AUDITOR GENERAL'S DEPARTMENT

PERFORMANCE AUDIT REPORT

RADA'S MANAGEMENT OF THE REHABILITATION OF FARM ROADS

The Auditor General is appointed by the Governor General and is required by the Constitution, Financial Administration and Audit Act, other sundry acts and letters of engagement, to conduct audits at least once per year of the accounts, financial transactions, operations and financial statements of central government ministries and departments, local government agencies, statutory bodies and government companies.

The Department is headed by the Auditor General, Pamela Monroe Ellis, who submits her reports to the Speaker of the House of Representatives in accordance with Section 122 of the Constitution of Jamaica and Section 29 of the Financial and Administration and Audit Act.

This report has been prepared by the Auditor General's Department of Jamaica for presentation to the House of Representatives.

Auditor General of Jamaica
Auditor General's Department
40 Knutsford Boulevard, Kingston 5
Jamaica, W.I.
www.auditorgeneral.gov.jm

Vision

A better country through effective audit scrutiny

Table of Contents

Audit at a Glance

RADA'S MANAGEMENT OF THE REHABILITATION OF FARM ROADS

Key Data

- RADA is responsible for maintaining farm roads island wide;
- RADA is the implementing agency for the Farm Road Rehabilitation Programme (FRRP), since October 2015;
- Jamaica's farm road network is estimated at 1,500 km.

Main Findings

- RADA's annual budget did not support the maintenance of all farm roads;
- the farm road selection process, under the FRRP was not transparent;
- RADA could not clearly distinguish between farm and non-farm roads;
- RADA lacked a robust farm road management system;
- inspection and monitoring activities did not assure provision of road works consistent with contracts.

Conclusion & Recommendation

RADA must immediately strengthen surveillance over its road rehabilitation and maintenance activities to ensure adherence to quality standards and limit contract variation. The implementation of a comprehensive road inventory management system, would also assist RADA in achieving value for money from allocated funds. Whereas RADA possesses competent staff to undertake road works, RADA should also consider coordination with PIOJ and STATIN to measure the economic impact of road rehabilitation.

Auditor General's Overview

Increasingly stakeholders are demanding greater levels of transparency and accountability in the management of public funds, as many public bodies continue to demonstrate weak governance practices that often overshadow positive developments in the technical areas of their operations. For public bodies to effectively carry out their mandates and achieve value for money, they must implement systems that facilitate the efficient and effective use of resources, while upholding the principles of good governance.

Against this background, I commissioned a performance audit to determine whether the responsible entity, RADA, had in place, effective systems to provide assurance that the farm road network and related infrastructure are effectively and efficiently managed and that value is received from funds spent on the rehabilitation of farm roads. The maintenance of farm roads is linked to the national outcome of rural and agricultural development in Vision 2030 Jamaica, as transportation costs have greatly affected the farmers' access to market and by extension, Jamaica's food security and environmental sustainability.

The audit revealed that RADA did not always implement good governance principles in the management of farm road rehabilitation to enable proper planning and management of its financial resources. This was partly reflected in weak procurement management and controls over the execution of contracts, demonstrated by instances of unjustified contract variations and road re-work, factors that would have diminished the receipt of value for money. It is therefore important that RADA implement appropriate control systems to facilitate effective delivery of the farm road rehabilitation programme and reduce the risk of waste of scarce public resources.

Thanks to the management and staff of RADA for the cooperation and assistance as well as courtesies extended to the audit team throughout the period of the audit.

Pamela Monroe Ellis, FCCA, FCA
Auditor General

Building blocks of Value for Money

ECONOMY is keeping the resources costs low. The resources used should be available in due time, in appropriate quality and quantity and at the best price.

EFFICIENCY is getting the most from available resources. It is concerned with the relationship between resources employed, conditions given and results achieved in terms of quality, quantity and timing of outputs and outcomes.

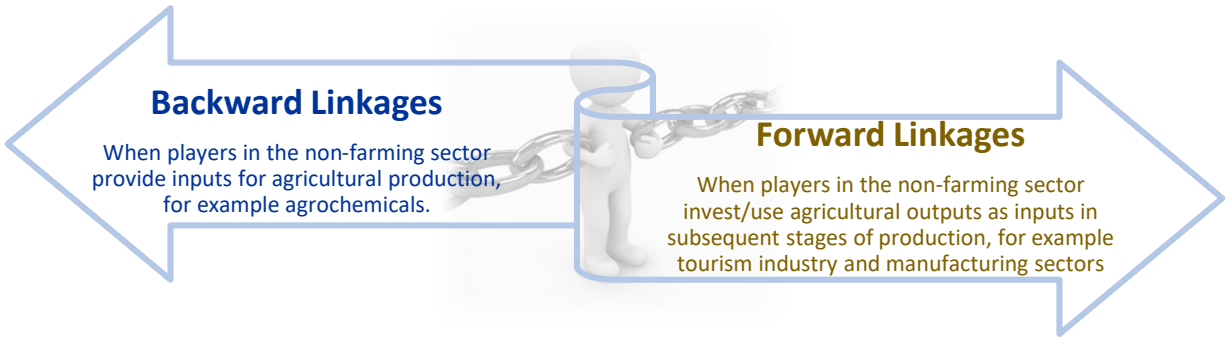
EFFECTIVENESS is meeting the objectives set. It is concerned with attaining the specific aims or objectives and/or achieving the intended results.

Executive Summary

A priority strategy of Vision 2030 Jamaica, National Development Plan (NDP), National Outcome 12: Internationally Competitive Industry Structures, is to improve and rationalize the road network including farm roads by improving agriculture feeder roads. The contribution of agriculture to GDP, food security and environmental sustainability is vital and physical improvements in farm roads are expected to enhance market access, foster domestic agricultural production, increase employment for rural farm families and attract new entrants. The maintenance of farm roads is linked to the national outcome of rural and agricultural development.

Vision 2030 NDP identifies the Rural Agricultural Development Authority (RADA) which falls under the Ministry of Agriculture, as the entity responsible for agricultural roads. RADA's 2015-18 Strategic Business Plan stated that the programmes[1] put forward under the NDP, are intended to enhance production and productivity through a series of enabling interventions that would address the problems hampering production and simultaneously present opportunities for growth enhancement within the agricultural sector. Accordingly, RADA instituted a prioritization strategy, which entailed identifying roads it considered most in need of repairs and which when rehabilitated, would more likely contribute to the achievement of the National Vision.

Agricultural Linkages



Given the important link between the availability of quality farm roads and the national goal for Agriculture, our audit sought to determine whether RADA had in place, effective systems to manage the rehabilitation and maintenance of farm roads, based on appropriate and transparent identification and selection processes within the context of a transparent governance framework. After completion of the audit, an Exit Meeting was held with RADA to discuss the audit findings. Responses received from RADA have been considered while preparing this report and have been included where relevant.

[1] Farm Road Rehabilitation Programme (2015)

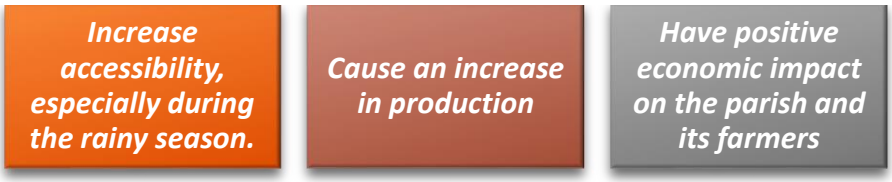
Key Audit Question **Is there an effective and efficient management system for the rehabilitation of farm roads in Jamaica?**

What We Found

1. **RADA's budget request for the management of farm roads was limited to the execution of road rehabilitation projects under the Farm Road Rehabilitation Programme (FRRP).** RADA has responsibility for farm roads, estimated to be at least 10 per cent of Jamaica's road network, as well as for overseeing the maintenance and development of these roads. RADA's annual funding requests were limited to the rehabilitation of 50 km of priority roads under the FRRP. However, RADA's budget submissions and plans[2] did not include funding for routine, preventative, and emergency repairs to provide an acceptable physical road infrastructure. The alignment of the budget to the Strategic Business Plan (SBP) varied from year to year; there was no consistent relationship between RADA's budget outlined in the SBP and that requested from the Ministry of Industry, Commerce, Agriculture and Fisheries (MICAF). RADA did not provide reasons for the difference, which not only limited the transparency of the budget process, but without credible information, it may be difficult to hold to account, those involved in managing farm road projects. Further, RADA failed to provide evidence that MICAF approved the diversion of funds allocated for farm roads, towards the repair of non-farm roads.

   RADA indicated that going forward, the strategic plans would include a budget line item for maintenance of farm roads.

2. **RADA could not readily distinguish between farm roads and the parochial roads managed by municipal corporations**. Given that the farm road rehabilitation programme is extended to surrounding communities comprising parochial roads, we expected that RADA would have established criteria to distinguish farm roads from parochial roads to prevent overlap with municipal corporations. RADA established annual priority lists for the selection of farm roads to be rehabilitated but could not explain the basis for the selection of some farm roads. Whereas RADA's policy required that roads selected for rehabilitation must satisfy the criteria shown below, RADA admitted that its definition of farm roads was inadequate and outdated.



   RADA submitted to us an undated list comprising 408 roads totalling 960 km of the estimated 1,500 km farm roads island wide. However, despite developing a priority list for rehabilitation, RADA could not identify which of the criteria the roads on the list satisfied, and we were unable to determine whether the stated criteria were utilised in determining the works projects; raising doubts regarding the transparency of the selection process. These challenges underscored the need for an effective inventory and data management system that can also be relied on for planning and budgeting activities, as well as link RADA's core functions to its objective to

[2] Strategic, operational and procurement plans

improve agricultural production and rural development. RADA is yet to measure the economic impact on productivity of the roads rehabilitated.

RADA advised that the lack of financial and human resources hampered the implementation of this activity but in the interim, sensitization sessions were initiated during its quarterly performance review meetings, in order to give senior management an appreciation of the importance of impact evaluation.

3. **RADA lacked a proper roads management system to support its road rehabilitation programme.** Consistent with its mandate, we expected RADA to have a robust road inventory management system with a detailed master list of farm roads identified by location, condition and works undertaken; information necessary for the proper determination and prioritization of resources. Such a system would also provide RADA with the current status of farm roads to guide rehabilitation activities. Against this background, RADA, which continually revised its budget for farm road rehabilitation, failed to document reasons for revisions and often excluded or scoped out critical elements such as drainage after the commencement of contracts, in order to stay within budget.

RADA indicated that they intend to develop a system whereby roads would be identified by "(GPS), distance, condition of surface, drainage, estimate of works to be done, number of farmers served, agricultural production in the area (type of enterprise, hectarage in use and output) and expected impact of the rehabilitation investment among other demographics." However, a timeline for full implementation was not provided.

