



global Transport Knowledge Partnership

**Transport Power Points:
10-minute briefing series**

Rural Transport & Agriculture Synergies

Rural Transport



The Rationale

There is great potential for the Rural Transport and Agricultural sectors to take advantage of their natural synergies to:-

- **Improve basic road and services access**
- **Ensure year round transportation**
- **Reduce unit transport costs**
- **Ensure timely crop evacuation**
- **Facilitate rural growth**





The Synergies

- **Need for Basic Access**
- **Need for Road Maintenance**
- **Use of labour resources**
- **Use of tractor resources**
- **Development of viable rural enterprises**
- **Use of intermediate equipment**
- **Labour Based Spot Improvements**
- **Low Cost Small Structures**



Basic Access – Earth Roads

- **Basic Access can be achieved with low-cost initiatives to ensure reliable, all-season passability for the local prevailing transport means.**
- **In many locations the natural earth surface can provide a motorable Basic Access surface, if it is shaped to shed rain water to each side, maintained, simple culverts or drifts are built where water needs to cross the road, and side drain water is effectively dispersed through frequent turn outs (if possible every 20 metres).**
- **Certain ‘problem’ sections of the route may require low cost, more durable, ‘spot improvements’.**





Road Maintenance

- Once rehabilitated to maintainable standard, unpaved roads can be kept in good condition by ***preventive*** maintenance using low cost, small agricultural tractor - light towed grader and local labour technologies
- Suitable for local contractors or community initiatives
- Sustainable maintenance arrangements are crucial





Use of Labour Resources

- **Local labour can be productively employed on roads to supplement their subsistence farm livelihoods**
- **Well planned and quality controlled labour roadworks can be durable and competitive with machine based methods, bringing economic and social benefits**
- **There are synergies of labour skills between road, water storage and supply, irrigation and erosion control works**
- **Social, cultural, consultation and equitable engagement issues are crucial**



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Tractor Resources & Rural Enterprises

- **Agricultural Tractors are the simplest and cheapest mobile flexible power source**
- **There are many roadworks applications for tractors that can boost cross-sector utilization and profitability**

Multi-sector rural service enterprises should be promoted and supported

<p>ROADS (paved and unpaved)</p>	<p>Gravel Haulage, Water Collection Haulage and Distribution, Personnel Transport, Bridge & Culvert Materials Haulage, Fuel Haulage, Plant Haulage (low loader trailer or semi-trailer), Towed Grading (heavy and light), Dragging, Towed Compaction (rubber tyred/steel roller), Earthworks Excavation & Haulage (towed scraper), Excavation (back hoe/ripper/scarifier/compressor & pneumatic tools), Loading (front shovel), Grass Cutting, Spreading Materials, Bitumen Sealing (towed bitumen/emulsion heater/sprayer), Stone crushing (towed crusher and screens), Chippings Transport, Recycling pavement (milling attachment), Brushing/Sweeping, Mixing (disc harrow), Slurry Sealing (mixer and spreader), Premix Patching Material Production, Temporary Accommodation (towed caravan/workshop)</p>
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Use of Intermediate Equipment

- Introduction of low cost, locally made or fabricated transport equipment can lower transportation costs for the agricultural and roads sectors
- Suitable support, regulatory & fiscal framework required



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Labour-Based Spot Improvements

Problem sections on earth roads (e.g. weak soil/dust/hill/swamp) should be tackled using a wide range of proven low cost, labour based spot improvement options and low cost structures.



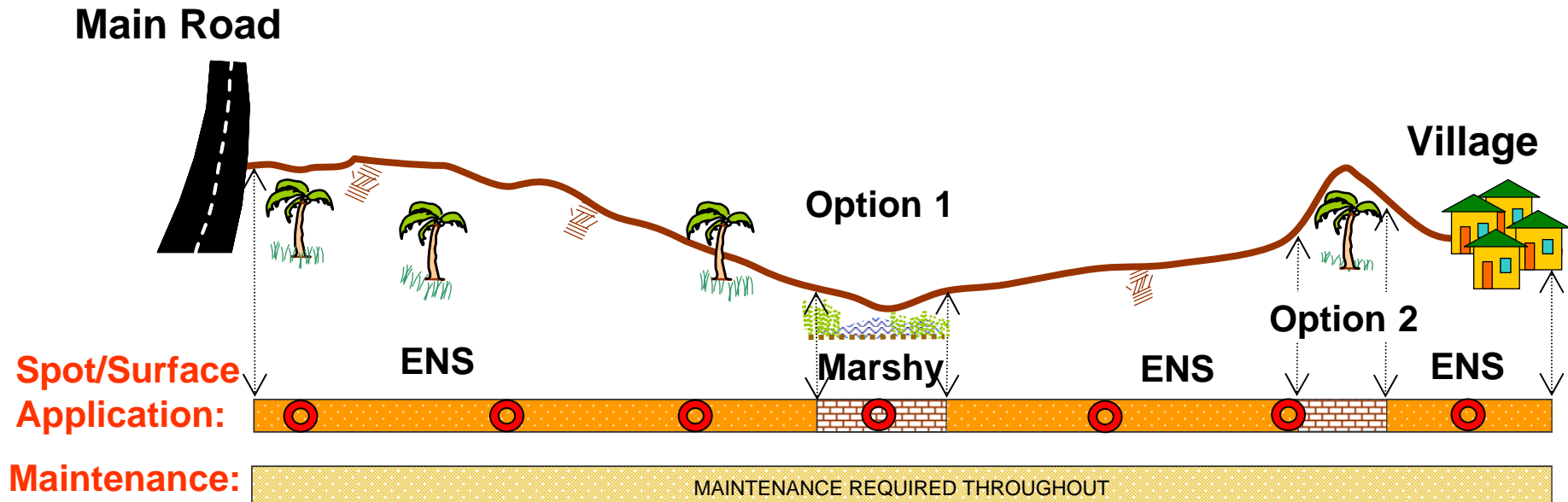
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






Basic Access

Earth Road & Spot Improvement Strategy



- Low Cost Structure or culvert 
- Surface Options 
- Engineered Natural Surface (ENS)  (Earth Road)
- Maintenance 



Low Cost Structures

- Local labour can be used to construct durable, low cost structures for the **Agriculture** and **Roads** sectors



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Further Information

There are two important dissemination forums supporting Low Traffic Volume Rural Roads (LVRR) knowledge:



global Transport Knowledge Partnership:

www.gtkp.com

SEACAP Southeast Asia Community Access Partnership:

www.seacap-info.org

Further information on Rural Transport can be obtained from the above websites and the gTKP Rural Transport Theme Champion:
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