

# ***DoLIDAR'S RMG Harmonised Guideline***

*Presentation for RAP3 Senior Technical  
Management Course*

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# BACKGROUND



**Rural Access Programme**  
Development through access

# History of RMG Guideline-1

13 March 2014  
Draft Working  
Guideline



14 Jan 2014 –RMG  
Working Procedure



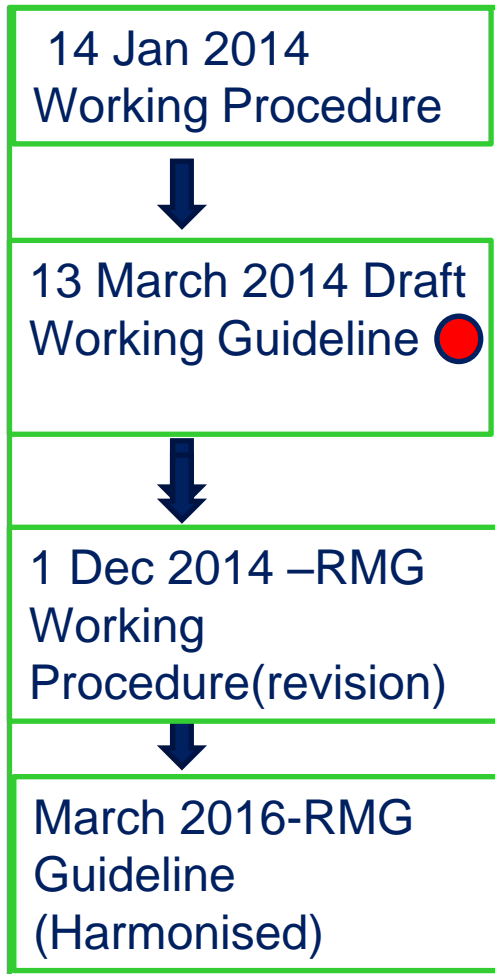
1 Dec 2014 –RMG  
Working  
Procedure(revision)



March 2016-RMG  
Guideline  
(Harmonised)

- Mainly included:
  - RMG member selection & formation of group
  - Volume + Performance implementation system
  - Roles & responsibilities of DDC/DTO, VDC,DTA,SC
  - Payment procedure

# History of RMG Guideline-2



- Prepared based on RAP2/RTI SWAp lessons learned on LP (2011-2012)
- Based on ILO Pilot in 2008-2009
  - 2 Districts – Ramechhap & Dhanusha
- RAIDP Pilot in 3 districts
- SNRTP launched RMG programme in 33 districts with few changes.

# History of RMG Guideline-3

13 March 2014  
Draft Working  
Guideline



14 Jan 2014 –RMG  
Working Procedure



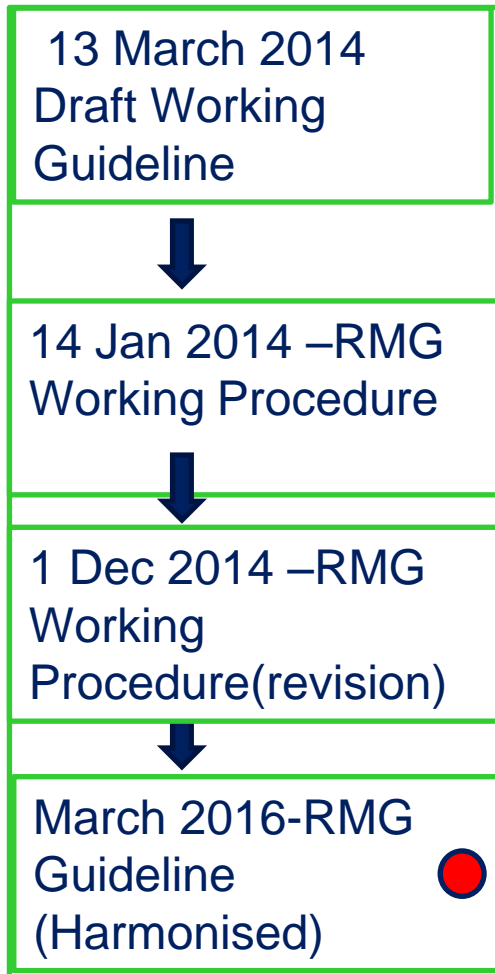
1 Dec 2014 –RMG  
Working  
Procedure(revision) ●



