

# **FORMULATION OF SUSTAINABLE ROAD MAINTENANCE POLICIES IN COUNTIES; A STUDY OF BOMET COUNTY.**

Adeline Cheptoo Nyole<sup>1</sup>

<sup>1</sup> County Government of Bomet, P.O. Box 19-20400, Bomet.

## **Abstract**

The 2016 Road Classification register has a total of 161,451.5 Km of classified roads in the country. Out of which 121,456.4 (75.2%) Km are classified as class D and below. These roads, together with all unclassified roads fall under the jurisdiction of County Governments. They form the majority of the road network within the country. Yet the counties get only 15% of the total budget for road maintenance.

This paper seeks to evaluate and understand the measures taken by County Governments in ensuring sustainable maintenance of their large road networks. All while keeping up with the economic and political demand to increase rural access index with a very small budget. Bomet County is formulating a road maintenance policy and will be used as a case study for the paper. Bomet County has a total road network of 7573.8Km both classified and unclassified. The National Road Agencies manage 534 Km while the County Government of Bomet has in its jurisdiction the rest of the road network a total of 7,039.8Km.

The paper will explore; the best practices like the incorporation of the Roads 2000 Strategy in order to reduce cost, increase efficiency and include the community especially the youth, women and people living with disabilities in road maintenance, the challenges that may face the county while trying to implement the policy and process through which the county plans to implement sustainable road maintenance projects, ensuring the inclusivity of the community.

The source of data will be from the County Government of Bomet department of Roads, Kenya Rural Roads Authority (Bomet Region), Kenya Roads Board (KRB), secondary data from various public and private institutions and reviews from stakeholders.

**Keywords:** Road Maintenance, Road Classification, Bomet County, Roads 2000 Strategy, Policy.

## **1 Introduction**

Sustainable development is described as development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Dernbach J. C., 2003; Stoddart, 2011). Sustainable infrastructure is a key enabler of economic and social development, as well as environmental sustainability. Road infrastructure has been devolved in Kenya with the County Governments (CGs) getting the lion's share at 75.2% of all classified roads and all unclassified roads. However, the CGs only get 15% of the total equitable share from the national government and the same percentage from the Conditional grant allocation Road Maintenance Levy Fund (RMLF).

These funds are not enough to maintain the existing road network and construct new roads. The largest percentage of roads under CGs jurisdiction are rural roads, mostly earth and gravel roads. These are seasonal weather roads and they require routine maintenance. Which comprises temporary works, conducted regularly with the aim of ensuring accessibility and safety of existing roads in the while preventing premature deterioration of the roads. It is therefore crucial for CGs to come up with a framework that will ensure road maintenance is carried out efficiently and effectively. This paper is a case study of Bomet County as the county is formulating such a policy.

## **2 Study Area.**

Bomet County is situated in the South Rift region in Kenya and covers a region of 2037.4 Km<sup>2</sup>. It borders four counties; Kericho to the North East, Nakuru to the East, Narok to the West and Nyamira to the South with a population of 875,689. The county has five sub counties; Sotik, Chepalungu, Bomet East, Bomet Central and Konoin, each with five wards giving a total of twenty-five. Bomet county has a road network of about 7573.8 km out of which 1996.5km is classified and 5577.3 is unclassified. The unclassified roads make up for 73.6% of the total road network while the classified roads make up for 26.4%. The county has 71km class B roads (3.5% of classified roads) are under the maintenance of KeNHA and about 463 km (23.2% of classified roads) of class C which are under maintenance by Kenya Urban Roads Authority (KURA) and the Kenya Rural Roads Authority (KeRRA). 82% of the classified and all the unclassified roads in Bomet county are earth and gravel. The main economic activity in the county is agriculture with the highland areas are rich in tea and the lowlands are conducive for dairy farming. These are perishable goods that require reliable daily transportation to processing facilities.

