocation must be conducted in closer coordination with communities to ensure that they are willing and able to deposit waste into the skips properly. Additionally, the provided infrastructure should be accompanied by reliable waste collection services. The ICDP will build on these lessons learned from ICBSF to enhance community participation and waste collection services through RBF schemes.

#### Results-Based Financing Schemes

Two RBF schemes will be implemented as a part of ICDP's solid waste management activities—one to incentivize regular and sufficient waste collection and one to incentivize cleaner neighbourhoods. The RBF pilots will start in three communities for the first year: Knollis, Central Village, and Federal Gardens. Twelve additional communities will be added in the second year. It is anticipated that the communities will include, Central Village, Knollis, Federal Gardens, Jones Town/Craig Town, Shelter Rock, March Pen, Tivoli Gardens, Rema, Rose Town, Denham Town, Maxfield Park, Canaan Heights, Greenwich Town, Hannah Town and Majesty Gardens. These fifteen communities will receive the RBF incentive for three years.

In order for sustained solid waste management practices, it is necessary to have a structured community maintenance system led by individuals trained in the management of waste at the community level. Understanding the unavailability of trained individuals in the target communities, the JSIF seeks to select, train and employ community members as environmental wardens. The training will be conducted by various State agencies including JSIF, NSWMA, Ministry of Health, NEPA, and Jamaica Fire Brigade, inter alia. They will work in coordination with their respective community-based organisation (CBO) to improve their community's waste situation.

#### **Eligibility Criteria for Results-Based Schemes**

In order for a community to be included in the scheme, that community must have the following:

- Communities must have a sufficient number of skips or barrels (in the case of door-to-door collection) accessible to the community for waste disposal and to NSWMA trucks for pickup
- must receive waste collection services from NSWMA
- has a track record of successful implementation of similar projects
- Community based organisations (CBO) should be recognized by the community and JSIF must be willing to do solid waste management related outreach and mobilize the community for clean-up initiatives
- must be willing to help store and record the recyclables
- must agree to keep a record of when NSWMA collects waste from the neighbourhood
- must be willing to monitor environmental wardens
- must agree to understand what community initiatives the community wishes to pursue with any incentive money they earn, and submit a clear proposal to JSIF
- must have the capacity to implement and monitor project development activities

#### **Environmental Wardens**

- Must be unemployed members of the target community and currently reside there;

- Should have no prior criminal conviction;
- Must have at least secondary and completed primary school education, respectively;
- Must be able to work in all sections of the community without interference (not involved in public divisive activism);
- Must complete Environmental Warden training program as specified by NSWMA and JSIF to be employed through the project to enforce waste management laws as per the National Solid Waste Management Act in their communities;
- Must liaise with NSWMA with respect to waste collection and other solid waste matters;
- Must organize at least two community clean-up and beautification events
- must do public awareness and mobilize the community to keep the community clean by disposing of waste properly, participating in community clean-ups and separating out recyclables and organics;
- Must be willing to maintain cleanliness of areas surrounding skips and separate recyclables and organics as necessary;
- Must be willing to coordinate the community recycling and composting programs must maintain a log of communications with the NSWMA and community complaints; and
- Must participate in community mapping exercises to identify needs/gaps and priority areas for interventions.

### **Design of Results-Based Financing Schemes**

The two RBF schemes are: (1) an in-kind incentive to NSWMA for regular and sufficient waste collection in selected ICBS and ICDP communities, and (2) a financial incentive to environmental wardens and involved CBOs for enforcing community and skip cleanliness.

Scheme 1: In-kind incentive for National Solid Waste Management Authority to provide regular and sufficient waste collection services

Scheme 1 entails providing NSWMA with an in-kind incentive consisting of two trucks that would increase NSWMA's fleet and have the longer term effect of subsidizing collection in select ICDP communities. NSWMA's services will be monitored in the fifteen selected communities over four years. The minimum score they must achieve is 80/100, which requires NSWMA to provide regular and sufficient waste collection services 80% of the time.

The first truck will be provided at the end of the third<sup>9</sup> year if NSWMA meets the minimum score until that point. The second truck will be provided at the end of the fourth year, again provided that NSWMA meets the minimum score. It has the opportunity over the third year to make up for its previous performance if the averaged score over three years is sufficient; otherwise, NSWMA forfeits its right to the first truck by the third year.

Provision of trucks to NSWMA as an in-kind contribution under this scheme is, in effect, a contribution to the capital costs that NSWMA would otherwise have to incur. The trucks are

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<sup>9</sup> There is a potential for NSWMA's first truck to be postponed by one year to year 3 depending on the GOJ's fiscal spending ability. If this occurs and NSWMA does not earn a truck by the third year, it has the opportunity to make up for its previous performance over the fourth year.

an appropriate incentive as they would help NSWMA overcome its fleet shortage. Approximately half of NSWMA’s fleet is constantly in repair and it is forced to rent trucks at a high rate to continue operations.

NSWMA will be expected to cover the service cost through revenue from property tax allocation. The trend in the waste quantities is expected to stabilize and potentially decrease over time as frequent waste collection patterns are established and communities take responsibility for disposing of waste properly and diverting recyclables and organics.

The performance of NSWMA in each participating community will be assessed by an IVA appointed for the project. The IVA will randomly evaluate NSWMA once per week on a day that it has agreed to collect waste. The IVA will calculate scores every quarter, taking the average over the first two years and final three years, to determine whether NSWMA receives the trucks or not. The specific calculation methods can be found in **Table 1**, on the following page.