March 2016-RMG  
Guideline  
(Harmonised)

- Major changes
  - PD/month -100 pd per Km
  - fixed allowance/month
  - Reinforce to pay based on 'Inspection form', Summary sheet

# History of RMG Guideline-4



- DoLIDAR's harmonised guideline between various projects working on RMGs launched

# **DOLIDAR'S RMG HARMONISED GUIDELINE**



**Rural Access Programme**  
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# What were main differences?

## (RAP3 Vs. SNRTP)-1

- ❖ Input – ‘**100**’ Vs. ‘**156 pd**’ for per Km (e.g SNRTP – 1LP/2Km)
- ❖ Employment – ‘**Part time**’ allowed Vs. ‘**full time**’
- ❖ Size of group - ‘**5-6**’ Vs. ‘**4 people**’.

# What were main differences? (RAP3 Vs. SNRTP)-2

- ❖ Age of workers – ‘**16-60** years Vs. **18- 50** years’
- ❖ % of women – ‘at least **33%**’ Vs. ‘**100%** but in any case not less than **60%**’
- ❖ Dalit/Janajati – ‘preferences’ Vs. ‘at least 40%’
- ❖ Wage payment – ‘deposit group amount’ Vs. ‘deposit individual amount’
- ❖ Allowances – provide’ maintenance + ...’ Vs. ‘maintenance of tools only’

# DoLIDAR's RMG Harmonised Guideline-1

## Input-varying levels of input for different surface type

Road type	Approximate input level
<b>(A) Blacktop Road</b>	
Road in <b>good/fair condition</b> in dry season i.e. road is passable by normal car at min road design speed (20 & 40 Km/hr for Hill & Terai respectively)	<b>65</b> person-days per kilometer per year
Road in <b>poor condition</b> in dry season i.e. road is passable by normal car in below road design speed (less than 20 & 40 km/hr for Hills and Terai respectively)	<b>104</b> person-days per kilometre per year
<b>(A) Earthen/Gravel Road</b>	
Road in <b>good/fair condition</b> in dry season i.e. road is passable by normal car at min road design speed (20 & 40 Km/hr. for Hill & Terai respectively)	<b>80</b> person-days per kilometer per year
Road in <b>poor condition</b> in dry season, road is only passable by 4x4 Bus, Truck or tractor or normal car in below road design speed. (less than 20 & 40 Km/hr for Hill & Terai respectively)	<b>104</b> person-days per kilometer per year
Road in <b>poor condition</b> i.e. in dry season, road is only passable by 4x4 Bus, Truck or tractor and required heavy maintenance	<b>156</b> person-days per kilometer per year

# DoLIDAR's RMG Harmonised Guideline-2

## ❖ Employment:

- ❑ Both half time & full time opened
- ❑ Depends on project guideline
- ❑ e.g. RAP3 provides 100 days job to a person but almost double no of people get job than in SNRTP

## ❖ Size of group:

- ❑ Selected based on road length to be maintained and person days per Km.

# DoLIDAR's RMG Harmonised Guideline-3

## ❖ Age of workers:

- ❑ > 18 years

## ❖ % of women:

- ❑ Preference must be given to female candidates
- ❑ where possible, all 100 % women but not less than 33% in any case.