4. **RADA's process of selecting contractors was not always transparent or competitive**. We reviewed 112 road rehabilitation contracts valued at $1.6 billion and noted that RADA used the local competitive bidding methodology (LCB) for only four contracts valued at $90.8 million. Conversely, RADA utilized the limited tender (LT) methodology for 75 contracts (67 per cent), valuing $1.04 billion. RADA was unable to indicate the basis on which contractors were pre-selected for invitation to bid on road rehabilitation contracts. Further, in six instances, RADA used the LT methodology to award contracts valuing $129.8 million, despite the procurement guidelines not being met[3], thereby denying other qualified contractors the opportunity to participate in the procurement process.

[3]As revised via MOFP circular No. 27 dated September 28, 2016, the Procurement Guidelines authorise the use of the limited tender methodology for contracts valued up to $20 million. Above this threshold (up to $150 million), local competitive bidding should be applied

RADA also utilized the direct procurement and emergency methodologies for 33 contracts valuing $520.93 million although the allowable circumstances permitting the direct and emergency procurement methodologies were not met. For instance, in 25 of the 33 direct and emergency contracts valuing $401 million (77 per cent)[4] RADA's justification for the use of these methodologies did not conform with the procurement guidelines. The reasons cited by RADA were:

Proper planning would have enabled the use of the competitive bidding process via public advertisement of the procurement opportunity, thereby facilitating transparency and achieving the best price.

Tender Evaluation Reports (TER) for the 112 contracts examined, revealed no evidence that RADA assessed bidders to determine whether they met the minimum qualifying criteria in compliance with the Instruction to Bidders and Procurement Guidelines[5]. We noted that RADA's due diligence process related to the selection of contractors was limited to the validity of the Tax Compliance Certificate (TCC) and the National Contracts Commission (NCC), and selection based on the lowest bid. RADA did not provide any evidence it conducted a prequalification exercise of potential bidders for limited tender contracts, in accordance with Section A7.3 of the Invitation to Bidders, which requires RADA to evaluate bids to determine compliance[6] with regulations and includes assessment of experience in similar works, qualification and expertise of key management and technical personnel.

5. **RADA's omission of critical specifications from road rehabilitation contracts, coupled with the absence of routine and regular maintenance, heightened the risk of sub-standard works.** We expected that RADA would ensure that the design for farm roads included proper drainage, to allow for adequate water run-off and extend the life of the road. RADA frequently re-scoped works to omit infrastructure that were deemed critical, such as drains and culverts and changed the location of contracted works without any evidence of re-measurements. We reviewed 46 contracts relating to 117 roads and found 53 instances where deliverables of the contracts works were re-scoped by works engineers and the Chief Executive Officer (CEO) to exclude the

[4] 14 contractors
[5] Section 1.1.3 of the GOJ Revised Handbook of Public Sector Procurement Procedures - Vol 2 March 2014: Limited Tender - Criteria for selecting contractors should include: (a) the nature of the good/service/works required; (b) the contractor's relevant experience; (c) the contractor's past performance record; and (d) the contractor's current financial and technical capacities.
[6] Valid Tax Compliance Certificate (TCC) and Valid NCC Certificate in General Road Works (Grade 1-3) or Road Maintenance (Grade 1-3)

required drainage, culverts and pavements. In 33 of the 53 instances, the specification for drainage was omitted or adjusted despite RADA's records[7] showing that the entity had identified that the quality of roadwork could be easily undone by rainfall due to inadequate drainage. Our survey[8] of farmers revealed that while some acknowledged that repaired roads made it easier to get to and from their farms and reduced wear and tear on their motor vehicles, many complained of poor drainage on some newly rehabilitated roads. RADA's records showed that all these projects were frequently scoped down by the works engineer at the same cost level, by excluding critical drains and culverts which are key components of road infrastructure that could ensure its longevity.

There were also instances of incorrect application of variation orders. For seven contracts, related to nine roads, repair cost totalling $50.7 million, RADA changed the location of works, a critical component of the contracts, using variation orders, instead of formulating a new contract as required under the guidelines since these new roads were not named in the original contract[9]. We were not assured that value for money was obtained as the 'variation orders' did not provide justifications or estimates of cost related to the changes, to ascertain whether the additional works could have been undertaken at lower costs through competitive tender. Further, we noted that four of the roads substituted were on RADA's priority list to be rehabilitated, which raises further questions regarding the transparency of the selection process. This also underscored the importance of a roads management database, specifying location and condition, to provide some assurance that all farm roads are taken into account in the rehabilitation, planning and budgeting process.

6. **RADA's inspection and monitoring activities were inconsistent with its quality assurance framework**. As part of its quality management, RADA developed guidelines related to key quality requirements for general work activities such as bushing, drainage, earthworks and pavement. An inspection checklist was also developed for use by works engineers to verify whether each phase of the road work complied with requirements. RADA stated that its works engineers were usually on site throughout the road projects to carry out quality checks and on completion of road works are required to inspect the road and related structures for deficiencies and defects. However, we found no notations on inspection checklists regarding the nature, frequency of testing and physical conditions of the roads during monitoring and inspection activities. Consequently, we could not determine how RADA assured itself of adherence to guidelines or if the quality of the construction complied with the design specifications.

   Our review of RADA's Internal Audit Reports highlighted that site inspections conducted in February 2018,[10] indicated that roads rehabilitated in late 2017 had begun to show signs of deterioration, (e.g. potholes) in a short period (3-4 months) after rehabilitation. This supported our concern that RADA did not take steps to assure itself that contractor(s) rehabilitated roads to quality standards, through performance tests or inspections by works engineers throughout the process.

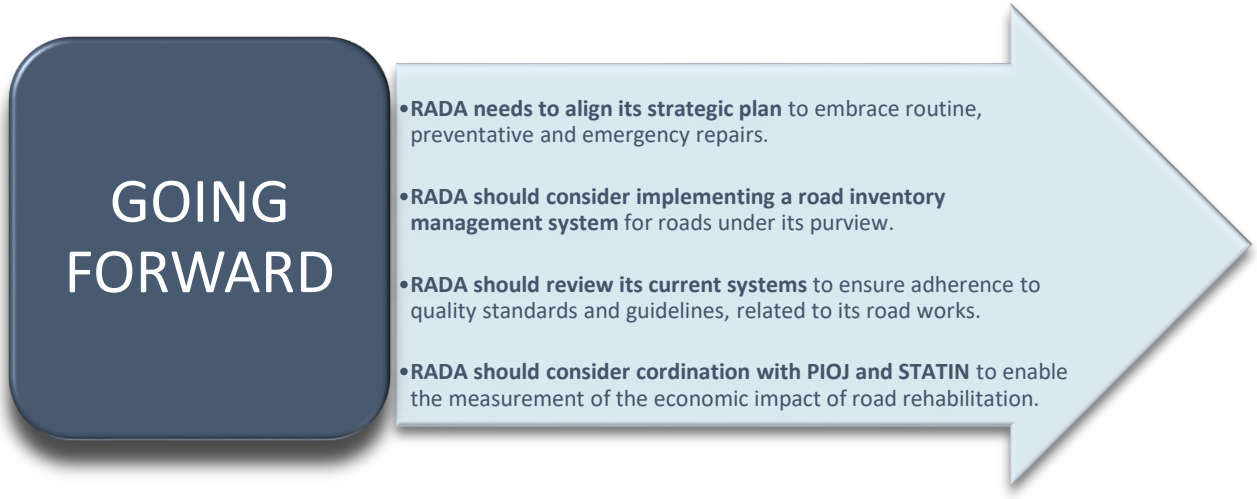
[7] RADA National Board Minutes, February 8 2018

[8] Famers responded to a mini questionnaire during site visits of three roads rehabilitated during the period 2015 to 2019: Flamstead to Queenshythe – St. Ann; Cocoa Walk – St. Catherine and Spring Park – St Elizabeth

[10] IA report dated March 5 2018

RADA indicated a desire to develop an in-house contract register to monitor the performance of contractors, but did not specify a timeframe in which this would be implemented.

What Should Be Done

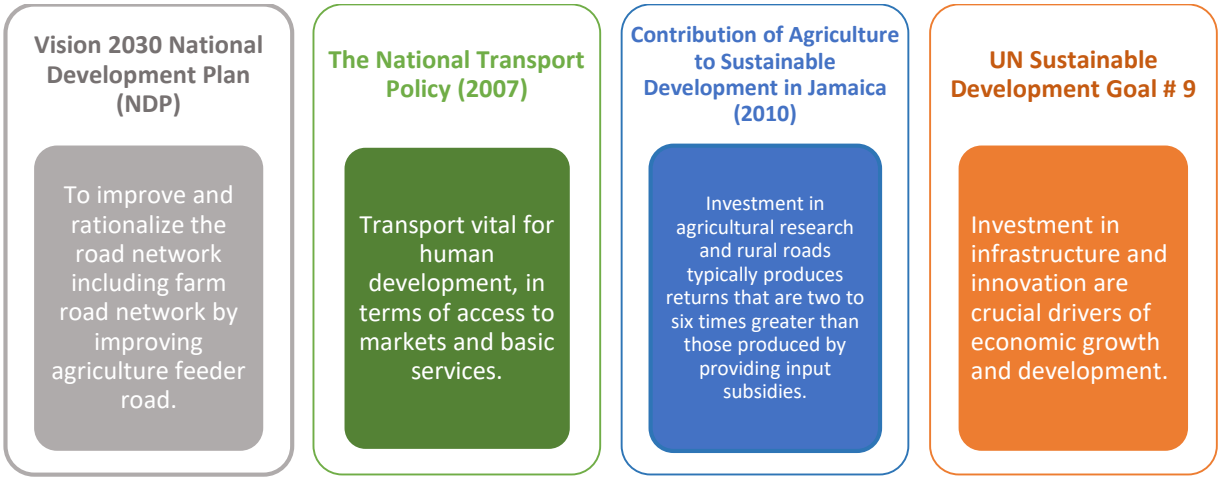


Part 1 Introduction

Jamaica's vision for the Country's farm roads

1.1 According to Vision 2030 Jamaica National Development Plan (NDP) [11], the Agriculture sector had experienced numerous *challenges that have resulted in an overall decline in output and direct contribution to GDP over the years*[12]. A contributing factor was the overall poor condition of farm roads island wide, which required immediate attention in an effort to increase and sustain the contribution to the Agricultural sector. In keeping with the NDP, the role of effective periodic and routine maintenance of agricultural roads is particularly important given the cost-effectiveness of road maintenance and rehabilitation compared to the building of new roads. The Government's vision for its agricultural road network is complemented by other policy and research documents which have placed emphasis upon the development of rural areas and is aligned to the United Nations Sustainable Development Goal # 9 (**Figure 1**).

Figure 1: GOJ vision for farm roads



Source: AuGD's compilation

Who is responsible for maintaining farm roads?

1.2 The Rural Agricultural Development Authority (RADA), which falls under the Ministry of Industry, Commerce, Agriculture and Fisheries, has responsibility for the approximately 1,500 Km[13] of farm roads network and overseeing maintenance and development of these roads. RADA's road-related activities are focused on managing the Farm Road Rehabilitation Programme (FRRP), implemented in

[11] Construction (**National Outcome #9 –** Strong Economic Infrastructure).