**Table 1: Outputs used to evaluate waste collection services**

Output	Symbol	Max Score	Scoring Method
Absence of waste in the skips at the end of a working day.	A1	70	<p>The IVA conducts unscheduled inspections of community skips on regular collection days and after NSWMA regular collection hours to verify that the skips have been appropriately serviced by NSWMA. The IVA shall visit each skip, typically between 2-3 skips per community, once per week on days when NSWMA is scheduled to collect the waste. The IVA records the number of times a skip is over 75 %<sup>10</sup> full of waste vs. number of times a skip is less than 75 % full of waste. At the end of the month, the IVA calculates the score A1 (0-70) as follows:</p> $A1 = 70 \times \frac{ED}{FD+ED}$ <p>Where:            ED = Number of skips that are less than 75 % full of waste            FD = Number of skips that are over 75 % full of waste.</p>
Regularity of Secondary Collection	A2	30	<p>The IVA records the number of times NSWMA picks up garbage within each community each week. This will be determined by viewing the CBO’s record of each pickup as well as confirmation with community members. The number of collections per week will be specified and agreed upon between communities and NSWMA. The score to assess regularity of collection will be calculated as follows:</p> $A2 = 30 \times \frac{SF}{TS}$

<sup>10</sup> Economically and logistically it may not make sense to collect small loads of waste to the landfill. The 75% threshold has been agreed upon by the World Bank and JSIF but may be adjusted through the pilot phase.

			Where: AT = Actual number of trips made per week ST = Total number of expected trips per month based on regular schedule
Total		100	

NSWMA must provide sufficient collection on an on-going basis in order to receive the trucks. Any trips missed due to force majeure (i.e., hurricane, violence in the community) will not be counted against NSWMA. JSIF will assess whether this is the case and adjust scores accordingly. Since a truck is not scalable, if NSWMA underperforms and does not achieve the minimum score of 80/100, they will not be able to earn the trucks.

The expected number of trips per week will differ from community to community, based on the waste generated. JSIF will consult with the CBOs and NSWMA to determine the appropriate number of trips required for each community.

Scheme 2: Financial incentive to environmental wardens and community-based organisations to enforce and sustain cleanliness in neighbourhood and around waste skips

As a reward for community cleanliness, the project will provide financial incentives to environmental wardens and CBOs that are directly participating in mobilizing and enforcing cleanliness in their respective communities. Both environmental wardens and CBOs will be held accountable and evaluated based on how clean the community and skip surroundings are. In ICBSP communities, there will be four full-time environmental wardens per community and in ICDP communities, there will be six Environmental Warden per community. For ICDP communities, there will be less Environmental wardens because of budget constraints as well as the realization that three wardens are not needed to complete the work. There is a single shared set of performance criteria for Scheme 2 in each community since environmental wardens and the CBO collectively contribute to overall cleanliness and waste management practices. Therefore, both parties get the financial incentive or none of them do.

The financial incentive amounts for the environmental wardens and CBOs were established by JSIF and will be as follows:

Environmental Wardens: The financial incentive to environmental wardens is 10% of their salary. The minimum wage is paid weekly in Jamaica and accordingly, the financial incentive for the environmental wardens will be calculated as 10% of the accumulated wage for the period in question. Based on the current minimum wage in Kingston, the annual financial incentive is US\$321 for environmental wardens. This amount will be adjusted accordingly each year in line with changes in the minimum wage. The IVA will evaluate the environmental wardens based on performance criteria outlined in Table 2 against a minimum score. If the actual score is greater than or equal to the minimum score, then the financial incentive is fully paid. If the actual score is less than the minimum score, no financial incentive is paid.

Community-based organisations: The CBOs have a wide range of budgets from US\$200 to US\$10,000. JSIF has set the financial incentive at a maximum of US\$2,400 annually per community to provide sufficient incentive to all communities. The CBOs will earn US\$1,200 if they meet the minimum score and this will scale to US\$2,400 if they achieve the full score.



The World Bank will disburse funds based on the scores achieved and JSIF will hold the money on behalf of CBOs until the CBO submits a proposal for a community driven initiative. The CBO should consult the community and propose an initiative that will benefit the community once they have accumulated adequate funds. They can submit a request for goods or services that will benefit the community in line with the project objectives such as rehabilitating a community park, installing additional lighting, organizing a community event, etc. JSIF will review the proposal and provide clearance for the requested initiative.

The financial incentives will be paid to each warden quarterly and held on behalf of the CBOs semi-annually, based on the verified outputs measured as shown in Table 2:

**Table 2: Outputs used to evaluate cleanliness**

Output	Symbol	Max Score	Scoring Method
Overall community cleanliness index	B1	70	<p>The IVA visually inspects randomly selected areas throughout the whole community and assigns a cleanliness rating (according to definitions of A, B, C and D as explained below and seen in photographs in Table 3). In order to minimize bias, it is recommended that the same person (or at least the same entity or organisation) scores for the entire month.</p> $B1 = \left( \frac{(A \times 3) + (B \times 2) + (C \times 1) + (D \times 0)}{3 \times (A + B + C + D)} \right) \times 70$ <p>A: Number of exceptionally clean areas (No visible waste on streets)            B: Number of clean areas (Predominantly free of waste, except for small items)            C: Number of dirty areas (Widespread distribution and little accumulation of waste)            D: Number of very dirty areas (Significant accumulation of waste)</p>
Waste skips cleanliness index	B2	30	<p>The IVA visually inspects all community skips in the participating RBF communities and assigns a cleanliness score (A, B, C or D as explained below). In order to minimize bias, it is recommended that the same person (or at least the same entity or organisation) scores for the entire month.</p> $B2 = \left( \frac{(A \times 3) + (B \times 2) + (C \times 1) + (D \times 0)}{3 \times (A + B + C + D)} \right) \times 30$ <p>A: Number of exceptionally clean skips (No visible waste around the skips)            B: Number of clean skips (Predominantly free of waste, except for small items)            C: Number of dirty skips (Widespread distribution and little accumulation of waste)            D: Number of very dirty skips (Significant accumulation of waste)</p>
Total		100	



*If the minimum score or threshold is not achieved, no incentive will be paid*

*If the minimum score is achieved, the incentive will be calculated as follows:*

*Wardens' Finance Incentive = PWI, where PWI = 10% of Wardens' salary*

*CBO's Financial Incentive =  $\frac{PCI \times (B1+B2+B3+B4)}{100}$  where PCI = J\$240,000.00*

Table 3: Examples for Cleanliness Scores

	
<p>A</p>	<p>B</p>
	
<p>C</p>	<p>D</p>

For effectiveness, an average minimum score of 80/100 should be achieved over the evaluation period before any incentive is paid. Environmental wardens and CBOs will be compensated only when their communities achieve at least the minimum score.