## ❖ Disadvantage group

(Dalit/Janajati, excluded & deprived):

- ❑ At least 40%

# DoLIDAR's RMG Harmonised Guideline-4

## ❖ Wage payment:

- ❑ Both individual and group payments are allowed based on availability of bank

## ❖ Allowances:

- ❑ Provision for tools maintenance + transport +admin allowances
- ❑ Generally paid in fixed monthly instalments
- ❑ Not susceptible to deduction
- ❑ Alternatively, can provide direct support for tools sharpening or project reimbursed cost on a case by case basis – e.g SNRTP

# RMG NORMS AND MONTHLY WORK PLAN



# RMG Norms (final draft)

## ❖ RMG Norms main features:

- ❑ Prepared based on RAP3 piloting in 10 maintenance districts & later verified with SNRTP
- ❑ Resources are divided into 3 categories (Labour, Capacity building & Social protection, Tools & Equipment)
- ❑ First aid box replenishment cost shall be paid on monthly basis after performance evaluation (I.e inspection)
- ❑ Final draft is submitted to DoLIDAR
- ❑ Sample cost estimate is 61,500/Km (Initial year)
- ❑ Norms-next slide



# Norms for type of road - Gravel/Earthen roads in 'Poor condition'

- Labour
  - RMG (unskilled) – 104 pd
- Capacity building & Social protection
  - Maintenance Training- 1.12%
  - Insurance -1.39%
  - First aid box (for initial year) - 0.67%
  - First aid box replenishment per year- 0.35%
- Tools & Equipment
  - Tools & equipment (for initial year) -5.44%
  - Replenishment of tools & equipment per year\* -0.86%
  - Safety gears (for initial year ) -6.07%
  - Replenishment cost of safety gears per year -1.29%
  - Maintenance & sharpening of tools and equipment per year-0.17%

# RMG Norms (final draft)-1

## Work Norms for Routine/Recurrent Maintenance Using Road Maintenance Groups (RMGs) of Rural Roads RMG works on performance approach and get paid on performance basis

S. No	Work Details	Unit	Resource								Remarks	
			Labour			Capacity building & Social protection		Tools & Equipment				
			Rank	Unit	Quantity	Type	unit	Quantity	Type	unit		Quantity
<b>1 Routine/ Minor Recurrent Maintenance (Annual Basis)</b>												
	RMG works :Clearing lanslides and obstacles, Repairing ruts, rills, gullies, potholes, Creating waterbars, Repairing cuts and improving shoulders, clearing and creating earthen drains,Repairing erosion damage, cutting and clearing vegetation, Cleaning and replacing/repairing signs and road furniture, clearing/repairing retaining walls, Maintaining Bioengineering features , Trimming side slopes etc.										<ul style="list-style-type: none"> <li>* This norms is applicable for 3 to 5.5 m carriageway width.</li> <li>* Ideally a RMG consist of (4-7) members in a Group.</li> <li>* Cost of Labor wage, maintenance &amp; sharpening of tools and equipment and replenishment of first aid kit box shall be paid to RMG on monthly, based on their performance evaluation. However, other item costs will be materialised by DDC/DTO.</li> <li>* Percent stated is of labor wage.</li> </ul>	
1.1	<b>Black top roads in</b>											
a)	<b>Good fair</b>	Per km	RMG member (Unskilled)	persondays	65	Maintenance training	Percent	1.37	Tools & equipment (for initial year)	Percent	6.65	<ul style="list-style-type: none"> <li>*Tools &amp; equipment: Assumptions- wheelbarrow,spade,shovel, long handled shovel is replaced at 5 years; Bush knife,watering can,chisel,pulling rope is replaced at 2 years; pickaxe, earth hammer is replaced at 6 years; crowbar ,double faced sledge hammer is replaced at 7 years. Or as per field requirement.</li> <li>*For every 6 year, 3.5 % of the labour cost shall be allocated for replenishment.</li> </ul>
						Insurance	Percent	0.89	Replenishment of tools & equipment per year*	Percent	1.06	
						First aid box (for initial year)	Percent	0.82	Safety gears (for initial year )	Percent	7.42	*Safety Gears: Assumptions- shining vest, hard helmet, boots is replaced at 5 years; warning flgs, raincoat is replaced at 3 years; mask, gloves replaced at 1 year. Or as per field requirement.
						First aid box replenishment per year	Percent	0.43	Replenishment cost of safety gears per year	Percent	1.58	
									Maintenance & sharpening of tools and equipment per year	Percent	0.05	
b)	<b>Poor condition</b>	Per km	RMG member (Unskilled)	persondays	104	Maintenance Training	Percent	1.12	Tools & equipment (for initial year)	Percent	5.44	*First Aid kit Box: Assumptions- Moov tube,Betadin Tube,GV paint 30 ml, Tincture Iodine 50 ml, Dettol 50ml ,Bandage 4",Sterile Gauge cloth,Cotton Roll 100gm,Spirit 100ml,Savlon Soap,Handy Plast,Copy and Pen for Record is replaced each year; triangular bandage, crepe bandage, towel is replaced at 2 years;Thermometer,scissor replaced at 5 years;forceps,first aid box replaced at 8 years. Or as per field requirement.
						Insurance	Percent	1.39	Replenishment of tools & equipment per year*	Percent	0.86	
						First aid box (for initial year)	Percent	0.67	Safety gears (for initial year )	Percent	6.07	
						First aid box replenishment per year	Percent	0.35	Replenishment cost of safety gears per year	Percent	1.29	
									Maintenance & sharpening of tools and equipment per year	Percent	0.17	