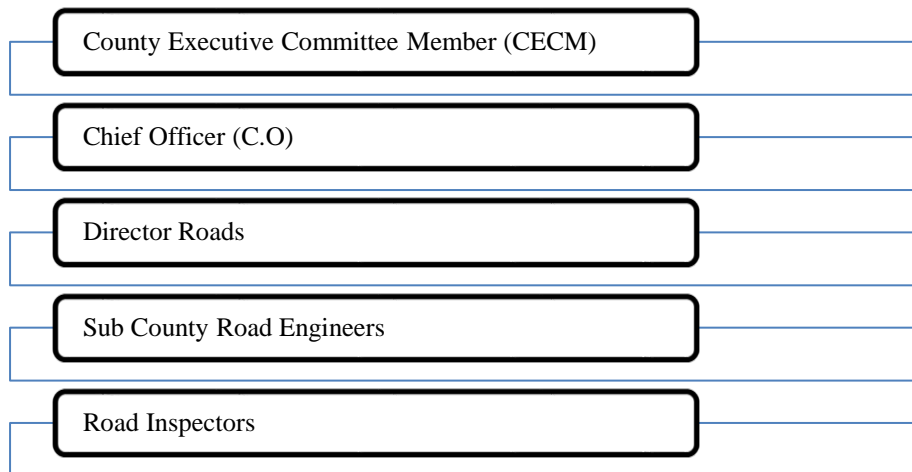
## **3 Materials and Methods used**

This paper was written through desk review of literature and data from the County Government of Bomet, Kenya Rural Roads Authority (Bomet Region), Kenya Roads Board and existing government policies like the Road 2000 Strategy and the Kenya Roads Bill. Review of Secondary Data by the author and views from stakeholders.

## 4 Results

### Situation Analysis

The Department of Roads is the Sector mandated by the CG to undertake the Construction and maintenance of roads through out the County. The County Executive Committee Member (CECM) is the head of department who is charged with the executive decision and strategic guidance, while the Chief Office (C.O) is the accounting officer and is in charge of the day to day running of the department. The director Roads is in charge of the technical team which comprises of Sub County Engineers and Road Inspectors.



### Existing Maintenance Framework

The County Government follows the standard project lifecycle from the initiation stage to the operationalization and Monitoring and evaluation of the project.

**Initiation;** this is the conceptualization stage of the project, where the CG gets information about the road network through Annual Road Inventory Condition Survey (ARICS). This is very crucial assessment and data collection. Inventory data describe the physical elements of the road system and road assets such as culverts and bridges. While condition data describes the condition of the roads and changes that have occurred over time giving us the rate of deterioration and the volume of intervention required. The CG does it every year.

**Prioritization;** from the data collection the CG will give priority to the roads that require routine maintenance. This is what will be used to prepare the Annual Road Work Plan (ARWP). There are certain factors that are taken into consideration during this phase. The work plan must be within the allocated budget and the CG has to ensure there is equitable distribution of development throughout the county. The roads are primarily gravel roads so the work plan constitutes of temporary works for routine maintenance; Bush clearing, grading, gravelling and drainage works. However, the emphasis is on gravelling works taking the bulk of the quantities. They have also incorporated some aspects of Road 2000 strategy for example environmental protection and HIV/AIDS prevention campaign.

**Procurement;** with the work plan in place the CG can procure the works. Bomet county uses Unit Price bills of quantities and the FIDIC red book as their standard contract document. The tender procedure is open tender and the county follows the Public Procurement and Disposal Act (PPDA 2015) regulations.

**Implementation;** The execution road works is the culmination of months of preparation and it is where the stakeholders are able to see output. The CG has adequate technical staff for

supervision of the works and the Cg takes necessary steps for quality assurance by taking their materials for testing as required by the specifications. Because of the nature of maintenance works the contracts are short, a period of three months thereafter the project deemed operational.

**Monitoring and Evaluation (M&E);** the CG has a weekly and monthly reporting. The quarterly reports are prepared for the Kenya Roads Board (KRB) for the RMLF grant and the controller of budget. There are internal audit teams whose mandate is to monitor all county projects. Additionally, KRB has mandatory mid-year and end year M&E to monitor the projects undertaken using the grant.

<b>FY YEAR</b>	<b>AMOUNT ALLOCATED (RMLF)</b>	<b>LENGTH OF ROAD MAINTAINED (Km)</b>
2017-2018	Ksh. 200,246,244	159.2
2018-2019	Ksh. 156,252,849	119.0
2019-2020	Ksh. 156,522,688	117.5

*Table 1 Bomet RMLF allocation and KM maintained from 2018-2020*

## 5 Discussion

In summary the County Government of Bomet has a functional framework in place for road maintenance that will serve as a basis for the road maintenance policy. However, there are challenges that they face not uniquely as Bomet County but all County Governments in general. There are some key provisions that have to be provided for in the policy for it to be sustainable.

There is inadequate funding for road maintenance as seen above. In the past three years through the RMLF grant the county has been able to maintain a total of 395.7 Km against a total of 7,039.8Km under the CGs jurisdiction. This translates to 5.6% in three years. At this pace the rate of maintenance will not keep up with the rate of deterioration of the roads leaving most rural roads in deplorable condition. The county development is also not adequate because the CGs have to share the 15% and further subdivide it into the different sectors of the counties. There is need for counties to lobby for the increase funding for road maintenance to match their very large road networks.