The financial incentives, fixed for the wardens and scalable up to a maximum amount for the CBOs, are known respectively as the potential warden incentive (PWI) and potential community incentive (PCI). If the environmental wardens program proves successful over the project, it is the hope that NSWMA will find it economically efficient to absorb the wardens as employees.<sup>11</sup> This would make the incentive model financially sustainable in the long term, and NSWMA and JSIF may elect to sustain, replicate and scale up the model in additional communities beyond the ICDP project.

<sup>11</sup> NSWMA drivers report spending a significant amount of time cleaning around the community skips while picking up from the skips

This scheme will be adapted to include diversion of recyclables and organics once each community is ready to be evaluated. The community will be asked to separate recyclables and organics once the RBF schemes start but will not immediately be evaluated on their waste diversion. Once the wardens understand the quantity of recyclables and organics that is regularly being collected, then the target rates will be set incrementally above those quantities. The adapted scheme is in Section 7 and will be utilized once the target rates for diversion have been set.

### **RBF Implementation Support**

The project will support the procurement of an IVA to score NSWMA, environmental wardens and CBOs under Schemes 1 and 2 weekly in an unbiased manner. JSIF will select the IVA through a competitive bidding process according to World Bank procedures. The IVA will be reputable, selected for their ability to report appropriately and accurately. JSIF will also oversee monitoring to ensure that collusion is not occurring at any level by regularly checking in with CBOs and noting abnormalities when they work in these communities.

### **Implementation Responsibilities**

JSIF: JSIF will oversee the RBF schemes, recruit and/or hire environmental wardens and the IVA as necessary. JSIF will select communities to participate in the schemes. They have the authority to adjust the RBF schemes in coordination with the World Bank as well as support and work with stakeholders to ensure desired results. JSIF will disburse incentive payments to the environmental wardens through the financing agreement with the CBOs, will hold the incentive for CBOs until they submit a proposal for a community initiative, and will provide an in-kind incentive of a truck to NSWMA, if each meets the minimum score for the period they are being evaluated. For CBOs, JSIF will review their proposal and disburse the CBOs' accumulated incentive money once they have requested funding for a community initiative.

NSWMA: The NSWMA is responsible for collecting waste regularly according to the schedule that they set with JSIF. The schedule will be determined so that the collection services are sufficient enough given the community's anticipated waste generation. NSWMA should fully empty all skips and public bins and be willing to adjust the schedule with JSIF if needed.

Community-Based Organisations: The community-based organisations are held responsible for the cleanliness of the neighbourhood, cleanliness around the skips, and when appropriate, how well recyclables and organics are separated. They are expected to work with the environmental wardens, monitor their work, aid them however it is necessary, help organize community clean-ups, and motivate citizens to act. If they coordinate with the environmental wardens and community members to achieve the desired results, then they also need to be the voice of the community for how the earned financial incentives will be best used. Lastly, CBOs are responsible for documenting when NSWMA picks up waste from the skips and provide the records to the IVA for performance verification purposes.

Environmental Wardens: Prior to participating in the RBF schemes, the environmental wardens will be required to take the training provided by NSWMA and JSIF. Upon successful completion of the program, program graduates will receive a certificate from NSWMA and be authorized to act as environmental Wardens to enforce NSWMA regulations. Wardens will

be held responsible for the cleanliness of the neighbourhood, cleanliness around the skips, and when appropriate, the source separation of recyclables and organics. They are expected to work with CBOs as needed to do public awareness and education, enforce cleanliness, clean the neighbourhood as necessary, and organize community clean-ups. Additionally, they should be prepared to liaise with NSWMA with respect to waste collection and other solid waste matters and implement related small-scale community projects such as composting.

Independent Verification Agent: The IVA is responsible for working with JSIF to understand how NSWMA's schedule will be set and the best way to evaluate each community. The specific duties that the IVA will undertake to score the results and quality of agreed upon services will be as follows:

- 1) Absence of waste from skips: To record the absence of waste, the IVA will conduct a visual inspection and take a photograph of the skip's contents before documenting a score.
- 2) Regularity of waste collection: The regularity of waste collection will be determined in coordination with the CBOs since they will log all NSWMA trips in their communities.
- 3) Neighbourhood cleanliness: Prior to the RBF schemes starting, the IVA will need to divide each community into ten areas which will be randomly selected for evaluation of cleanliness. This will aid the IVA to randomly assess the cleanliness of each community in a systematic manner and reduce the risk of misrepresentation of results. The IVA will randomly select three areas of the community, of the ten areas that the community will be divided into, each visit and score the cleanliness of the area. The IVA should take photographs to document cleanliness and record the appropriate scores.
- 4) Cleanliness around skips: To record cleanliness around the skips, the IVA will conduct a visual inspection and take a photograph of the skip's surroundings before documenting a score.

An overview of stakeholders' responsibilities is outlined in Table 4 for both RBF schemes.