Sample

# RMG Norms (final draft)-2

## Work Norms for

### Routine/Recurrent Maintenance Using Road Maintenance Groups (RMGs) of Rural Roads

RMG works on performance approach and get paid on performance basis

### Routine/Recurrent Maintenance Using Road Maintenance Groups (RMGs) of Rural Roads

RMG works on performance approach and get paid on performance basis

Sl. No.	Road Type	Unit	RMG member (Unskilled)	persondays	Activity	Rate	Material	Rate	Remarks	
1.2	a) Good fair	Per km	RMG member (Unskilled)	80	Maintenance Training	Percent	1.11	Tools & equipment (for initial year)	Percent	5.40
					Insurance	Percent	0.73	Relplenishment of tools & equipment per year*	Percent	0.86
					First aid box (for initial year)	Percent	0.67	Safety gears (for initial year )	Percent	6.03
					First aid box replenishment per year	Percent	0.35	Replenishment cost of safety gears per year	Percent	1.29
						Percent		Maintenance & sharpening of tools and equipment per year	Percent	0.06
						Percent			Percent	5.44
	b) Poor condition	Per km	RMG member (Unskilled)	104	Maintenance Training	Percent	1.12	Tools & equipment (for initial year)	Percent	5.44
					Insurance	Percent	1.39	Relplenishment of tools & equipment per year*	Percent	0.86
					First aid box (for initial year)	Percent	0.67	Safety gears (for initial year )	Percent	6.07
					First aid box replenishment per year	Percent	0.35	Replenishment cost of safety gears per year	Percent	1.29
						Percent		Maintenance & sharpening of tools and equipment per year	Percent	0.17
						Percent			Percent	3.63
b) Poor condition ( With Heavy Backlog maintenance)	Per km	RMG member (Unskilled)	156	Maintenance Training	Percent	0.75	Tools & equipment (for initial year)	Percent	3.63	
				Insurance	Percent	0.93	Relplenishment of tools & equipment per year*	Percent	0.58	
				First aid box (for initial year)	Percent	0.45	Safety gears (for initial year )	Percent	4.05	
				First aid box replenishment per year	Percent	0.24	Replenishment cost of safety gears per year	Percent	0.86	
					Percent		Maintenance & sharpening of tools and equipment per year	Percent	0.11	
					Percent			Percent	0.11	

