

# ***Specific Maintenance Groups (SMGs)***

***Presentation for RAP3 Senior Technical  
Management Course***

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# 1. Introduction & Background

## Ambitions:

- ❑ Small-scale pilot of new approach for heavier 'Specific Maintenance',
- ❑ An alternative to current UC / Small Contractor approaches,
- ❑ Launch under 'Direct Funding' modality
- ❑ Build on KEPTA experiences,
- ❑ Test in ACH, DAD, DAI and JUM

What is 'Specific Maintenance' and why SMGs?



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## 2. Outline Plan for Piloting

- ❖ Briefing Note 47: Specific Maintenance Groups (Nov. 2015)
- ❖ GBP 120,000 (NRs 18 million) total in IY3 Plan (continue in Extension)
- ❖ Trial Districts: ACH, DAI, DOT, & JUM
- ❖ DRCN Roads
  - Typically 3 x 10km roads / District (120 km total)
  - Group of 10-20 persons / 5 km section
  - 250-350 persons likely
  - 2-4 months work (per annum)

# **SPECIFIC MAINTENANCE & PLANNING**



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# 3. Specific Maintenance - General

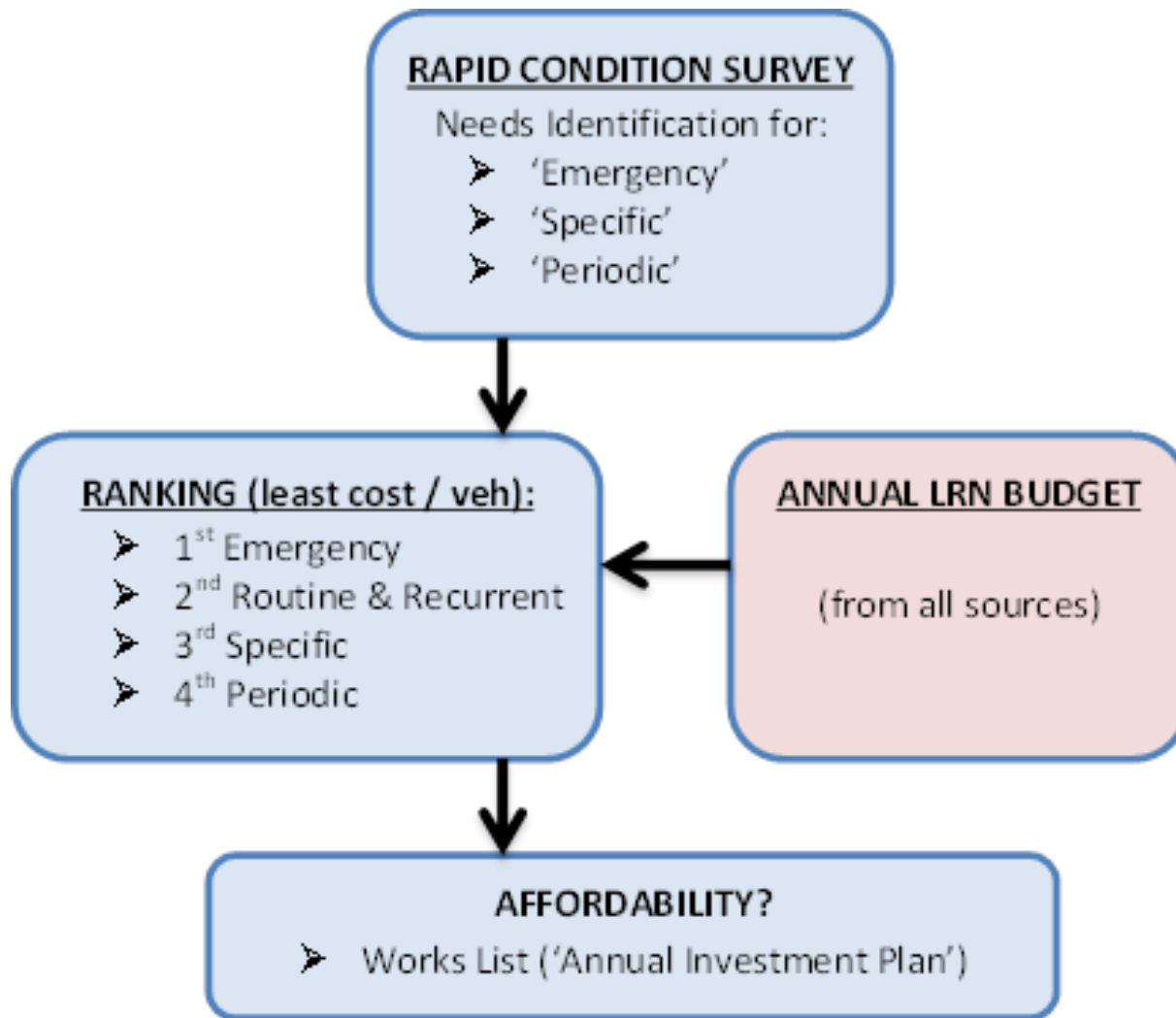
- ❖ Scope: *'To treat short critical sections in order to reduce damage and ensure continued access in the future'*
- ❖ Average cost: <NPR 300,000/km (however 2015/16 ARAMPs were far less)
- ❖ Can be split into two categories:
  - ❑ Requiring machine (e.g. compaction, heavy rock breaking, bitumen works, etc.)
  - ❑ Labour Based / Intensive (e.g. gabions, soling)