Incorporation of Road 2000 Strategy has not fully been embraced and implemented in the county government road maintenance. The main objectives of the strategy are; to develop and manage roads in a cost-effective and socially responsive manner, to enhance and sustain a national implementation capacity for development and management of roads and to ensure full integration of cross cutting issues. Being a political environment, the county will greatly benefit from providing an employment-based social protection mechanism for the marginalized population through integrating labour based methods in road maintenance. This will ensure inclusivity of the residents who would otherwise lack the capacity to do contracts that require skills and machinery. These include women, youth and people living with disabilities. It is also a cost-effective and sustainable way of maintaining roads as it makes use of the locally available resources. For the CG to fully realise the benefit of Road 2000 the staff and local contractors have to be trained on how to implement the projects in order to build capacity. Local resource-based approach should be used for recently constructed and maintained roads to increase the time before they would require routine or periodic maintenance.

Climate change is a reality we are facing as a globe. This is evident by the inclement weather experienced throughout the country. The county has moderate mean annual rainfall of between 1000 and 1250 mm per year over most of the county but the year 2020 saw the county experience 1247mm between January and July. The topography of the county is hilly in the highland areas and the soils in the lowland areas are very. This adversely affects the road network and longevity of roads that have just been maintained. The road designs should be designed to reflect this challenge by putting an emphasis on drainage works rather than graveling works to ensure the maintained roads last for a few years before the CG cycles back to maintain the same road.

The Road Inventory Condition Survey (RICS) is what is used to form the work plan and gives a true picture of the state of the roads within the jurisdiction of the county. For this reason, it is important to have a database for this information. The CG should adopt a Road Maintenance Management System (RMMS). This is a great tool for planning, prioritizing, appraising, monitoring and evaluating projects. Increasing efficiency as it can be designed to assist in specific decision-making processes on routine and periodic maintenance, contracting, monitoring and budgeting. The RMMS will make it easy for the CG to share information with other road agencies, donors and stakeholders with ease.

Public participation is now the right off every citizen that has been protected by the constitution. Active stakeholder involvement at every stage is important. The five levels of participation are Information, Consultation, Involvement, Collaboration and Empowerment. Communities need to be fully involved in road maintenance in order for them to participate and own the projects. Currently the CG is at the information stage. The goal is to involve the public even during inception and prioritization of roads. This creates transparency, accountability and creates value for money. There should also be involvement of the private sector. Bomet County is the largest tea grower in the country. There are many private factories who are also road users. They should be involved in its maintenance.

## 6. Conclusions

The importance of road maintenance cannot be overemphasized. Rural development is heavily dependent on the rural roads which are largely under the jurisdiction of County Governments. For the maintenance to be effectual and sustainable there is a need to put systems in place. A road maintenance policy that can be easily adopted and sustained is an important tool in the system. For County government to execute the policies and maintain roads effectively there needs to be;

- a) Capacity building through training of the staff who will be involved in the planning, designing and implementing the maintenance projects. Especially in the Road 2000 strategy.
- b) Civic education for the community to embrace local resource-based methods and participate in the maintenance of their road network.
- c) Political goodwill from the leaders for them to adopt the policy and champion road maintenance as a key driver of socio-economic development.

## Acknowledgement

I am grateful to my colleagues in the Department of Roads in the County Government of Bomet for the continued support and to Eng. Irungu Gitimu for the encouragement to write this paper.

## References

1. "Draft policy on aligning the roads sub-sector with the constitution", September (2012), Republic of Kenya.
2. Author, Rachel Emas.,: The concept of sustainable development; definition and defining principles.,
3. [https://www.kcsap.go.ke/wp-content/uploads/2019/02/Bomet\\_Climate\\_Risk\\_Profile\\_Final.pdf](https://www.kcsap.go.ke/wp-content/uploads/2019/02/Bomet_Climate_Risk_Profile_Final.pdf)
4. "Roads 2000 strategic plan 2013 – 2017", Republic of Kenya.
5. Kenya Roads Bill 2017
6. Public Roads and roads access act cap 399
7. County allocation revenue bill 2017,2018,2019.
8. [www.Bomet.go.ke](http://www.Bomet.go.ke)
9. [www.krb.go.ke](http://www.krb.go.ke)
10. [Kabindra K. Shrestha](#); [Prasen P. Shrestha](#), [Thomas K. Kandie](#), A Road Maintenance Management Tool for Rural Roads in Kenya