[12] The sector has experienced numerous ***challenges that have resulted in an overall decline in output and direct contribution to GDP over the years*** [12] **(National Outcome #12** – Internationally Competitive Industry Structures **(National Outcome #12** – Internationally Competitive Industry Structures.

[13] Approximately 10 per cent of Jamaica's road network; Vision 2030 Jamaica – Final Draft Agriculture Sector Plan,2009, page 24; Child Road Safety Assessment: Jamaica by Project Partners FIA Foundation UNICEF Jamaica The JN Foundation, Page 17

2015 to specifically address the state of poor farm roads (across all 13 parishes) given the impact on sustainable and viable economic agricultural activity. Programme activities to be undertaken included re-surfacing, patching, cleaning, construction and improvement of drainage and general maintenance and improvement of existing farm and feeder roads. Prior to the implementation of the FRRP, farm roads were being managed by the National Works Agency[14].

Farm Roads Rehabilitation Programme - Budget and Expenditure

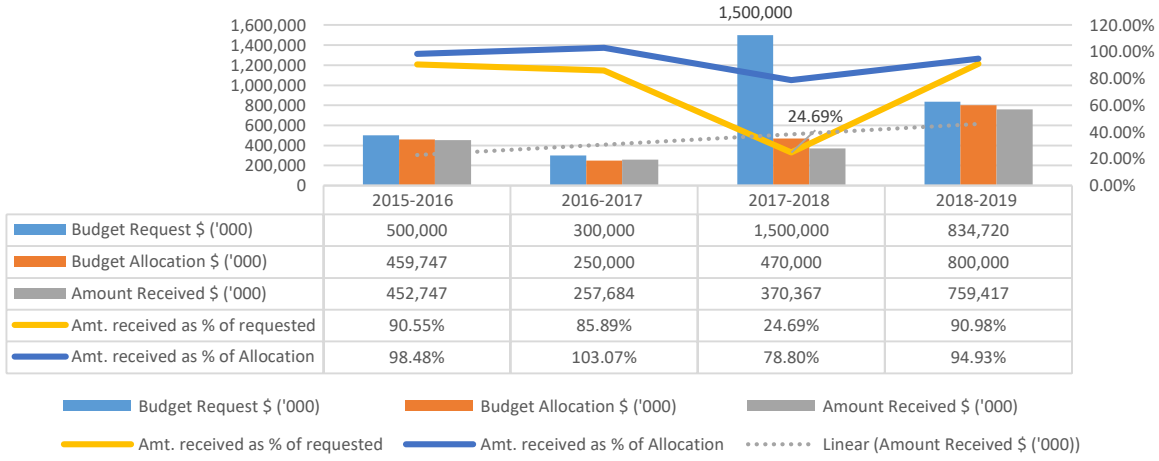
1.3 RADA requested $3.1 billion to finance road works projects under the FRRP for the period 2015 -2016 to 2018-2019, of which the Ministry of Finance and the Public Service (MoFPS) allocated $1.98 billion or 59 per cent [15]. RADA however, could not explain what accounted for the significant increase in the amount requested for 2017-18 ($1.5 billion) when compared to other years (**Table 1 & Figure 2**).

Table 1: Funding of RADA's Farm Roads Rehabilitation Programme

Years	Budget Request	Budget Allocation	*% Of Request*	Funds Received J$	*% Of Allocation*	*% Of Request*	Expenditure J$
2018-2019	**834,720,000**	800,000,000	*95.84%*	**759,416,960**	*94.93%*	*90.98%*	686,180,568
2017-2018	**1,500,000,000**	470,000,000	*31.33%*	**370,367,280**	*78.80%*	*24.69%*	421,097,751
2016-2017	**300,000,000**	250,000,000	*83.33%*	**257,683,670**	*103.07%*	*85.89%*	389,043,634
2015-2016	**500,000,000**	459,747,000	*91.95%*	**452,747,000**	*98.48%*	*90.55%*	228,417,144
TOTAL	**3,134,720,000**	**1,979,747,000**	***63.16%***	**1,840,214,910**	***92.95%***	***58.70%***	**1,724,739,098**

Source: RADA Financial data

Figure 2: Trend Analysis of RADA's Farm Roads Rehabilitation Programme



Source: AuGD's analysis of RADA Financial data

[14] NWA Annual Report: 2007/08 - the agency undertook to rehabilitate five (25) farm roads across the island; 2008/09 - The MTEU provided project management services for the Farm Road Programme undertaken over the fiscal year 2008/2009. During the fiscal year 2008/2009, this programme was active in eight (8) parishes and covered over fifty (50) roads in various farming communities; 2009/10 - The Jamaica Development Infrastructure Programme (JDIP), a US$400-million works programme geared at addressing bad road and infrastructure conditions across the island, irrespective of the category of these (Main, Parochial or Farm roads)

[15] Budget for farm roads is developed and allocated according to the extent of roads proposed and prioritized under the FRRP

Audit rationale, Objective, Scope and Methodology

1.4 We conducted a performance audit to assess whether the Government, through RADA, had in place an effective management system for the rehabilitation of Jamaica's farm road works. Further, the audit sought to determine if RADA was working to maximize adherence to excellence through the practice of quality standards in the rehabilitation/maintenance of roads and minimize the risk of poor quality of road works. Overall, the audit assessed factors deterring the effectiveness of the quality management assurance of the roads. **Appendix 1** outlines the key audit questions used to achieve the audit objective.

1.5 We planned and conducted our performance audit in accordance with the Government Auditing Standards, which are applicable to Performance Audit, our Performance Audit Manual (2017), as well as, standards issued by the International Organization of Supreme Audit Institutions (INTOSAI). Our assessment covered the period (2014-2015 and 2018-19) and our criteria developed accordingly (**Appendix 2**). Additionally, the audit reflected specifically on two themes namely Project Management and Procurement & Contract Management, which form part of the Auditor General's strategic priorities.

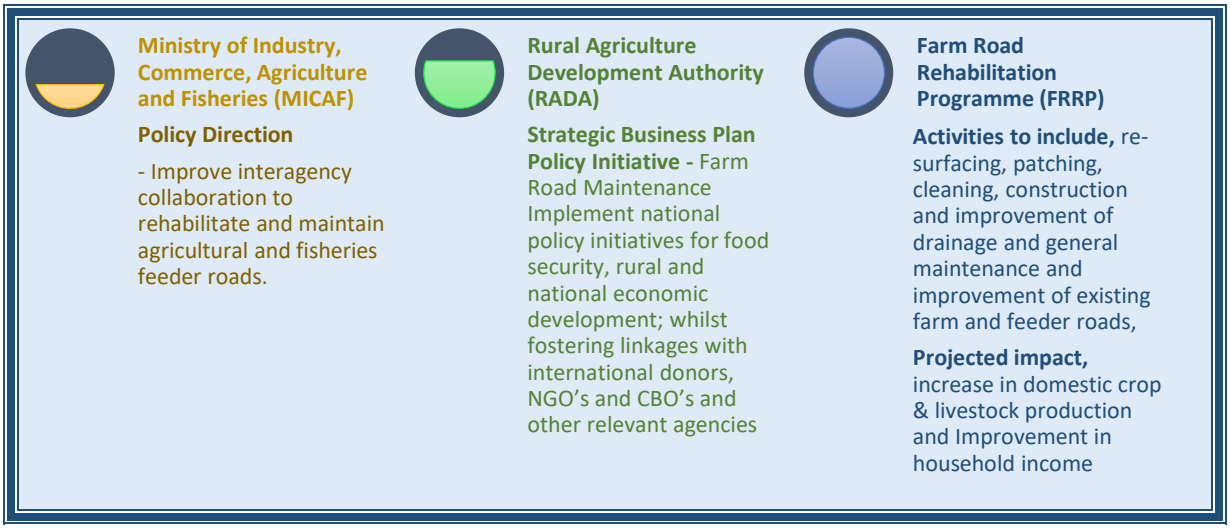
1.6 The audit methodology included collecting and reviewing RADA's planning and procurement documentation; reviewing and testing the contract payments; reviewing RADA's contract requirements, related deliverables, contract monitoring processes and documentation; conducting interviews with RADA's management and staff; reviewing statutes, rules, and RADA's policies and procedures; and performing selected tests and other procedures for the contract audited. Finally, site visits were conducted on three rehabilitated roads. The purpose of these visits was specifically to assess conditions of the road works, to gather evidence and opinions on quality issues as well as the impact on the farming communities. Our techniques also included surveys of users of selected farm roads to assess their level of satisfaction with maintenance of the roads.

1.7 This report was prepared in accordance with professional auditing standards and sought to inform Parliament and the public in their assessment of whether farm roads were being rehabilitated/maintained in line with quality standards. The audit findings, conclusions and recommendations do not constitute legal opinion and should not be considered as such.

Part 2 Strategic Planning, Quality Assurance Framework and Practices

2.1 According to RADA's SBPs for 2015 to 2020, farm road rehabilitation is aligned with MICAF's overall strategic objectives of increasing agricultural production and rural development (**Figure 3**).

Figure 3: Strategic alignment of farm road rehabilitation



Source: AuGD's compilation

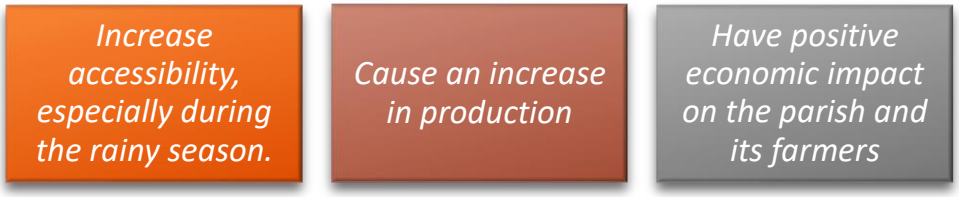
2.2 We expected that given its responsibility for managing farm roads island wide, RADA would have prepared and submitted to its portfolio Ministry, MICAF, appropriate plans[16] and annual budgets to support the maintenance of all farm roads (approximately 1,500km) in accordance with its mandate. Concurrently, that MICAF would ensure that funds allocated not, only covered the FRRP, that was established in October 2015, but all farm roads, given its role to the achievement of the Vision 2030 NDP. However, we observed that RADA only requested funds for the FRRP. RADA indicated that going forward their strategic plans would include a budget line item for the maintenance of farm roads.

2.3 In addition, although RADA revised its SBP on an annual basis, there was no consistent relationship between the budget outlined in the SBP and actual budget requested from the parent ministry for the FRRP. For example, whereas RADA's 2015-18 SBP indicated a budget of $75 million for the year 2015-16; RADA requested $500 million but did not indicate the reason for the difference. Nonetheless, RADA only received $452 million from MICAF. Similar inconsistencies were identified in subsequent programme years (**Appendix 3)**.

[16] Strategic, operational and procurement plans

2.4 RADA identified farm roads as those that link agricultural land areas to an existing road of equal or higher classification to enable the transportation of inputs to the farm and agriculture produce to the buyers and the market. However, RADA could not distinguish between farm roads under its jurisdiction and parochial roads managed by the municipal corporations. RADA acknowledged that its definition of farm roads was not only outdated and inadequate, but should be expanded to include roads of higher classification that connect farming communities and agro processing facilities to markets.