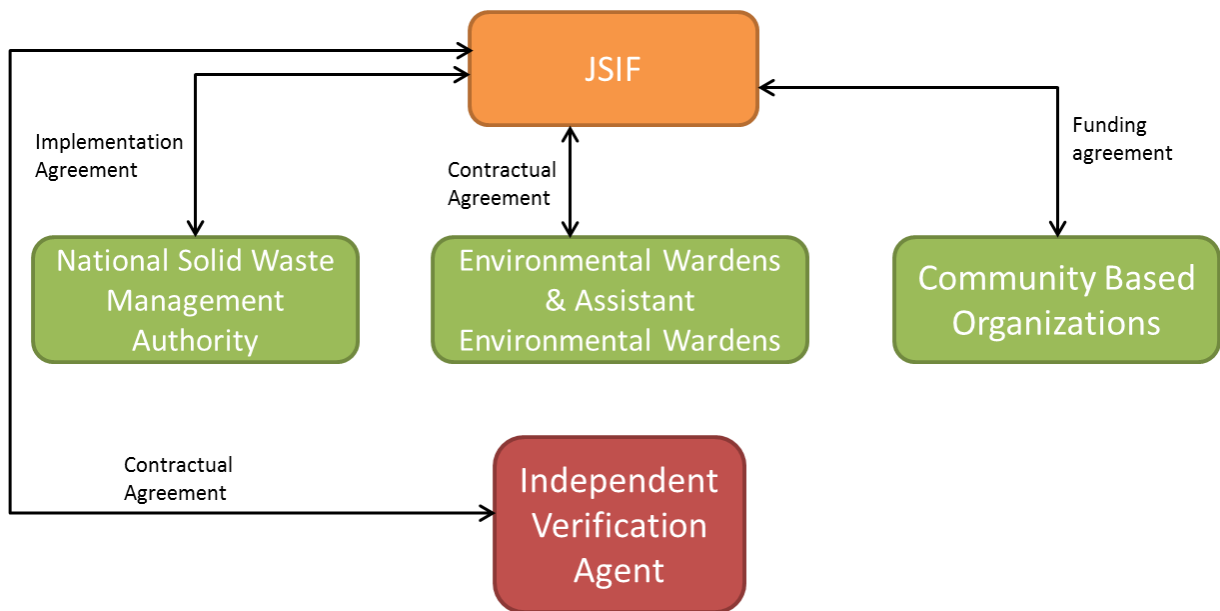
**Table 4: Overview of Responsibilities for Implementation**

Item	JSIF	NSWMA	CBOs	Environmental Wardens	IVA
Waste collection and skip maintenance	Procurement of equipment and management of financial incentives for CBOs and environmental wardens	Will own equipment and have overall responsibility for maintenance	Maintenance of skip area, documentation of NSWMA collection frequency	Maintenance of skip area, enforcement of cleanliness and awareness raising	Verification of performance for results based financing
Collection trucks	Procurement of equipment and management of in-kind incentives for NSWMA	Will own, operate and maintain equipment	Not Applicable	Not Applicable	Verification of performance for results based financing
Cleanup and beautification activities	Facilitation of activities and procurement of goods and equipment for this purpose and management of financial incentives for environmental wardens and CBOs	Facilitation of cleanup activities, transport of waste	Implementation of cleanup activities and maintenance of community cleanliness	Facilitation of cleanup activities, enforcement of cleanups, and maintenance of community cleanliness	Verification of performance for results based financing
Recycling	Procurement of equipment and facilitation of definition of implementation arrangements.	Baling of recyclables	Record keeping. Monitoring sales of recyclables and distribution of income earned to waste pickers.	Facilitation of waste separation, storage, and baling.	Verification of performance for results based financing

**Legal Implementation Agreements**

The legal implementation agreements for RBF are shown in Figure 2 and explained in further detail below the diagram.

Figure 2. Key Agreements for Results-Based Financing Schemes



NSWMA and JSIF: As part of the Implementation Agreement between JSIF and the NSWMA, the arrangements for providing equipment and public awareness under the project will be specified. It will also specify NSWMA responsibilities to collect waste regularly according to a schedule based on each community’s waste generation keeping the amount of garbage in the skips at less than 75% of the fill level at all times. It will outline the monitoring mechanism and frequency as well as outline the arrangements of providing in-kind incentives of trucks at a specified time.

CBOs and JSIF: JSIF will have a funding agreement with the CBOs that will specify the CBOs’ responsibilities to keep the neighbourhood and skip surroundings clean. Their contracts with JSIF will include their obligations to undertake their duties and tasks to work with the environmental wardens to mobilize the community to deposit waste at collection points and participate in community clean-ups. If the results are not achieved, then the CBOs will not be eligible for an incentive payment. All financial incentives that the CBOs earn will be held by JSIF and will accrue semi-annually. When the CBO wants to redeem money, it must submit a request for a community initiative which JSIF will verify and review before disbursing.

Environmental Wardens and JSIF: JSIF will have a contractual agreement with environmental wardens through the financing agreement with the CBOs. Their contracts will include their obligations to undertake their duties and tasks in mobilizing the community to deposit waste at collection points, separate recyclables and organics, and participate in community clean-ups, otherwise they must achieve these results themselves. They are eligible for a financial incentive if the work results in keeping the neighbourhood and skip surroundings clean.

JSIF and Independent Verification Agent: JSIF will contract the IVA through a competitive selection process and the contract terms of reference will outline the IVA’s responsibilities for scoring the performance of NSWMA, CBOs and environmental wardens. The IVA will evaluate all based on the criteria detailed in Section 3 and document the scores in the scorecards provided in Section 9. The IVA will submit a summary of results and the scorecards quarterly to JSIF, which JSIF will review to determine the incentive amount earned by environmental wardens and CBOs.



## **Financial Management and Procurement Arrangements**

All funds related to the RBF schemes will be transferred to JSIF from the World Bank and then JSIF will monitor and oversee the RBF schemes, disbursing financial and in-kind incentives accordingly. All of the financial arrangements will be as follows between JSIF and the remaining stakeholders:

**World Bank and JSIF:** The World Bank will disburse to JSIF every six months for the ICDP loan, including the payment for the IVA and the incentive amounts for which JSIF submits a request.

**JSIF and Independent Verification Agent:** JSIF will disburse the IVA's salary monthly.

**JSIF and NSWMA:** JSIF will purchase trucks on behalf of NSWMA if they achieve the minimum score for regular and sufficient waste collection in RBF communities by the end of the second and fifth years of the project. If NSWMA fails to achieve the minimum score by the end of the second year, it is still possible for them to improve their scores in the third year and earn the first truck. The trucks, quoted at US\$142,857 each for a total of US\$285,714, are included in the project Procurement Plan, and will be procured through International Competitive Bidding procedures using the Bank's Standard Bidding Documents.