Sample

# One of Key Activity is Monthly Work

## Plan

### WORKPLAN

Month: April 2014  
 District: Morang  
 Road Name: ABC  
 Section: From A to B

ROAD ELEMENT AND ACTIVITY		km	0	1	2	3	4	5	6	7
Road	Clearing landslides and obstacles									
	Repairing ruts, rills, gullies, potholes		█							
Earthen or gravel surface	Creating waterbars									
	Creating stone pitching, paved drifts									
	Graveling									
	Sealing cracks									
Blacktop surface	Repairing ruts, rills, gullies, potholes			█				█		
	Repairing cuts and improving shoulders									
	Removing banks									
Drains	Clearing drains					█		█		█
	Repairing erosion damage									
	Creating earthen drains			█		█			█	█
Culverts	Clearing culverts									
	Repairing backfill over culverts		█	█	█			█		█
Bridges	Clearing under bridges									
Vegetation	Cutting and clearing vegetation									
Traffic signs and road furniture	Cleaning signs and road furniture									
	Repairing/replacing signs									
Retaining walls	Clearing weep holes									
	Creating retaining walls			█				█		█
	Repairing minor damage									
	Repairing erosion damage									
Slopes	Maintaining bioengineering features									
	Planting bioengineering features									
	Removing hanging rocks									
	Maintaining side slope by small back cutting									

# Monthly Work Plan

- ❖ Work Plan: defines the road elements and road sections where performance standards will be applied
- ❖ Supervisor prepares and provides appropriate Work Plan and assesses during inspection
- ❖ Informal inspections carried out as required
- ❖ Formal Monthly Inspection
- ❖ Standard Monthly Payment (labours + allowances)

# ISSUES FACED DURING IMPLEMENTATION

# Lesson Learned from pilot-1

- ❖ Generally, work plan isn't prepared considering performance standard, timing of maintenance and following logical work sequence.
  - ❑ While preparing a work plan, should take care of road condition i.e performance standard, timing of maintenance activities (annex 7) and logical work sequence to make road ready for fighting against up coming monsoon.

# Lesson Learned from pilot-2

- ❖ Though, have a yearly budget already approved, every month 'Basis for work volume calculation sheet, annex 6' needs to get signed by DTO Chief ( ≈ 200 sheets should be signed by DTO chief - voluminous job, complain by DTO, volume basis instead hybrid performance)
  - ❑ Technician on site while giving work plan take help of format to assure assigned job tentatively meet the total available pd.



# Lesson Learned from pilot-3

- ❖ During monthly inspection deduction is not calculated following standard procedure.
  - ❑ Drive through and Inspect what activities have been completed w.r.t maintenance activities indicated in the work plan, and the resulting road conditions are compared to the performance standards and allowable defects
  - ❑ Measure/count what hasn't been completed, find out the pd using the same norms & labour rate used earlier to find out deducting amount.

# Lesson Learned from pilot-4

- ❖ Payment certificate submitted to account section of DDC contains attendance record, (i.e attendance based payment not performance based)
  - ❑ Should contains only 'Maintenance work inspection form', annex 8
  - ❑ & RMG payment certificate (*from RMG working procedure*)