2.5 RADA developed criteria for the rehabilitation of Roads as well as priority listings of farm roads to be rehabilitated under the FRRP. However, not all criteria were explicit, measurable, or time-based (**Appendix 4**). RADA indicated that among other factors, for a road to be selected for rehabilitation it must:



However, RADA could not indicate how the stated criteria were utilised in determining the works projects, including allocation of funds to rehabilitate non-farm roads or how the economic impact would be measured. RADA advised that the lack of financial and human resources hampered the implementation of this activity but in the interim, sensitization sessions were initiated during its quarterly performance review meetings, in order to give senior management an appreciation of the importance of impact evaluation.

2.6 These challenges underscore the need for an effective inventory and data management system that can also be relied on for planning and budgeting activities, as well as link RADA's core functions to its objective to improve agricultural production and rural development.

Questionable decision process associated with priority lists

2.7 At our request, RADA provided its approved lists of farm roads prioritized for rehabilitation during the period 2017-18 and 2018-19, along with the reports of road works completed during the same period. An assessment of the priority lists for both years, revealed the inclusion of roads leading to RADA's parish offices[17]; one such road being the St. Mary Parish Office road, repaired at a cost of $5.6 million[18] **(Table 2).** We found no evidence where RADA consulted with the Municipal Corporations for possible cost sharing. RADA informed of their intention to formalise oversight arrangement of parochial roads that serve farming area by way of a Memorandum of Understanding with Municipal Corporations. However, RADA did not indicate a timeline for the implementation of this engagement.

[17] RADA Procurement Committee Minutes of meeting held August 17,2017 – 'It is to be noted that the St Ann and St Mary Parish Office roads will be repaired out of the amount allocated.'

[18] Roads leading to the St. Andrew and St. James Parish offices were also repaired at a cost of $1.8 and $2.8 respectively, in financial year 2016-2017

Table 2: Farm roads selected for rehabilitation

Period	Parish	Name of Road	Estimated cost of repairs	Km	Value of repairs	Km repaired
2017-18	St. Ann	Office Road	2,000,000.00	2	Not Repaired	0
2018-19	St. Mary	Office Road	5,000,000.00	2	$5,644,160.00	0.5

Source: RADA

2.8 Subsequent to our audit, RADA indicated that they intend to develop a system whereby roads would be, "*identified by location (GPS), distance, condition of surface, drainage, estimate of works to be done, number of farmers served, agricultural production in the area (type of enterprise, hectarage in use and output) and expected impact of the rehabilitation investment among other demographics".* However, RADA did not provide a timeframe in which this new process would be implemented.

Contract Management

2.9 RADA did not maintain a contract register, hence we had to rely on records provided for our review. We noted that 113 contracts were awarded over the period 2015-16 to 2018-19. These contracts amounted to $1.6 billion to rehabilitate 253 roads (**Appendix 5**). RADA indicated a desire to develop an in-house contract register to monitor the performance of contractors, but did not specify a timeframe in which this would be implemented. We reviewed 112 road rehabilitation contracts valued at $1.6 billion and noted that RADA used the local competitive bidding methodology (LCB) for only four contracts valued at $90.8 million. Conversely, RADA utilized the limited tender (LT) methodology for 75 contracts (67 per cent), valuing $1.04 billion. RADA was unable to indicate the basis on which contractors were pre-selected for invitation to bid on road rehabilitation contracts. Further, in six instances, RADA used the LT methodology to award contracts valuing $129.8 million, despite the procurement guidelines not being met, as each contract was above the applicable threshold of $20 million and as such should have been procured using the LCB methodology in accordance with the guidelines[19]. The use of LT in these instances, denied other qualified contractors the opportunity to participate in the procurement process.

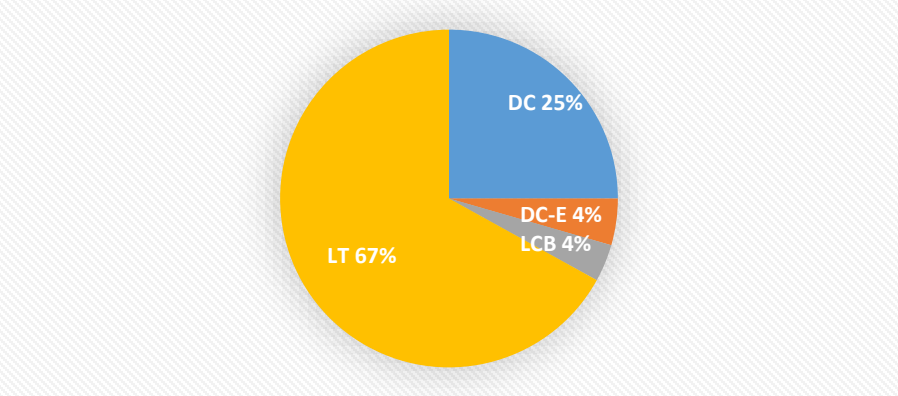
2.10 RADA also utilized the direct procurement and emergency methodologies for 33 contracts valuing $520.93 million although the allowable circumstances permitting the direct and emergency procurement methodologies were not met (**Figure 4**). For instance, in 25 of the 33 direct (DC) and emergency (DC-E) contracts valuing $401 million (77 per cent), RADA's justification for the use of these methodologies did not conform with the procurement guidelines. RADA cited the following justifications (**Appendix 6**):

- the need to expend the allocation for the farm road rehabilitation programme before the end of the financial year;
- roads difficult to traverse due to land slippage and deterioration of the road surface due to continuous rainfall over the past 4 to 6 months;
- selected contractor was already mobilised and engaged on similar projects in the parish or neighbouring parishes;

[19] As revised via MOFP circular No. 27 dated September 28, 2016, the Procurement Guidelines authorise the use of the limited tender methodology for contracts valued up to $20 million. Above this threshold (up to $150 million), local competitive bidding should be applied

- contractor possesses the necessary expertise and capability to perform the works satisfactorily and within budget.

Figure 4: Procurement Methodology used by RADA



Source: AuGD's compilation

2.11 In addition, review of tender Evaluation Reports (TER) for the 112 contracts revealed no evidence that RADA assessed bidders to determine whether they met the minimum qualifying criteria in compliance with the Instruction to Bidders and Procurement Guidelines[20]. We noted that RADA's due diligence process related to the selection of contractors was limited to the validity of the Tax Compliance Certificate (TCC) and National Contracts' Commission (NCC), and selection based on the lowest bid. RADA did not provide any evidence it conducted a prequalification exercise of potential bidders for limited tender contracts, in accordance with Section A7.3 of the Invitation to Bidders, which requires RADA to evaluate bids to determine compliance[21] with regulations, and includes assessment of experience in similar works, qualification and expertise of key management and technical personnel.

2.12 Further analysis of a sample of 83 road works projects disclosed other issues which can be seen as an indication of a quality control system problem:

High incidences of re-scoping/variation

2.13 In determining the bills of quantity, engineers specified the need for specific works, however we noted that when final payments were being made[22], there were changes that resulted in the reduction of critical components of the road, such as drainage and pavement. RADA's records showed that all these re-scoped projects were completed in line with the originally contracted sum, despite the removal of critical elements of the contract. In 53 instances, specification for drainage was either reduced or omitted (**Figure 5**). This, despite RADA's records[23] showing that the entity had identified that the quality of roadwork could be easily undone by rainfall due to inadequate drainage. Along with

[20] **Section 1.1.4 of the GOJ Revised Handbook of Public Sector Procurement Procedures - Vol 2 March 2014:** Limited Tender - Criteria for selecting contractors should include: (a) the nature of the good/service/works required; (b) the contractor's relevant experience; (c) the contractor's past performance record; and (d) the contractor's current financial and technical capacities.

[21] Valid Tax Compliance Certificate (TCC) and Valid NCC Certificate in General Road Works (Grade 1-3) or Road Maintenance (Grade 1-3)

[22] Approved by works engineer, director of engineer and CEO

[23] RADA National Board Minutes, February 8 2018

maintenance, proper drainage is critical to the longevity and increased value in the rehabilitation of roads.

Figure 5: Categories pavement and drainage show the highest frequency of change

Source: AuGD's analysis

2.14 Additionally, we expected variation orders to be issued to reflect changes in the scope[24] of the work, rather than other critical terms of the contract such as the location of the work. A change in location would generally constitute the formulation of a new contract. However, in nine instances, we found where variations related to a change in location, that is, repairs were performed on a road, other than the one named in the contract. Under these situations, we had no assurance that value for money was obtained as the 'variation orders' did not provide justifications for change or what assessments were done to determine cost and whether the works performed could have been done by another contractor engaged on a competitive basis. Further, we noted that of the nine roads that were substituted, four roads valuing $24.6M were on RADA's priority list of roads to be rehabilitated (**Table 3)**. This brings into question the veracity of the prioritization process and reiterates RADA's inability to demonstrate the basis on which roads on its priority list were selected.

Table 3: Roads substituted by way of variation orders

Period	Parish	Name of Road omitted	Name of Road Added	Repair Sum ($)	AuGD Comment
2017-18	St. Elizabeth	Giddy Hall to Hodges	Slipe Road	5,125,000	Roads omitted were on RADA's priority list
2017-18	Clarendon	Red hills Road	McLaren Road	7,420,000	
2018-19	St. Elizabeth	Leamington	Kilmarnock	6,003,900	
2018-19	Westmoreland	Pinnock to Shafton	Point to Ashton	6,003,900	
2017-18	St. Catherine	Bushy Park Road	Woodhall Land settlement	6,745,000	
2018-19	Trelawny	Mendez Town to Forest	Bow Road	7,230,902	
2017-18	Hanover	Smithfield (Cascade)	Hyde Castle	5,558,000	
2017-18	Hanover	Hyde Castle	Wall Pen to Cacoon Castle Square	5,558,000	
2018-19	St. Mary	Quebec Road	Comsee Road	1,037,500	
TOTAL				**50,682,202**	

Source: Compilation of RADA's data

[24] A variation is a change to the deliverable(s) under a contract caused by an increase or decrease in the scope of works to be performed, amount/type of goods to be supplied or services to be provided and shall be specific to the specific contract. (GOJ Handbook of Public Sector Procurement Procedures)

2.15 The absence of these pertinent information reinforces the need for greater vigilance in the drafting of contracts to ensure clarity. It also, weakens the accountability framework, thereby creating opportunities for corruption and heightens the risk of unscrupulous behaviour by contractors. This highlights the importance of maintaining a comprehensive roads inventory management system to keep track of works done, to hold the appropriate persons accountable for the management of road works.

2.16 There were also instances of the same contractors being used repeatedly as bidders and being awarded multiple packages (**Table 4**). Although our review of contracts did not uncover any instance of bias in the selection of contractors it raised concerns regarding partiality by ignoring other eligible contractors and contractors' ability to meet deadlines[25].