**JSIF and Environmental Wardens:** JSIF will disburse the financial incentive of 10% of their salary for environmental wardens quarterly, if the community achieves the minimum score for cleanliness of the neighbourhood and the skip surroundings.

**JSIF and Community-Based Organisations:** JSIF requests and holds the financial incentive, ranging from US\$1200-\$2400 annually, for CBOs semi-annually, if they earn it. JSIF will disburse once the CBO requests funding for a community initiative.

The SDC, CBOs, and community members will identify and prioritize the community development projects to be supported by the RBF incentives. Potential community development projects include clean-up and beautification events; rehabilitation of community parks and garden; light bulb exchange projects; installation of additional street lights; school environmental projects; and provision of additional waste management receptacles. The sub-project selected should be determined using the following:

- Need is established and a solution is proposed;
- Project will promote development and quality of life for community members, for example: education, water, health, employment, etc.;
- Community has members committed to provide leadership for preparing, building, and implementing the project;
- CBO, Government agencies or community creates an implementation plan including preparation work to be done by the community;
- Community has members willing to volunteer to work on the project;
- There is a plan for how project will be used and sustained over time;
- Community has a history of managing funds for similar projects; and
- Existing and needed resources are identified (ex: expertise, funds, land, budget, etc.) and available.

The fiduciary arrangements for the RBF schemes totalling US\$424,089 are provided in Table 5.

**Table 5: Fiduciary and Procurement Arrangements for Results-Based Financing Schemes**

Item	Estimated cost (USD)	Recipient	Procurement Arrangements	Financing
Financial incentive for Wardens	\$30,375	Environmental Wardens	Community Contracting	Component 1 of the project
Trucks (2)	\$285,714	NSWMA	International Competitive Bid by JSIF	Component 1 of the project
Financial incentive for CBOs	\$108,000	CBOs	Community Contracting	Component 1 of the project

### Monitoring, Evaluation Period and Timeline

#### Monitoring

JSIF will oversee the monitoring for the RBF schemes and make adjustments needed to improve implementation of them. If the evaluation methods, implementation arrangements, or any other aspects need to be altered, then JSIF will do so accordingly subject to the World Bank’s approval. Given that the JSIF will be responsible for selecting environmental wardens, communities, and the IVA; JSIF, in coordination with the World Bank, can choose to replace these participants if performance standards are not met.

#### Evaluation Period

The IVA will submit evaluations quarterly and JSIF can make necessary adjustments in coordination with the World Bank every six months. There will be a one month grace period at the beginning of the RBF schemes to allow everyone to get into a routine. The IVA will summarize the scores and recommendations as well as submit scorecards to JSIF quarterly. For environmental wardens, the final score for each quarter will be the average of all weekly scores for that quarter. For CBOs, the final score after two quarters will be the average of all weekly scores over those six months. For NSWMA, the final score will be the average of all scores over two years or three years depending on how far along they are in the RBF scheme.

(a) JSIF will make an official announcement regarding the start of the evaluation period. The announcement would include the beginning and end dates of the evaluation period, the amount of the potential PCI and PWI for that period, and the minimum score required in order to be eligible for an incentive payment. Environmental wardens, CBOs and NSWMA would naturally and automatically be part of the program unless they wish to opt out.

(b) During each evaluation period of three months, the IVA will visit each RBF community unannounced weekly to evaluate their performance. The IVA will also collect data (and take photos) on cleanliness and collection frequency, assigning appropriate scores once they have visually evaluated the neighbourhood and skips and verified with community members and

the CBOs. The precise schedule of the IVA would be unknown to CBOs, NSWMA and environmental wardens but the IVA will go weekly on a day that the NSWMA is scheduled to pick up.

(c) JSIF will notify the participants of their scores every three months. The purpose of the quarterly scorecard is to give participants an indication of how they are performing and encourage them to strive towards a higher score. It is also to provide a financial incentive to environmental wardens if they achieve the minimum score.

(d) After each evaluation period, the IVA will calculate the final scores and the estimated amount of the incentives earned. All financial and in-kind incentive payments will be made within two weeks of report submission according to the payment schedule for each stakeholder, contingent on World Bank disbursements. The results will be publicly announced concurrently with the opening of the next cycle.

Efficiency, timeliness and accuracy of payments are important elements of the overall Solid Waste Management component. The JSIF will therefore explore a quick pay card system through a commercial bank. Each warden may be required to open an account at a commercial bank and the bank issue the account holder a Quick Paid card.

The warden may then be asked to provide the bank account number to JSIF. Upon assessment and verification of the wardens' work and on submission scores by the IVA with the help of CBOs, the JSIF may make payment deposits to the respective accounts at the commercial bank(s) from which the wardens will make withdrawals at from the ATM using the Quick Paid card. The payments will be made fortnightly.

