



Potential of Labour –Intensive Construction’ sustainability for skills development in Bergville

**A case at road upgrading project in
Ebusingatha area -Bergville**

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PRESENTATION OUT LINE

- A. BACKGROUND**
- B. INTRODUCTION**
- C. OBJECTIVES**
- D. BENEFITS OF LABOUR INTENSIVE
METHODS/APPROPRIATE TECHNOLOGY**
- E. ROAD IMPROVEMENT WORKS, SKILLS
DEVELOPMENT AND TRANSFER**
- F. ACTIVITIES ON PROGRESS**
- G. OBSERVATIONS**



BACKGROUND

- ❑ Persistent high level of unemployment in South Africa
- ❑ Expanded Public Works Programme (EPWP) was introduced in 2004 to address persistent high levels of unemployment in South Africa and contribute to poverty reduction contributes to address the triad national challenges of unemployment, inequality and poverty.
- ❑ The KZN Department of Transport is one of the implementing bodies that champion Labour-intensive interventions.

- ❑ About 70 percent of the declared road network of KwaZulu-Natal province including the one in research area is of gravel surface which required to be properly maintained.

- ❑ There is scarcity of suitable gravel source, in many parts of the province resulting in high re-graveling costs, due to long haul distances.



INTRODUCTION

- ❑ Ebusingatha Road is nestled in the UKhahlamba Municipality in the Bergville which is situated in the foot hills of the Drakensberg Mountains, in KZN province of South Africa.
- ❑ The majority of community members who live in Bergville area are faced by abject poverty, with 73% of the population living below the poverty line.
- ❑ The bulk of the road network in Bergville area is gravel surfaced requiring frequent maintenance to allow the smooth flow of traffic.
- ❑ The main challenge in the area is the progressively being depleted naturally occurring gravel deposit used for occasional resurfacing.



OBJECTIVES

- to discuss utilization of labour-intensive methods in road infrastructure programs including upgrading works its advantages in terms of skills development and transfer to community involved in the works.
- To examine the sustainability skills benefits of labour-intensive construction using a labour intensive approach on specific road in the Bergville area



Why seal or pave gravel roads?

- Reduce dust pollution generated by vehicles
- Mitigates Environmental and social impacts
- Reduce health impacts/eye and respiratory related hazards
- Reduced reliance on road construction material
- Relatively lower vehicle operating costs
- No interruption of traffic in wet seasons
- Reduced impact on agricultural yields and maintenance of buildings/built up areas.
- Skills transfer/future maintenance and other projects of similar nature



Typical pavement types

- Amenable for the application of Labour-intensive methods
- Have potential to generate employment and skills transfer
 - Dry/wet macadam base
 - Emulsion bound base; foamed bitumen gravel;
 - Emulsion treated gravel; or slurry bound or composite
 - Bitumen bound surface treatment (cold)
 - Otta seal
 - Sand seal
 - Slurry seal
 - In-situ concrete roads (Ultrathin concrete).
 - Segmented paving blocks
 - Cobble stone construction/eg-taxi ranks
 - Brick pavements
 - Dressed stone pavements



Type of skills based on typical activities carried out at Ebusingatha road construction

<i>List of Activities</i>	<i>Skills required/applied</i>
Formation	Setting out, Slotting, leveling & Compaction
Side Drainage	Setting out & using of profile
Ultra-Thin Concrete Reinforce Pavement	Shuttering, Steel fixing, concrete mixing, Concrete laying, compaction, slump test and concrete cube preparations
Pipe laying	Setting out, Opening trench, Laying and compaction.
Headwall & Apron Slab	Setting Out & Building Skills.
Stone Pitching	Setting Out & Building Skills.
G4(Sub-course layer)	Setting out, Slotting, Leveling, processing, Compaction & Slushing
Prime application	Applying rate
Gabion Construction	Stone collection, Basket fixing & stone laying
Slurry Seal Batching & Construction	Shuttering, Mixing, Laying, leveling & compaction



Road surfacing and drainage works under progress





- Create employment
- Encourage participation of women, youth and disabilities
- Cash injected into local community in the form of wages
- Do not require high level skills
- Instrumental in skills development and transfer to local community members





BENEFITS OF EBUSINGATHA ROAD LABOUR- INTENSIVE IMPROVEMENTS

- The completed section of Ultra Thin Reinforcement Concrete Pavement that was done purely labour intensive.
- It provide access even in inclement weather and it a work of local community.





OBSERVATIONS MADE AT THE ON-GOING EBUSINGATHA ROAD PROJECT

- ❑ One of benefits of labour intensive road improvement is skills transfer to local community members who take part in the initiative.
- ❑ Labour-Intensive infrastructure improvement methods strengthen the socio economic capacity of populations living in the vicinity of the project.
- ❑ The majority of community members who live in Bergville area that were faced by abject poverty got temporary employment and acquire new skills in various fields of road construction.
- ❑ Training provided for each operation assisting in building up of skills and empowerment by allowing them to take part in several activities related to road building, drainage structures, construction of foundations (brick, concrete blocks or masonry walls etc.
- ❑ Skill is something once received no one can take it away from, it sustainable.
- ❑ Community that get a chance to work on this kind of projects can utilize the skilled obtained on other projects of similar nature.