## 4. Specific Maintenance - Detail

- ❖ 'Maintenance' i.e. restoring original access (e.g. permanent restoration at 'emergency' sites),
- ❖ 'Spot treatments' i.e. localised repairs at a critical location (e.g. a stone causeway missed at a soft kholsi)
- ❖ Identify by finding the most critical access points on a road i.e. 'where it blocks first' (talk to the locals)
- ❖ N.B. might be redundant once road comes under full 'improvement' – use sparingly!



# 5. ARAMP Planning



# 6. ARAMP Guideline Annex 1

Activity	Specific Maintenance
<b>Dry stone pitching*</b>	<300 m <sup>2</sup> per kilometre of road
(Re)Gravelling	<300 m <sup>2</sup> per kilometre of road
(Re)Sealing	<300 m <sup>2</sup> per kilometre of road
Surface dressing/Otta seal	<300 m <sup>2</sup> per kilometre of road
Asphalt concrete	- N/A
Rehabilitation	- N/A
Widening	- N/A
Realignment (e.g. steep gradient)	- N/A
Raising of embankment	<100 m <sup>3</sup> per kilometre of road
<b>Dry stone retaining wall*</b>	<500 m <sup>3</sup> per wall, <50 m <sup>3</sup> per kilometre of road
<b>Gabion retaining wall*</b>	<500 m <sup>3</sup> per wall, <50 m <sup>3</sup> per kilometre of road
<b>Masonry retaining wall*</b>	-
<b>Earthen side drains*</b>	<100 m per kilometre of road
<b>Lined side drains*</b>	<50m per kilometre of road
<b>Repairs to the drainage system*</b>	Repairs to existing drainage system, <25 m <sup>3</sup> per kilometre of road
<b>Stone-paved drifts/causeways*</b>	<200 m <sup>2</sup> per kilometre of road
CC causeway	- N/A
Pipe culvert	<10 m per kilometre of road
Slab culvert	- N/A
Bridge	- N/A

**Notes:** \* suitable for labour-based works i.e. UC / SMG

# 7. Maintenance Coverage

Category	Typical Cost (NRs / km /yr)	Definition	Approach
Emergency	NRs 25,000 (GBP 160)	Re-opening after <u>sudden</u> blockage (e.g. clearing landslide)	Mechanised – Contractor ('direct procurement')
Routine	NRs 50-60,000 (GBP 400)	<u>Continuous</u> clearing / cleaning (e.g. unblocking drains)	Road Maintenance Groups (RMGs) introduced by RAP3 2.5 years ago (2,000 km of trafficable DRCN in 10 Dists)
Recurrent		<u>Intermittent</u> minor repairs due to traffic & rainfall	
<b>Specific</b>	<b>NRs 150-200,000 (GBP 1,000)</b>	<b><u>Occasional</u> 'Spot Treatment' at critical access constraint ('bottlenecks') (e.g. permanent repair at landslide)</b>	<b>Currently 'Small Contractor' or 'User Committee'</b>
Periodic (GR & BT only)	NRs 250-400,000 (GBP 2,500)	Large-scale rejuvenation of pavement at intervals of <u>several years</u>	Medium size Contractor (mechanised)

# USER COMMITTEE vs CONTRACTORS



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# 8. Contractor / UC - Characteristics

## ❖ **Contractor:**

- ❑ Time consuming procurement
- ❑ Usually unqualified (<NRs 6M category)
- ❑ Typical time overrun / supervision conflict

## ❖ **User Committee:**

- ❑ 'Hidden' Contractors – common
- ❑ Substitution of labour by machines (disallowed but common)
- ❑ Unskilled / poorly controlled workforce
- ❑ Tools / materials usually procured by the UC themselves

- ❖ NRSAS recommended more Contracting and less UCs (to improve quality, efficiency, transparency)

# 9. Contractor or SMG?

## ❖ Contractor:

- ❑ Blacktop repairs (none in Cores)
- ❑ Equipment-based works (e.g. pavement compaction, heavy rock excavation, etc.)
- ❑ Test 'Term Maintenance / Schedule of Rates'

## ❖ SMG:

- ❑ Gabion / dry-stone retaining structures
- ❑ Stone Soling (localised)
- ❑ Drain construction, etc.