## Timeline for Scoring and Disbursements

Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
Evaluation Period: IVA scores each <b>community's</b> and <b>NSWMA's</b> performance weekly					
			IVA submits summary of scores & all scorecards to JSIF by the fifth of the month		
			JSIF disburses incentive payment to Env Wardens within two weeks* of receiving IVA submission if minimum score is achieved		
Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Evaluation Period: IVA scores each <b>community's</b> and <b>NSWMA's</b> performance weekly					
IVA submits summary of scores & all scorecards to JSIF by the fifth of the month			IVA submits summary of scores & all scorecards to JSIF by the fifth of the month		
JSIF disburses incentive payment to Env Wardens and holds CBOs' incentive within two weeks* of receiving IVA report if they meet the minimum score			JSIF disburses incentive payment to Env Wardens within two weeks* of receiving IVA submission if minimum score is achieved		
Month 13	Month 14	Month 15	Month 16	Month 17	Month 18
Evaluation Period: IVA scores each <b>community's</b> and <b>NSWMA's</b> performance weekly					
IVA submits summary of scores & all scorecards to JSIF by the fifth of the month			IVA submits summary of scores & all scorecards to JSIF by the fifth of the month		
JSIF disburses incentive payment to Env Wardens and holds CBOs' incentive within two weeks* of receiving IVA report if they meet the minimum score			JSIF disburses incentive payment to Env Wardens within two weeks* of receiving IVA submission if minimum score is achieved		
Month 19	Month 20	Month 21	Month 22	Month 23	Month 24
Evaluation Period: IVA scores each <b>community's</b> and <b>NSWMA's</b> performance weekly					
IVA submits summary of scores & all scorecards to JSIF by the fifth of the month			IVA submits summary of scores & all scorecards to JSIF by the fifth of the month		
JSIF disburses incentive payment to Env Wardens and holds CBOs' incentive within two weeks* of receiving IVA report if they meet the minimum score			JSIF disburses incentive payment to Env Wardens within two weeks* of receiving IVA submission if minimum score is achieved		
Month 25	Month 26	Month 27	Month 28	Month 29	Month 30
Evaluation Period: IVA scores each <b>community's</b> and <b>NSWMA's</b> performance weekly					
IVA submits summary of scores & all scorecards to JSIF by the fifth of the month			IVA submits summary of scores & all scorecards to JSIF by the fifth of the month		
JSIF disburses incentive payment to Env Wardens, holds CBOs' incentive, and provides NSWMA with a truck within two weeks* of receiving IVA submission if all parties achieve the minimum score			JSIF disburses incentive payment to Env Wardens within two weeks* of receiving IVA submission if minimum score is achieved		

\*This turnaround time is contingent on a timely funding transfer from the World Bank

## Key Risks and Mitigation

Risk	Mitigation of Risks
Community organisations unwilling to participate	If the community organisations are unwilling to participate, JSIF has the authority to exclude the specified community from the RBF schemes.
Residents unwilling to change behaviour	The RBF schemes are designed to financially incentivize communities for specific waste management actions. The RBF schemes will be implemented in coordination with public awareness and community clean-up programs. It is expected that enforcement and the incentive will minimize this risk.
Collusion between IVA and incentive recipients	The IVA will be a truly independent entity, with a track record and credibility in performing verification, as evidenced by experience with auditing functions. JSIF will oversee the activities and can make adjustments with regards to the IVA if necessary.
Misrepresentation of results	The evaluation of the results has been designed with checks in place as well as photographic proof. The CBOs keep a record of NSWMA pickups and will oversee the wardens. The IVA will take photographs to justify their scores and randomly evaluate three out of ten areas in the community to ensure that the whole community's cleanliness is being included.
Disagreements between community members and community organisations on the use of funds	Prior to disbursing funds, JSIF will verify that the community members and community organisations are aligned in how the funds will be spent
Administrative delays related to verification and payment of incentive	The IVA's contract stipulates that the IVA will not be paid unless their verification and reports are submitted on time to JSIF.  JSIF will commit to timely payment of incentives once they receive the report from the IVA. This will be clearly stipulated in individual contracts with all parties.
Recipients do not meet performance targets	It is anticipated that this risk will be minimum since the targets will be set based off of the quantity of waste that each community recycles and composts. Furthermore, the targets can be re-evaluated at the end of each cycle and adjusted accordingly.
Lack of market for recyclable and organic waste	If there is no market for recyclable and organic waste then the source separation of waste will no longer be required and the RBF scores will be adjusted accordingly.
Environmental wardens acting beyond their mandate and legal authority in order to maximize their RBF payment	If the recipients act beyond their legal authorization, they will be liable according to Jamaican law.
Sustainability after the RBF incentive project	The RBF schemes are designed over a multi-year period to initiate positive behavioural change in NSWMA and the

	community. By having NSWMA and the community work together towards improved cleanliness, it is expected that the culture of shared commitment will be sustained beyond the duration of the incentive.
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## Advanced RBF Scheme for Neighbourhood Cleanliness

The advanced version of the RBF scheme for neighbourhood cleanliness includes recycling and composting when a community is ready to be evaluated for both. It would entail the community separating their recyclables and organics and depositing them into specific bins whose contents would then be recycled or composted accordingly. This adapted design would mostly affect the responsibilities of the IVA.

The communities will be evaluated for diverting their recyclables and organics in addition to the cleanliness of their community. In order to set the proper targets for the quantity of recyclables and organics that should be diverted, the wardens will record the amount of recyclables and organics being diverted prior to the evaluation period. Once there has been consistent information on the amount of waste being diverted, JSIF will coordinate with the wardens and CBOs to set an ideal target rate. The target rate will be set at a quantity incrementally above the amount being diverted, for example at 10% more than the recycling and composting quantities being diverted.

If recycling and composting are incorporated into the design for the neighbourhood cleanliness RBF scheme, the score would be adapted as follows:

### Calculation of Score

Output	Symbol	Max Score	Scoring Method
Percentage of recyclable material	B1	20	<p>A target recycling diversion rate will be set after the baseline study to estimate the quantity of waste that could be source separated for recycling. This target rate will be set less than the actual recycling fraction and will be determined in coordination with JSIF. The quantity of waste will be measured by weight for calculation purposes.</p> $B1 = 20 \times \frac{(RW)}{RT} \quad (\text{Subject to a maximum of } 20)$ <p>RW = Weight of waste diverted for recycling            TW= Weight of total waste managed            RT = Recycling target expressed as a fraction</p>
Percentage of organic waste diverted for composting	B2	20	<p>A target diversion rate for organic waste will be set following a baseline study to estimate the quantity of waste that could be source separated for composting. This target rate will be set less than the actual organics fraction and will be determined in coordination with JSIF. The quantity of waste will be measured by weight for calculation purposes.</p> $B3 = 20 \times \frac{(OW)}{OT} \quad (\text{Subject to a maximum of } 20)$