Table 4: Four Contractors received repeated contracts

	Contractor C	Contractor I	Contractor M	Contractor Y	Total
Value of Contracts	204,235,233	134,626,515	137,427,194	137,644,900	613,933,842
Percentage	**12%**	**8%**	**8%**	**8%**	**36%**
	C	**I**	**M**	**Y**	**Total**
No. of Contracts	14	9	10	9	42
Percentage	**12%**	**8%**	**9%**	**8%**	**37%**

Source: AuGD's analysis of RADA data

RADA did not have a proper road inventory management system

2.17 In a context where RADA is charged with maintaining the country's farm road network, we expected the entity to have a road inventory management system, consisting of a master list, that would capture at a minimum: name, location and condition of all farm roads, information necessary for the proper determination and prioritization of resources. However, RADA presented an un-dated list comprising 408 roads, totalling 960 km (64% of the estimated 1,500 km of farm roads island wide), from which roads are selected for rehabilitation. The list indicated the names of road, location, constituency, length of road, type of rehabilitation required, along with the estimated cost for repairs to be undertaken. The existence of a master list is important to determine the status of farm roads and provide assurance that all farm roads under RADA's purview, were factored in the selection process. By way of e-mail dated June 17, 2019 we were advised that:

RADA does not maintain a master list of all farm roads island wide. Master lists presented do not capture all farm roads but most of the farm roads that are requested to be fixed.

Amounts stated in the 'estimated cost to repair roads' column does not necessarily represent what RADA will spend to fix the road, but the cost to fix the entire length of road. What is spent, is what is stated in the contract to fix the road.

2.18 Further, as it relates to road projects we would expect to see: length and segment of road rehabilitated, name and details of contractor, drainage, surface type, materials specifications, source and date work was done. However, RADA did not maintain a system that captured this type of

[25] Similar sentiments were echoed by RADA's procurement committee (Procurement committee minutes dated October 25, 2017)

information in a comprehensive manner. Maintenance of such a system would facilitate the continuous tracking of information related to farm roads and prevent inconsistencies as demonstrated in the case below.

Case Study: Inconsistent records

RADA's records showed that the contract for repairing the Summer Hill road in St. Ann did not extend to fixing the drainage, resulting in erosion of repairs within three to four months after rehabilitation. Our review of the related Bill of Quantities, which detailed the scope of works to be done, revealed where provision for drainage spoke to cleaning existing earth drain and constructing kerb & channel at cost of $480,000 (**Appendix 8**).

Source: RADA National Board Minutes dated February 8, 2018 and Bill of Quantities.

RADA's data on FRRP performance was inconsistent

2.19 Based on the data provided by RADA (**Table 5**) the entity would have substantially exceeded its target for the three-year period 2015-16 to 2017-18 under the FRRP. However, the achievement must be viewed in a context where RADA frequently scoped down the road work projects at the same cost level, by excluding critical drains and culverts; key components of road infrastructure that could ensure its longevity. According to the data, RADA would have spent approximately $120 million less than budgeted to complete 103 km more roads than targeted. Concurrently, the average cost per kilometre to rehabilitate the roads was almost half the cost budgeted (47 per cent). These results challenged the veracity of RADA's budgeting process and/or the accuracy of RADA's database. Further, RADA repeatedly revised the data provided to us for the FRRP which also highlights the need for a proper functioning inventory data management system that will provide a level of assurance that the data generated to measure performance of the FRRP can be relied on for planning.

2.20 Further, RADA indicated that 13,871 farmers, 20.6 per cent more than targeted and 9,415 (more than twice the number of farmers targeted), benefited from the FRRP in the periods 2015-16 to 2017-18 and 2018-19 to 2020-21, respectively. However, RADA did not provide documentary evidence to support this achievement.

Table 5: FRRP performance over period 2015-2019

Farm Roads Rehabilitated	Target	Actual	*Variance*	Target	Actual	*Variance*	Target	Actual	Variance
	2015-16 to 2017-18			2018-19 to 2020-21			Cumulative (2015 to 2019)		
Roads (km)	151	254	**103**	124	52	**72**	275	306	**31**
Expenditure ($mn)	1,080.79	961	**119.79**	759.41	686.18		1,840.21	1,847.18	
Average cost/km ($mn)	7.16	3.78		6.12	13.19		**6.69**	**6.04**	

Areas of focus	2015-16 to 2017-18		2018-19 to 2020-21	
	Target	Actual	Target	Actual
Increase in domestic crop and livestock production	**5%**[26]	**3.6%**	**5%**[27]	**2.3%**
Improvement in household income	None	None	2%	NP

Source: RADA

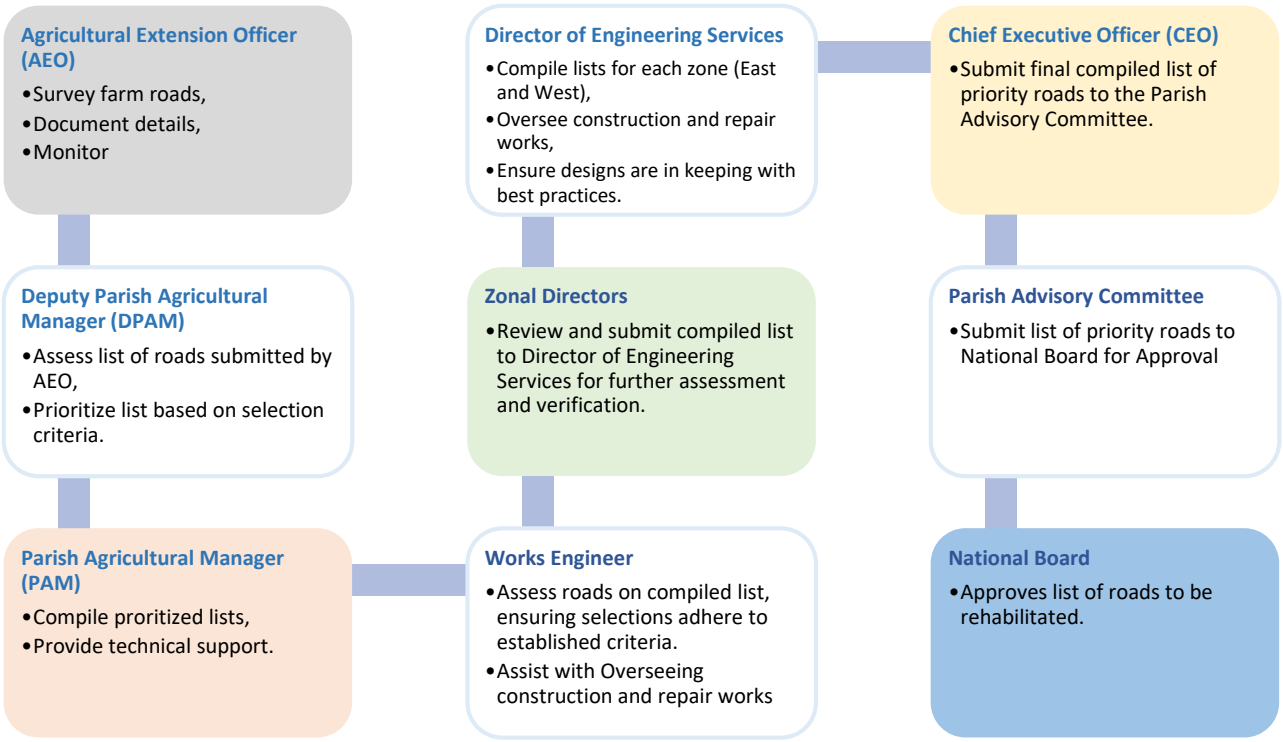
[26] By first quarter of 2016-17

[27] Within last quarter of Financial Year 2018/ 2019 to the second quarter of 2019/2020

Multiple roles played by staff, limited checks and balances for quality assurance

2.21 Responsibility for quality management of farm roads rehabilitation was shared by individuals in seven different positions within RADA's Engineering Unit (**Figure 6**).

Figure 6: Process Flow for RADA's management of farm roads rehabilitation



Source: AuGD's demonstration of RADA's process flow

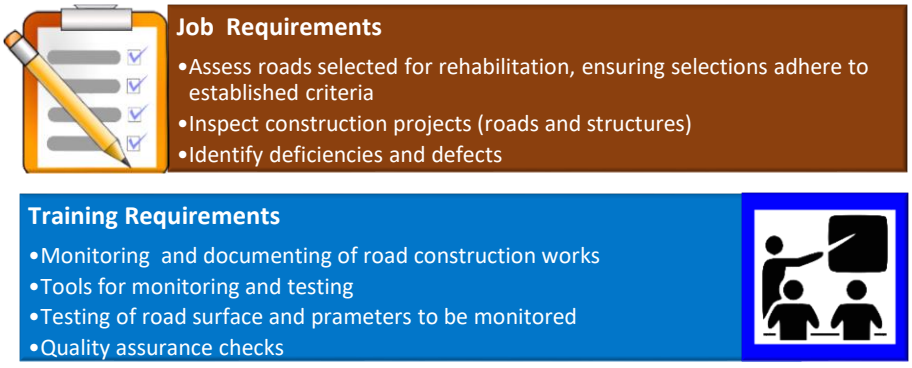
2.22 However, quality assurance is mainly controlled by RADA's four works engineers who played multiple roles in the quality assurance process and as such, bore the responsibility for the quality of the road works island wide. Before a contractor is hired, the works engineers are involved in the selection of roads to be rehabilitated; preparation of specifications used for developing the Bill of Quantities and to prepare invitation for bids; tendering process and recommendations to the contracts committee for award of contracts (**Figure 7**). These multiple roles limit effective check and balances to identify possible misappropriations.

Figure 7: Multiple tasks of Works Engineer

Source: AuGD's analysis of RADA information

2.23 Our review of RADA's employment records showed that the officers responsible for the road works met the required qualification and possessed the necessary experience. In addition, RADA identified and arranged training for four of its works engineers, to enhance their competence in carrying out the stated quality assurance procedures. These officers, along with other offices of the engineering services unit, participated in a two- day (2nd and 4th July, 2019) training session 'Assessing Quality and Monitoring of Farm Roads' at a cost of $49,600. The general feedback from the participants was that the training would assist when carrying out their assigned tasked, but that additional training would be required (**Figure 8**). To date, we found no evidence that the additional training has been provided.

Figure 8: Works Engineer – Training and Job requirements



Source: AuGD's depiction of RADA's information

Limited verification of Inspection and monitoring activities

2.24 RADA required its engineers to supervise the implementation of the works, once contractors were engaged. This included monitoring, providing technical advice, preparation of progress reports and certification of work carried out for payment. To facilitate the inspection process, RADA developed

a *Quality Guidelines* document, which it implemented in the 2018-2019 financial year (**Appendix 7**). The document contains key quality requirements for general work activities such as bushing, drainage, earthworks and pavement and breaks down the tasks for the construction phase of the roadwork project that should be performed. An inspection checklist was also created for use by the works engineers to verify whether each phase complied with required specifications in order to record compliance or non-compliance. Whereas RADA's works engineers possessed the requisite skillsets to monitor the road works and were usually on site to carry out quality checks, there was no notation on the checklists to indicate the types and frequency of testing, monitoring and inspection activities carried out during the road work, or whether the guidelines were actually followed. Consequently, we could not determine how RADA assured itself of adherence to these Guidelines.