# 10. User Committee - Definition

A “User Committee” refers to a committee formed by a group of persons directly benefitting from the formation, implementation, management, repair or maintenance of a particular construction work, which comprises those persons selected by them from among themselves applying a particular procedure (*Local Body Financial Administration Regulations 1999*).

# 11. LRUC - Issues

‘The local road user committees (LRUC) that are involved in the implementation of most LRN works are especially affected by external interference from contractors and politicians, resulting in a significant increase in irregularities and poor quality works. This has caused the CIAA to call for them to be recreated with representation of actual road users and complemented with proper technical supervision and financial auditing.’ *(Para 22 NRSAS 2012)*

# 12. NRSAS Recommendation #5

'Implementation of road sector activities is affected by poor procurement management and inappropriate contracting modalities, while in the LRN user committees are misused to bypass open tendering:

- ❖ Introduce multiyear contracts and promote performance-based contracts to avoid procurement delays and reduce the management burden involved in maintenance works.
- ❖ Outsource technical supervision to ensure quality control and take steps to prevent more non-engineered roads from being built.
- ❖ Tender more works to contractors rather than transferring funds to user committees in order to improve quality, efficiency and transparency.
- ❖ Review regulations on the use of equipment and user committees, and ensure proper monitoring and enforcement by DDCs/DoLIDAR to avoid misuse.
- ❖ Develop equipment norms for use in the LRN and amend the labour-based, environmentally friendly, participatory (LEP) approach to allow for equipment use under certain conditions.
- ❖ Ensure appropriate representation in user committees and provide them with appropriate technical assistance and auditing.'

# SMG PILOT LAUNCH



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# 13. Launch Plan

1. Funding – initially ‘direct’ (NRs 4-5M / Dist.)
2. Selection Roads (from ARAMP) – approx. 30 km per district
3. DTA liasion – DDC / LRUCs
4. Estimate Works – from 2015/16 ARAMP (update in post-monsoon RCS)
5. Central (TMO) procurement
  - ❑ Tools, equipment, gabions
  - ❑ Delivery to locally hired stores
6. Finalise ‘Working Procedure’ (e.g. KEPTA payment style)
7. Worker Selection (existing RMG modality)
8. Start Works (late 2016)

# 14. Materials

## ❖ Estimate likely materials:

- ❑ Gabion baskets (size and numbers)
- ❑ Stone
- ❑ Cement, etc.

## ❖ Quarried Rock:

- ❑ Will sufficient come from Site excavation?, or
- ❑ Locally available quarry?



# 15. Typical Construction Tools

Seq	Item (typical)	# for 5 Workers
1.	Wheelbarrow	2
2.	Pickaxe + Faruwa	2+2
3.	Shovel	2
4.	Rammer	1
5	Chisel + Dressing Chisel	1+2
6	Mason Hammer + Sledge Hammer	2+1
7	Crowbar (medium size + small size)	2 (1+1)
8	Water vessel + Plastic Mug	1+1
9	Mason Nylon thread+ pliers	1 bundle+1 no
10	Tarpaulin Sheet	1
11	Basket (Doko) Namlo +Knife (Khukuri)	1 set+1 no

# 16. Typical Safety Equipment

Seq	Item (typical)	# for 5 Workers
1.	High Visibility Safety Vest	5 (+ 2 spare)
2.	Hard Helmet	5
3.	Mask	5 (+5 spare)
4.	Safety Gum Boots	5 pair
5.	First Aid Kit	1 set
6.	Gloves	5 pair
7.	Safety Goggles	3
8	Rain Coat	5

# 17. Current Status

- ❖ 2015/16 ARAMPs prepared & approved indicating ‘Specific Maintenance’ requirements on DRCN
- ❖ SM ‘under-funded’ in ARAMPs
- ❖ Meeting with KEPTA (April 2016) / sharing of documentation, opportunities:
  - ❑ Adopt KEP payment approach (regular interim ‘living wage’ + final volumetric reconciliation; basis 80% DR).
  - ❑ Worker Selection – Common approaches in ID; RAP3 might want worker rather than household (for skills development), prioritised list for multi-year use (ranking?); SMG / RMUC relationship, etc.
  - ❑ Others (e.g. approach to tools / equipment, first aid, insurance, wage payment, etc.).

END



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