			<p>OW = Weight of organic waste diverted for recycling  TW= Weight of total waste managed  OT = Target diversion rate for organic waste expressed as a fraction</p>
Overall community cleanliness index	B3	40	<p>The IVA performs a qualitative survey of randomly selected areas and assigns a cleanliness rating (according to definitions of A, B, C and D as explained below and seen in photographs in Table 3). In order to minimize bias, it is recommended that the same person (or at least the same entity or organization) performs all the cleanliness surveys of the selected areas for the entire month.</p> $B3 = \left( \frac{(A \times 3) + (B \times 2) + (C \times 1) + (D \times 0)}{3 \times (A + B + C + D)} \right) \times 40$ <p>A: Number of exceptionally clean areas (No visible refuse on streets)  B: Number of clean areas (Predominantly free of refuse, except for from small items)  C: Number of dirty areas (Widespread distribution and small accumulations of refuse)  D: Number of very dirty areas (Significant accumulations of refuse)</p>
Waste skips cleanliness index	B4	20	<p>The IVA performs a qualitative survey of community skips and assigns a cleanliness score (A, B, C or D as explained below). In order to minimize bias, it is recommended that the same person (or at least the same entity or organization) performs all the cleanliness surveys of the selected areas for the entire month.</p> $B4 = \left( \frac{(A \times 3) + (B \times 2) + (C \times 1) + (D \times 0)}{3 \times (A + B + C + D)} \right) \times 20$ <p>A: Number of exceptionally clean skips (No visible refuse around the skips)  B: Number of clean skips (Predominantly free of refuse, except for from small items)  C: Number of dirty skips (Widespread distribution and small accumulations of refuse)  D: Number of very dirty skips (Significant accumulations of refuse)</p>
Total		100	

## Additional Responsibilities

The recycling and composting component of the RBF will include several players with specific responsibilities as outlined in the table below.

PARTICIPANTS	RESPONSIBILITY	EQUIPMENT OWNERSHIP	REVENUES
Community	Community residents will be required to separate, bag, and dispose of their waste in the labelled containers or drums installed along the roadways. The community will play no role in the collection, transportation, and selling of the recyclables.	The drums will be owned by the community and managed by the CBOs and the Wardens. Recycling and composting facilities will be provided in each community at selected location based on proof of land tenure. The community will own the facility, which will be managed by the CBOs.	The communities will not benefit directly from revenues earned from sales of the recyclables. However, they stand to benefit from proposed incentive schemes associated with inter and intra-community solid waste management and beautification competitions.
Informal Recyclers	The informal recyclers will collect the recyclables from the drums on designated streets and transport them to the recycling stations managed by the CBOs. They can also collect from other areas and public spaces but cannot collect from streets that are already assigned to other informal recyclers. The informal recyclers should ensure that the recyclables delivered are weighed, recorded, and a receipt provided by the CBO.	The informal recyclers will be provided with uniforms and gloves. The provision of carts to transport waste is also under consideration. The carts will be owned and managed by the CBOs.	The informal recyclers will receive the revenues from the sale of the plastic products to the formal recyclers.

Environmental wardens	Wardens will be responsible for community cleanliness and cleanliness of areas around skip and enclosures. They will also be responsible for preparation and maintenance of green spaces (landscaping and beautification); assisting in waste separation at source; collection, transportation and composting of organic waste; and community awareness, etc.	The wardens will be provided with uniforms and gloves to operate. They will sign out the carts from the CBOs as needed for transporting the organics from the drums to the composting stations and for other waste management activities. The wardens have no ownership of the carts other than for protection when in their custody.	The wardens will receive weekly or bi-weekly payment for their job plus a RBF incentive amounting to 10% of salary based on performance.
CBOs	The CBOs will be responsible for supervising the environmental wardens in conducting their duties. They will be responsible for managing the recycling and composting initiatives, including registration of informal recyclers, sign-in/sign-out of waste carts, weighing of recyclables, selling of waste to formal recyclers and distribution of payments to informal recyclers, monitoring of baling activities by NSWMA, as well as general record keeping. As part of the general solid waste management component of ICDP, it is the responsibility of the CBOs to monitor and record	The waste carts will be owned by the CBOs and loaned to the wardens in execution of their duties. The CBOs will also own the scales to be provided for weighing the waste materials.	The CBOs will receive a scalable performance based cash incentive to fund pre-agreed community projects. Disbursements will be made to the CBOs semi-annually through a funding agreement with the JSIF.

	NSWMA solid waste collection activities in the community and to provide information support to the IVA. The organisation of community activities and public awareness is also within the remit of the CBOs.		
<b>NSWMA</b>	The NSWMA will be responsible for periodic baling of recyclables at the stations. The NSWMA will customize the balers to meet the requirements of the communities. NSWMA will not play any role in the transportation of recyclables unless they are purchasing the material.	The NSWMA will be provided with balers, which they will own and operate. They will also be provided trucks to assist with general collection of waste in the communities.	Incentives in the form of trucks will be given based on performance, i.e. regular frequency of pick-ups, etc.
<b>Formal Recyclers</b>	The formal recyclers will be responsible for collecting and transporting the baled material from the recycling stations to their recycling facility. They will make payments to the CBOs for the waste purchased and keep records of waste collected and payments made.	None will be provided.	Revenues will be obtained from selling of the baled material or its bi-product.
<b>JSIF</b>	The JSIF will perform project management function. JSIF will also be providing investments	None	None

	<p>and other forms of assistance for the programme. JSIF will have other roles including contracting and formalizing of agreements between the parties; assist with sale negotiations between the CBOs, informal recyclers and formal recyclers; performance monitoring; and equipment procurement; etc.</p> <p>JSIF will also play an integral role in community sensitization and awareness-raising.</p>		
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This scheme would require additional responsibilities for the IVA. The IVA would evaluate the proper separation of organics and recyclables in addition to the other aspects of the RBF schemes. There would be a visual inspection to ensure that the contents of the bins are indeed recyclables and organics and once this is documented, the IVA would determine the actual amount of recyclables and organics being diverted. The visual inspection would entail taking a photograph to record the bins' contents. The IVA would measure the recyclables and organics being diverted by weighing the relevant contents of the bins.