Subsequent to our audit observation, RADA indicated it has taken steps to revise and update its management of the quality assurance framework which include, the establishment of a quality assurance management committee. The committee will, among other things, provide guidance for the implementation of a comprehensive quality assurance system.

2.25 We noted that RADA's own Internal Audit (IA) found instances during site inspections carried out in February 2018,[28] where roads that were rehabilitated in late 2017 had begun to show signs of deterioration, (e.g. potholes) in a short period (3-4 months) after rehabilitation (**Appendix 9)**. This supported our concern that RADA did not take steps to assure itself that contractor(s) rehabilitated roads to quality standards, through performance tests or inspections by works engineers throughout the process

RADA's Internal Audit Unit conducted assessment of repaired roads along with the related contracts and highlighted quality issues.

2.26 RADA stated that on completion of road projects, works engineers are required to inspect the road and related structures, identifying deficiencies and defects; however, the issue of the rapid deterioration of road works in a short period after rehabilitation, raises questions regarding the robustness of monitoring and inspection activities carried out during road works.

With RADA's four works engineers being required to carry out inspection, testing and evaluation of road works island wide; the effectiveness of the quality assurance is to a large extent determined by how well these works engineers had fulfilled their duties

2.27 We noted that the contractors identified by IA, were paid retention although there was no indication that the defects had been corrected or that RADA had sought redress. RADA's IA department recommended that management should exercise proper and frequent monitoring of the road work to ensure value for money. However, we found no evidence where RADA Management responded to the internal audit findings.

Rehabilitated roads partly eroded by poor drainage

2.28 Feedback from some farmers[29] during our site visits of three rehabilitated[30] roads (**Picture 1**), provided insight into how the rehabilitated roads affected the welfare of farmers, their families and by extension, the farming communities. Results of the survey showed that the rehabilitated roads made

[28] IA report dated March 5 2018

[29] Famers responded to a mini questionnaire during site visits of three roads rehabilitated during the period 2015 to 2019: Flamstead to Queenshythe – St. Ann; Cocoa Walk – St. Catherine and Spring Park – St Elizabeth, both of which were not on approved list

[30] Roads were repaired since the implementation of the Road Rehabilitation Programme

it easier for the farmers to get to and from their farms and buyers, benefitting their families, as well as reducing wear and tear on their vehicles. Despite these benefits, farmers, especially those in St. Elizabeth, identified the lack of proper drainage as continuing to have a significant impact on the recently repaired roads.

Picture 1: Sections of three roads rehabilitated under the FRRP

Section of rehabilitated road, Cocoa Walk (St. Catherine)

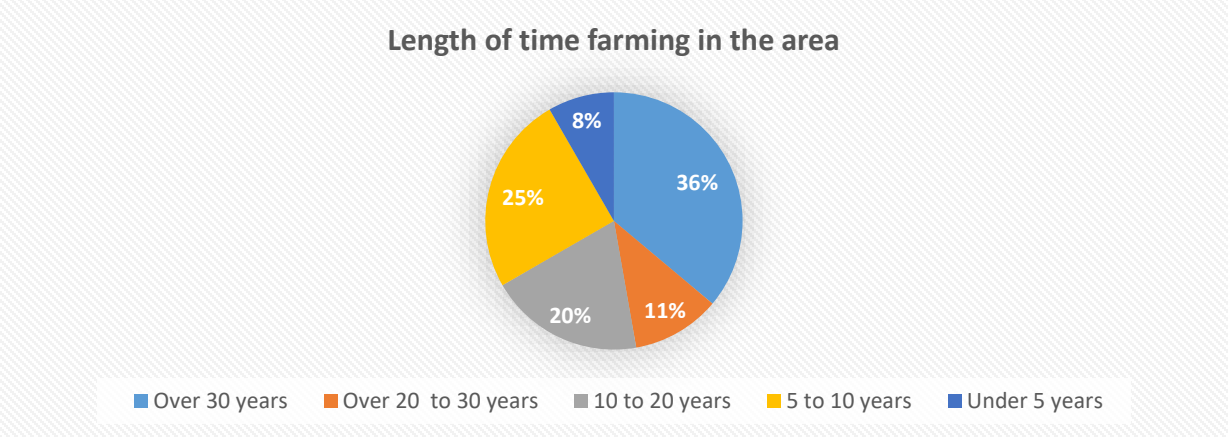
Section of rehabilitated road, Queenshythe (St. Ann)

Section of rehabilitated road, Spring Park (St. Elizabeth)

Source: AuGD's pictures while on site visits

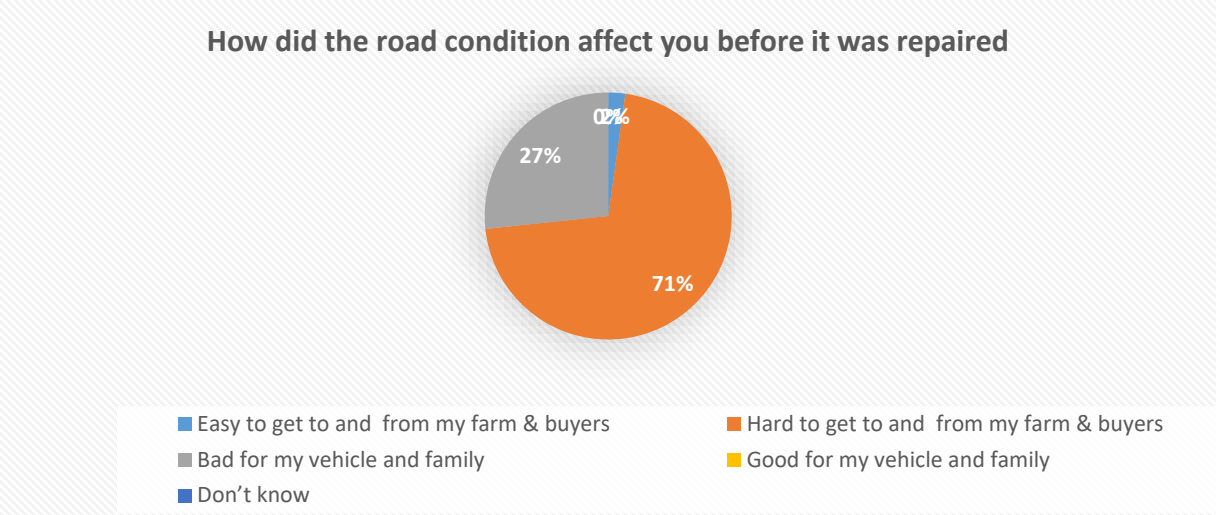
2.29 Our survey required farmers to indicate the length of time they had been farming in the area (**Figure 9**) in order to establish their knowledge of the area and the basis for their responses. **Figures 10 and 11** illustrate the farmers' responses to questions posed in the questionnaire.

Figure 9: Farming experience in the area



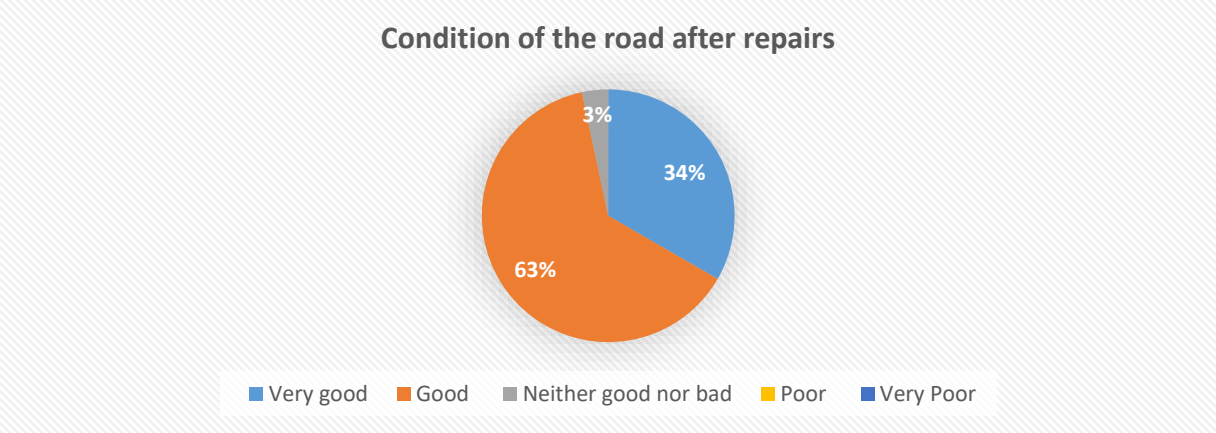
Source: AuGD's analysis

Figure 10: Farmers response to impact of poor road condition



Source: AuGD's analysis

Figure 11: Farmers response to road repairs



Source: AuGD analysis

Part 3 Recommendations

My Recommendations

- RADA needs to align its strategic plan to include routine, preventative and emergency repairs.
- RADA should consider implementing a road inventory management system for roads under its purview, to facilitate proper oversight and cost effective use of limited resources.
- RADA should review its current systems to ensure adherence to quality standards and guidelines, related to its road works.
- Greater synergy between all authorities involved in road work would facilitate opportunities for cooperation and achievement of value for money.
- Feedback mechanisms through stakeholder engagement could assist RADA in targeting road rehabilitation that most benefit farmers.
- Based on the criteria established by RADA for the selection of roads for rehabilitation, RADA should consider coordination with PIOJ and STATIN to measure the economic impact of road rehabilitation.

Appendices

Appendix 1: Audit Questions and Area of Focus

Key Question: Is there an effective and efficient management system for the rehabilitation of farm roads in Jamaica?

