IMPACT EVALUATION OF RWANDA FEEDER ROADS PROGRAMME
 Intervention Summary

- FEEDER ROADS:
  - Unpaved rural roads that link agricultural productivity areas with either district roads or national roads

- CURRENT STATUS:
  - Feeder roads are of low quality with unpaved surface
  - Irregular width from 4m to 6m
  - No drainage structures
Planned intervention

- **TREATMENT:**
  - Widening the road to 6m roadway
  - Resurfacing with lateritic gravel
  - Constructing drainage structures
Evaluation questions

- Do rural feeder roads:
  - Improve access to markets?
  - Improve economic opportunities for farmers?
  - Improve social services in rural communities?
Selection of upgraded roads:

- Ministry of Agriculture and the Districts, NPV, social and environmental impact will be used to rank road projects by order of priority in each District
- Costs will determine how many roads can be actually upgraded
- Control group will be road projects that will not be upgraded but were high priority
### Selection Method of upgraded roads:

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Cost of Road</th>
<th>Cumulative Cost</th>
<th>Total budget</th>
<th>Status</th>
</tr>
</thead>
<tbody>
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<td>3</td>
<td>9</td>
<td>Treated</td>
</tr>
<tr>
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<tr>
<td>6</td>
<td>4</td>
<td>23</td>
<td>9</td>
<td>Control</td>
</tr>
</tbody>
</table>
Evaluation Design

- Impact Evaluation Method: Difference-in-Difference

![Diagram showing baseline, follow-up, and time with measurable indicator and causal impact](image)
Impact evaluation

- Output indicators:
  - Kilometers upgraded
  - Improvement in IRI (international roughness index)
  - Change in average speed
Impact Evaluation

- Impact indicators (2 year impacts)
  - Traffic volume on roads (Vehicle, bicycles, motorbikes)
  - Property values (price per hectare of farmland)
  - Input prices in village (fertilizer, seeds, food, etc.)
  - Output prices and quantities produced in village (measured in the village collection center and at the farmer level)
Impact Evaluation

- Impact indicators (2 year impacts)
  - Farmer level: per person consumption of goods, variety of goods consumed, durable goods, labor income
  - Public transportation routes and frequency
  - Access and increased use of social facilities (Schools, health centers, recreational centers, etc...)

DIME