## Adapted Scorecards

Weekly Scorecard

Date: \_\_\_\_\_

Contact \_\_\_\_\_

Person: \_\_\_\_\_


Neighbourhood Name: \_\_\_\_\_

Areas evaluated for cleanliness: \_\_\_\_\_

Phone \_\_\_\_\_

No: \_\_\_\_\_

Others the IVA talked to: \_\_\_\_\_

Output	Quantity	Score Calculation	Score	Max Score
<b>Environmental Wardens and CBOs</b>				
Quantity of organics diverted		= 20 x $\frac{\text{quantity of organics}}{\text{organics target}^*}$		20
Quantity of recyclable material diverted		= 20 x $\frac{\text{quantity of recyclables}}{\text{recycling target}^*}$		20
				
<div style="display: flex; justify-content: space-around;"> <span>A</span> <span>B</span> <span>C</span> <span>D</span> </div>				
Community Cleanliness Score	Area ___: Area ___: Area ___:	= 40 x $[(Ax3) + (Bx2) + C]$ (3 x total areas evaluated)		40
Waste skips cleanliness	Skip 1: Skip 2: Skip 3:	= 20 x $[(Ax3) + (Bx2) + C]$ (3 x total skips evaluated)		20
<b>Total</b>				<b>100</b>
<b>NSWMA</b>				
Number of skips at less than 75% capacity	Skip 1: Skip 2: Skip 3:	= 70 x $\frac{\text{No. of skips less than 75% full}}{\text{No. of total skips in community}}$		70
Regularity of Collection		= 30 x $\frac{\text{No. of trips made in week}}{\text{Total number of expected trips}^*}$		30
<b>Total</b>				<b>100</b>

\*Will be set as an incremental increase (i.e., 10%) in the amount of waste that community is diverting for recycling and composting

Quarterly Scorecard  
Dates of Time

\_\_\_\_\_

Period: Neighbourhood

\_\_\_\_\_

Name:



Output	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Average Score
	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score	
<b>Environmental Wardens and CBOs</b>															
Quantity of organics diverted															
Quantity of recyclable material diverted															
Community Cleanliness Score															
Waste skips' cleanliness															
Total Score															
Environmental Wardens' Incentive	If Total Average Score > Minimum Score (80) then incentive is as follows:														= US\$80
Assistant Environmental Wardens' Incentive	If Total Average Score > Minimum Score (80) then incentive is as follows:														= US\$41
CBOs' Incentive	If Total Average Score > Minimum Score (80) then incentive is as follows:														US\$600 x $\frac{\text{Total Average Score}}{100}$ =
<b>NSWMA</b>															
Number of skips at less than 75% capacity															
Regularity of Collection															
Total Score															

Technical Scorecards for Independent Verification Agent

Weekly Scorecard

Date: \_\_\_\_\_

Contact \_\_\_\_\_

Person: \_\_\_\_\_

Neighbourhood Name: \_\_\_\_\_

Areas evaluated for cleanliness: \_\_\_\_\_

Phone \_\_\_\_\_

No: \_\_\_\_\_

\_\_\_\_\_

Others the IVA talked to: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Output	Quantity	Score Calculation	Score	Max Score
<b>Environmental Wardens and CBOs</b>				
	A	B	C	D
<b>Community Cleanliness Score</b>	Area ____: Area ____: Area ____:	= 40 x [(Ax3) + (Bx2) + C] (3 x total areas evaluated)		70
<b>Waste skips cleanliness</b>	Skip 1: Skip 2: Skip 3:	= 20 x [(Ax3) + (Bx2) + C] (3 x total skips evaluated)		30
<b>Total</b>				100
<b>NSWMA</b>				
<b>Number of skips at less than 75% capacity</b>	Skip 1: Skip 2: Skip 3:	= 70 x <u>No. of skips less than 75% full</u> No. of total skips in community		70
<b>Regularity of Collection</b>		= 30 x <u>No. of trips made in week</u> Total number of expected trips*		30
<b>Total</b>				100

\*Determined by JSIF and the community organisation in coordination with NSWMA

Quarterly Scorecard  
 Dates of Time

Period: Neighbourhood

Name:

Output	Week 1 Score	Week 2 Score	Week 3 Score	Week 4 Score	Week 5 Score	Week 6 Score	Week 7 Score	Week 8 Score	Week 9 Score	Week 10 Score	Week 11 Score	Week 12 Score	Week 13 Score	Week 14 Score	Average Score
<b>Environmental Wardens and CBOs</b>															
Community Cleanliness Score															
Waste skips' cleanliness															
Total Score															
Environmental Wardens' Incentive	If Total Average Score > Minimum Score (80) then incentive is as follows:														= US\$80
Assistant Environmental Wardens' Incentive	If Total Average Score > Minimum Score (80) then incentive is as follows:														= US\$41
CBOs' Incentive	If Total Average Score > Minimum Score (80) then incentive is as follows:														US\$600 x $\frac{\text{Total Average Score}}{100}$
<b>NSWMA</b>															
Number of skips at less than 75% capacity															
Regularity of Collection															
Total Score															

NSWMA Scorecard

Dates of Time Period: \_\_\_\_\_

Output	Qtr 1 Score	Qtr 2 Score	Qtr 3 Score	Qtr 4 Score	Qtr 5 Score	Qtr 6 Score	Qtr 7 Score	Qtr 8 Score	Qtr 9 Score	Qtr 10 Score	Qtr 11 Score	Qtr 12 Score	Average Score
<b>NSWMA</b>													
Community 1													
Community 2													
Community 3													
Community 4													
Community 5													
Community 6													
Community 7													
Community 8													
Community 9													
Community 10													
Community 11													
Community 12													
Community 13													
Community 14													
Community 15													
<b>Total Average Score</b>													
<b>NSWMA Incentive</b>	If Total Average Score > Minimum Score (80) then NSWMA will receive 1 truck												