Level 2	Level 3	Area of Focus
1. Are there clear policy directives and established management frameworks?	1.1 Are there entity wide Management Objectives and Action Plans for the development of farm roads?	• Policy, Cabinet and or Portfolio Minister directives (Linkages between maintenance of farm roads and contribution to the national outcome) • Criteria/policy for selecting roads for repair
	1.2 Is there a systematic approach in the allocation of funding for farm road maintenance?	• Budget planning • Funds allocated on priority basis • Allocation and use of funds • Funds availability for farm roads rehabilitation
2. Is there a system to achieve quality assurance?	2.1 Are the roles and responsibilities of officers clearly defined regarding monitoring and oversight of road works?	• Roles and responsibilities • Available skillsets & requisite tools to efficiently perform job function • Staff training • Performance measured against expected output
	2.2 Is there a quality management system in place to assure the delivery of quality roads?	• Contract award process/Contractor suitability • Systems to monitor works in accordance with Standards/specifications
	2.3 Does the system address inspection, testing and evaluation of road works done?	• Quality Assurance (SOPs, Policy guidelines, monitoring and assessment/evaluation of contractors' performance)

Appendix 2: Audit criteria and source

Question	Criteria	Source
Are there entity wide Management Objectives and Action Plans for the development of farm roads?	MICAF should establish an institutional framework to support the implementation of GOJ's 2030 vision for farm roads	MICAF/RADA Strategic Business and Operational Plans. RADA's work programmes
Is there a systematic approach in the allocation of funds for farm road maintenance?	MoFPS should prioritize the allocation of resources to rehabilitate farm roads	GOJ's Estimates of Expenditure
Are the roles and responsibilities of officers clearly defined regarding monitoring and oversight of road works?	Officers assigned to manage road works should have the requisite skillset and knowledge to efficiently perform job function.	RADA's Human Resource Department
Is there a quality management system in place to assure the delivery of quality roads?	RADA should have mechanisms and guidelines for ensuring that roads are rehabilitated to quality	GOJ Procurement Guidelines
Does the system address inspection, testing and evaluation of road works done?	RADA should have guidelines for monitoring to facilitate the evaluation of road work	RADA's Standard Operating Procedure

Appendix 3: Comparison of budgets identified in strategic business plans and actual budget requests

Strategic Plans	Output	Performance Indicator	Target & Cost 15/16	Target & Cost 16/17	Target & Cost 17/18	Target & Cost 18/19	Target & Cost 19/20	Target & Cost 20/21	Target & Cost 21/22
2015-18	Maintenance	90% of target	$75M	$80M	$100M				
2016-20	of 50km of	met and		$250M	$250M	$300M	$300M		
2017-21	farm roads	completed			$1.5B	$1.5B	$1.6B	$1.6B	
2018-22	Farm roads	# of farm roads				50km	30km	30km	-
	rehabilitated	rehabilitated				$504M	$300M	$350M	
Budget Requests			$500M	$300M	$1.5B	$834.7M			
Funds Received			$452.7M	$257.7M	$370.4M	$759.4M			

Source: AuGD's compilation and analysis of RADA information

Appendix 4: RADA criteria for selecting roads for rehabilitation

- Roads must be from the more productive areas (areas with concentration of farmers and related agricultural activities);
- Roads must cause an increase production and have a positive economic impact on the parish;
- Roads selected must be in keeping with the overall domestic crop development plan with the relevant concentration of farmers in the parish;
- Roads that are poor and prohibit accessibility, especially during the rainy season;
- Estimated numbers of farmers to be impacted;
- High transportation costs to access farms (existing agricultural roads that are connected to well-maintained primary or secondary paved roads);

Source: Farm Road Rehabilitation Programme

Appendix 5: Contracts awarded by RADA over the period 2015-2016 to 2018-2019

No.	Name of Contractors	Name of Roads	Contract Sum	Procurement Methodology	Justification for Procurement Methodology
1	Contractor A	Rosell, Aeolus Valley to Lloyds	12,525,106	LT	
2	Contractor A	Penwood to Gordon Field, Buckingham to Lloyds	12,395,000	DC	X
3	Contractor A	Bois Content to Crawl Pass, Rose Hall (Sandy Bay)	15,410,000	LT	
4	Contractor A	White Hall to Spring Road, Sunny Hill to Thornton	14,645,000	LT	
5	Contractor B	Kensington to Amity Hall	8,823,000	DC	X
6	Contractor C	Delightful Road, Donegal Rd., Johnson Rd, Pisgah via School Rd, Bloomebury Road, Phantiland Rd	15,981,768	LT	
7	Contractor C	Top Hill to Hamsha, Rennals	13,069,024	LT	
8	Contractor C	West Bay Drive, Old Harbour St.	19,500,000	LT	
9	Contractor C	St. Ann Parish	19,691,100	LT	
10	Contractor C	Bushy Park Farm Road	10,100,590	DC	X
11	Contractor C	Halls Delight to Westphalia, Resource	14,039,800	DC-E	X
12	Contractor C	Knockalva, Cacoon Castle	11,991,675	LT	
13	Contractor C	Eden Road, Guinea Hill to Hampton	13,173,500	LT	
14	Contractor C	Four Roads, Bellevue Road, Brighton	19,941,400	LT	
15	Contractor C	Louisana Road, August Town, Spring Vale, Cow Gully	19,978,876	LT	
16	Contractor C	Spring Garden, South West, James Mt. to Pimento Valley, Rennal	14,174,000	LT	
17	Contractor C	Phantiland, North East, Slipe Road, Spring Park	20,843,500	LT	NC
18	Contractor C	Tankey Carisbrook,	6,000,000	Contract not provided	-
19	Contractor C	Wakefield	5,750,000	LT	
20	Contractor D	Leith Hall, Eastern, Buckingham to Font Hill	12,800,000	LT	
21	Contractor D	Spring Bank to Johnson Mt.	14,756,850	DC	
22	Contractor D	Bukingham to Font Hill	13,580,000	LT	
23	Contractor D	McKnie to Douglas Castle, Mahoe Hill	33,471,041	DC	X
24	Contractor E	Passley Garden LS, Chepstowe to Peters Hill	15,655,145	DC	X
25	Contractor E	St. Andrew Parish Office Compound	1,787,500	DC	X
26	Contractor E	Cowley Road, Lime Tree Garden, Retirement, Broad Leaf to Barnstaple	20,589,090	DC	X
27	Contractor E	Collington	8,477,400	DC	X
28	Contractor F	Canal, Heathfield to Wakefield, Lemon Ridge	18,427,500	LT	
29	Contractor F	Barking Lodge to Chapel Hill, Grossett Rd to Airy Castle	12,885,000	LT	
30	Contractor F	Retford, Wick War	11,699,400	LT	
31	Contractor G	Geddes Town to Fontabelle, Charlott Burge to 4H, Camberwell to Georges Hope	21,000,060	LCB	
32	Contractor H	Flamstead, Dublin Castle, Lime Tree Road to Towers Hill, Halls Delight to Peters	19,866,520	LT	
33	Contractor I	Decoy to Kellam, Western, Bell Hill, Western, Nutfield to Nickey, Central	18,959,500	LT	
34	Contractor I	Halls Delight, New Gardens	14,826,950	DC	
35	Contractor I	Spring Field to Golden Grove, Krawl to Trojag	14,095,805	DC	X
36	Contractor I	Iteboreal, Charlottenburgh, Fontabelle, Greenhood	25,713,260	DC	X
37	Contractor I	New Road	11,090,400	DC	X
38	Contractor I	Johnson to Cedar Valley	14,971,500	DC	X
39	Contractor I	Cocoa Walk Land Settlement	15,111,600	LT	
40	Contractor I	Pedro	7,490,000	DC	X
41	Contractor I	Waugh Hill, Bushy Park	12,367,500	LT	
42	Contractor J	Mason River to Sandy River, Garden wood to Retreat, Red Hills	21,553,000	LT	NC
43	Contractor J	Flower Hill to Morris Gate	8,413,500	LT	
44	Contractor J	Eden Vale, West Central, Content, East Central, John Common, South, Jackson Road South	22,616,000	LT	NC
45	Contractor J	Sommerset, Hermitage	13,037,500	LT	
46	Contractor J	Lennox, Lower Leighton	16,775,000	LT	
47	Contractor K	Johns Town to Needham Pen	6,100,000	DC	
48	Contractor L	Farmer's Height	5,308,860	LT	
49	Contractor M	Litchfield to Stetin, Mendez Town to Forest	14,461,804	LT	
50	Contractor M	Hendry Town Road, Bunthump to White Town Rd.	12,035,000	DC-E	
51	Contractor M	Ebony Park Agro Park, Mount Airy to Whitney	16,565,100	LT	

No.	Name of Contractors	Name of Roads	Contract Sum	Procurement Methodology	Justification for Procurement Methodology
52	Contractor M	Pike, Balm Flat (Pike)	15,289,000	LT	
53	Contractor M	Gamby to Joe Hut, Garridu	13,475,500	LT	
54	Contractor M	Pen Road, Durham Road	19,379,640	LT	
55	Contractor M	Dryland Road, Barton Wharf	7,891,000	LT	
56	Contractor M	Fabland Road, South	5,639,000	LT	
57	Contractor M	Lime Tree Garden, Plantain Walk Road	9,489,250	LT	
58	Contractor M	Dumfries to Corner Rd, Mafoota Hill to Redmond Hill, Spring Garden, Flower Hill Square to Rhoden Property	23,201,900	LT	NC
59	Contractor N	New Garden, Belair to Brondon Hill	11,820,000	LT	
60	Contractor N	Mt. Hybla, Iron River	13,052,575	LT	
61	Contractor O	Chester Castle to Knockalva, Shettlewood Farm Rd	9,666,290	LT	
62	Contractor O	Bowen Hill Road, Wiltshire Road	15,318,812	LT	
63	Contractor O	Pinnock to Shafton, Leamington	12,007,800	LT	
64	Contractor O	Kingloft to Stonehenge, Old Tyre Road	15,588,124	LT	
65	Contractor O	Johnson Road, Greenvalley to Bloomsbury, Donegal to Brighton	15,698,000	DC	X
66	Contractor O	Genus, Cabbage Valley	11,734,000	LT	
67	Contractor O	Back Street, Donegal to Frazer, Bluntas to Lewiston	17,601,000	LT	
68	Contractor P	Cove to York, Spring Vale, Bottom Delveland	13,304,000	LT	
69	Contractor P	Blackness Road, Mint, Bridge to Errin Piece	16,368,000	LT	
70	Contractor Q	Lincom to Content Mission Road, Settlement to Recovery, Fairfield to Centbernard	6,543,000	LT	
71	Contractor Q	Claverty Cottage	17,937,100	LT	
72	Contractor R	Woodland, Bingham Hill, Graywood to Mosley Hall	19,732,500	LT	
73	Contractor R	Bingham Hill Phase 2	6,476,750	DC	X
74	Contractor R	Summer Hill to Lewis, North West, Golden Spring to Cowley, Madrass, South West	17,566,700	LT	
75	Contractor R	Try See, Keiph to Well Road, Farmer's Height	18,083,525	DC-E	X
76	Contractor S	Virgin Valley to Yorkland	7,932,292	LT	
77	Contractor T	St. James Parking Office Compound	2,818,704	DC	X
78	Contractor U	Bull Dead, Frederick Piece , Marley to Canoe Valley, Banting Rd.	14,899,988	DC	
79	Contractor U	Pisgah to Ginger Grove, Genius to Redbank, Pike	21,189,319	DC	X
80	Contractor U	Mabole	31,418,410	DC	
81	Contractor U	Banting Road	11,117,447	DC	
82	Contractor V	Alvie, Scott Pass to St. Toolis	10,874,700	LT	
83	Contractor V	Big Pond to Devon Road, Brandon Hill Rd, Halifax Rd	16,237,680	LT	
84	Contractor V	Canoe Valley, Long Pond, Halifax to Bettany	21,266,060	LT	NC
85	Contractor V	Cornwall, Coker, Springvale Bottom, Cool retreat, New Market	22,234,079	DC	X
86	Contractor V	New Fine and Lumsden	1,114,067	LT	
87	Contractor W	Cold Spring, Prospect, Williams to Bird Mountain	16,113,250	LT	
88	Contractor W	John Rock, Cane wood to Epping Forrest	12,600,000	LT	
89	Contractor W	Greenvalley to Prospect, Shrewbury to Green Valley, Lacovia to Slip, Ridge to top Hill	21,535,000	LCB	
90	Contractor X	Islington to Windsor Forest, Pleasant Hill to Toms Hope	13,790,600	LT	
91	Contractor X	Fairfield, Content, Grantsfield	27,808,738	DC-E	X
92	Contractor Y	Crawford (Craighead)	9,993,890	LT	
93	Contractor Y	Ruinate,Kilmarnock Rd, Johnson Rd, Maybole Rd	12,000,000	LT	
94	Contractor Y	Alvie, St Toolis, Congo Town	20,324,478	LT	NC
95	Contractor Y	Morant Settlement, North Central, Bloomwell to Cabbage North West	11,400,000	LT	
96	Contractor Y	McLaren Gate, Western, Cacoon Castle, Eastern	16,774,800	LT	
97	Contractor Y	Crawford Road, North East	5,519,000	LT	
98	Contractor Y	Bernard Lodge, Ivy to Ebony Vale, Cocoa Walk, Corners to Friendship	24,141,106	LCB	
99	Contractor Y	Mount Zion to Lillyfield, Flamstead to Queenshythe, Clarkson to Campbell Land, Budhole Road	24,141,106	LCB	
100	Contractor Y	Park Mt, New River	13,350,520	LT	
101	Contractor Z	Porters Mountain, McNeil Road	19,197,285	LT	
102	Contractor Z	Cheswick, Providence Carisbrook	5,047,526	LT	

No.	Name of Contractors	Name of Roads	Contract Sum	Procurement Methodology	Justification for Procurement Methodology
103	Contractor Z	Slipe Rd, Shewsberry to Green Valley, Ridge Rd	10,044,310	LT	
104	Contractor Z	Dalfland to Mooreland Hill Road	4,802,600	LT	
105	Contractor (i)	Shaw Castle	14,911,950	DC	
106	Contractor (i)	Ducketts to Grange, Cruz Road, Dryland Road	20,585,291	DC	X
107	Contractor (i)	Roper /Catskin, Seven Rivers, Burnt Ground	30,755,088	DC	X
108	Contractor (i)	James and Burnt Ground	20,585,291	DC	X
109	Contractor (ii)	Petersfield, Brainerd to Platfield, Gibralter	15,934,492	DC-E	X
110	Contractor (ii)	Office Road, Quebec	12,610,660	LT	
111	Contractor (ii)	Egi Pen, Belfield Pen	13,951,000	LT	
112	Contractor (ii)	Stewart Mountain	9,988,500	LT	
113	Contractor (ii)	Hamilton Mountain, Huddles Field	9,990,318	LT	
			1,656,384,135		

X – No justification provided or justification provided did not meet the conditions specified by the Guidelines.
NC – Non-Compliant with GOJ procurement guidelines

Source: AuGD compilation and analysis of RADA data

Appendix 6: Assessment of Direct Contract (DC) and Direct Contract – Emergency (DC-E) methodologies used.

Name of Contractor	Parish	Name of Roads	Contract Sum	Procurement Methodology	Rationale for methodology used
A	St Thomas	Penwood to Gordon Field, Buckingham to Lloyds	12,395,000	DC	MOF instructed that the Allocation for the farm road rehabilitation programme must be expended before the end of the financial year. Roads difficult to traverse due to land slippage and deterioration of the road surface due to continuous rainfall over the past 4 to 6 months Selected contractor already mobilized in the area and working on similar projects. Contractor has necessary expertise and capabilities to perform the work satisfactory
B	St. James	Kensington to Amity Hall	8,823,000.00	DC	Contractor already mobilized in the area working on a similar project in the parish; RADA completed the necessary due diligence and is satisfied that the company has the necessary expertise and capabilities to perform the work satisfactorily; company is registered with the NCC and TCC up to date.
C	St. Andrew	Halls Delight to Westphalia, Resource	14,039,800	DC-E	Same as Contractor A
C	St. Catherine	Bushy Park Farm Road	10,100,590.40	DC	Same as Contractor B
D	Clarendon	McKnie to Douglas Castle, McLaren Road, Mahoe Hill	33,471,041.00	DC	Contractor completed work in the parish under the STU Project, on time and within budget; is registered with the NCC and TCC up to date; company is still mobilized in the parish.
E	St. Andrew	St. Andrew Parish Office Compound	1,787,500.00	DC	To provide improved access for staff members and the public at large
E	Portland	Passley Garden LS, Chepstowe to Peters Hill	15,655,145.00	DC	Same as Contractor B
E	St. Ann	Cowley Road, Lime Tree Garden, Retirement, Broad Leaf to Barnstaple	20,589,090.00	DC	Same as Contractor D
E	Clarendon	Collington	8,477,400.00	DC	Same as Contractor D
I	St. Catherine	Spring Field to Golden Grove, Krawl to Trojag	14,095,805	DC	Allocation for the farm road rehabilitation programme must be expended before the end of the financial year. Selected recently completed works on the JEEP Projects in parishes of Saint Catherine and Saint Mary satisfactorily and within budget) Registered with NCC in the categories of road maintenance and general road works
I	St. Mary	Iteboreal, Charlottenburgh, Fontabelle, Greenhood	25,713,260	DC	Same as Contractor I
i	St. James	Roper /Catskin, Seven Rivers, Burnt Ground	30,755,088	DC	Same as Contractor I
i	Hanover	James and Burnt Ground	20,585,291	DC	Same as Contractor I
I	St Catherine	Pedro	7,490,000.00	DC	Same as Contractor B
I	Westmoreland	Johnson to Cedar Valley	14,971,500.00	DC	Same as Contractor B
I	St. Catherine	New Road	11,995,830.00	DC	Same as Contractor B

Name of Contractor	Parish	Name of Roads	Contract Sum	Procurement Methodology	Rationale for methodology used
ii	St Mary	Petersfield, Brainerd to Platfield, Gibralter	15,934,492	DC-E	Same as Contractor A
O	St. Elizabeth	Johnson Road, Greenvalley to Bloomsbury, Donegal to Brighton	15,698,000.00	DC	Same as Contractor B
R	St. Ann	Try See, Keiph to Well Road, Farmer's Height	18,083,525	DC-E	Same as Contractor A
R	St. Ann	Bingham Hill Phase 2	6,476,750.00	DC	Same as Contractor B
T	St. James	St. James Parking Office Compound	2,818,704.00	DC	Same as Contractor B
U	St. Elizabeth	Pisgah to Ginger Grove, Genius to Redbank	21,189,319.32	DC	Same as Contractor D
V	St. Elizabeth	Cornwall, Coker, Springvale Bottom, Cool retreat, New Market	22,234,079.78	DC	Same as Contractor B
X	Portland	Fairfield, Content, Grantsfield	27,808,738	DC-E	Same as Contractor A
(i)	Westmoreland	Ducketts to Grange, Cruz Road	20,585,290.77	DC	Contractor recently completed work on the Jeep Project
25			**$401,774,239**		

Appendix 7: RADA'S quality guidelines (checklist)

Stage	
Bushing and Trimming of Banks	Is the road banks properly cleared up?
	Is there any debris on the roadside?
	Is there any bush and shrubbery cleaned?
	Is there any overhanging trees on the road side?
Drainage	Is the drainage properly sloped?
	Is the drains surface finished?
	Are the drains properly tied together?
Earthworks	Is the road a virgin (no construction was done prior)?
	Is soil suitable for compaction?
	Is the road proper shaped?
	Is the road surface level?
	Is the soft spots in the road filled properly?
	Is the road base properly shingled?
Pavement	Is road grade properly shape and shingled?
	Is the sub base properly compacted properly (surface smooth and hard)?
	Is the base properly compacted properly (surface smooth and hard)?
	Is the prime coat applied correctly is the surface consistent?
	Is the double surface done correctly "if you can use your foot to move the surface "?

Source: Farm Road Rehabilitation Programme

Appendix 8: Extract from Summer Hill to Lewis Bill of Quantities

Description	Unit	Quantity	Rate	Amount
Clean Existing Earth Drain	m	12.00	350	4,200
Construct Kerb & Channel Construct kerb and channel curved with 125mm x 250mm x 450mm size precast concrete kerb block bedded and jointed in cement and sand (1:3) mix mortar on mass concrete (2500 psi) foundation and 450mm wide channel 150mm thick concrete (2500 psi) mix including all necessary excavation and backfilling and load and cart away surplus material from site.	m	100.00	4800	480,000
Construct apron	m2			
Clean concrete ford	sum			
				484,200

Source: RADA

Appendix 9: Assessment of contracts associated with quality issues identified by RADA's Internal Audit department

Contractor	Road	RADA Internal Audit remarks on road condition observed during inspection	Contract Amount	Dates			
				Contract	Engineers sign off on work completed	Final payment to contractor	Internal Audit Report
Contractor I	**Knuttfield to Nickey** – St. Mary	Road surfaces particularly the compaction to pressure per square inch seemed not to have been a serious consideration as on too many occasions the sinks were noted along these roads - water was settling on the road instead of running to cross drain and that pot holes were developing -seemingly due to poor quality of the cement work.	5,725,000	October 02, 2017	December 11, 2017	December 14, 2017	March 5, 2018
Contractor R	**Summer Hill to Lewis** – St. Ann	Extensive erosion has taken place. Sections along road where drains and cross drains should have been constructed were totally eroded and the water created semblance of these features of its own. Several areas along road had impression of sinking during the rolling of the surface especially at edges	4,742,962	September 27, 2017	January 9, 2018	January 16, 2018	March 5, 2018

Source: RADA IA reports, payment vouchers

Acronyms and Abbreviations

CEO	Chief Executive Officer
DC	Direct Contracting
DC-E	Direct Contracting-Emergency
FIA	Foundation Federation Internationale de L 'Automobile (International Federation of Automobile)
FRRP	Farm Road Rehabilitation Programme
GDP	Gross Domestic Product
GPS	Global Positioning System
IA	Internal Audit
INTOSAI	International Organization of Supreme Audit Institutions
JDIP	The Jamaica Development Infrastructure Programme
JN	Jamaica National
LCB	Local Competitive Bidding
LT	Limited Tender
MICAF	Ministry of Industry, Commerce, Agriculture and Fisheries
MOFPS	Ministry of Finance and the Public Service
MTEU	Material Testing & Engineering Unit Laboratory -NWA
NCC	National Contracts Commission
NDP	National Development Plan
NWA	National Works Agency
PIC	Project Implementation Committee
PIOJ	Planning Institute of Jamaica
RADA	Rural Agricultural Development Authority
SBP	Strategic Business Plan
STATIN	Statistical Institute of Jamaica
TCC	Tax Compliance Certificate
TER	Tender Evaluation Report
UN	United Nations
UNICEF	United Nations International Children's Emergency Fund

Lists of Tables and Figures