# RMG WHAT NEXT?



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# Sustainability

❖ Sustainability = Affordability + Simplicity

❖ Affordability

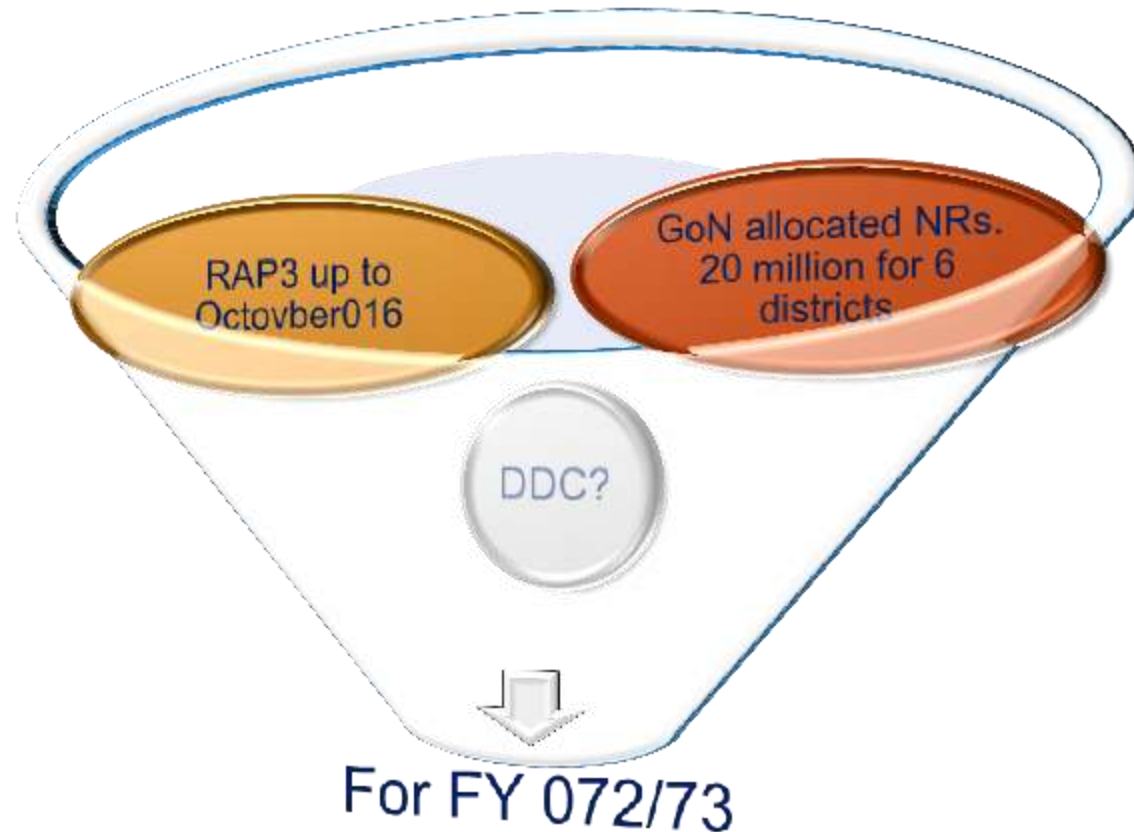
- ❑ Can cover routine + recurrent + small specific maintenance
- ❑ Required  $\approx$  NRs 12 m per district for 200 km

❖ Simplicity

- ❑ Simple (less hassle/ a set system)
- ❑ Small supervision strength (typical 9%), becomes even less in full performance based system
- ❑ Continuous road care

# RMGs in coming days(Way forward)-1

## ❖ RMG in 6 pilot districts



# RMGs in coming days(Way forward)-2

- Increase funding from next year (NRs 20 m to ≈150 m per year)

## ❖ RMG in 4 core districts

- support will be continued (initial year)
- Gradually GoN start funding implementation (017/18 FY)?
- TA continues up till 018/19 FY?
- DDC hires extra supervision staff?

# RMGs in coming days(Way forward)-3

- ❖ Hybrid system will be continued in majority of cases.
- ❖ Piloting full performance based system
  - ❑ Principally simple as removing the 'work plan'
  - ❑ Focused on western districts
  - ❑ Select section of road which meets the performance standard (if some road element lagging the standard will be noted) & experienced RMGs

# RMGs in coming days(Way forward)-4

## ❖ Piloting full performance based system

- ❑ Further train RMG to develop their own list of work activities (what, where, when, how much input needed)? (simple work plan)
- ❑ Need close supervision & support during transition period
- ❑ inspections should not be too strict during transition (first few months). Need to explain encourage to correct



# RMGs in coming days(Way forward)-5

## ❖ Piloting full performance based system

- ❑ inspections will become stricter over time, and non-compliance with performance standards lead to payment deductions.
- ❑ Ambition in the end ... RMG will start working as a self perpetual machine, only triggering activities in monthly inspection by a technician for any deduction.

# *THANK YOU*



**RAP 3**

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# Practical Session

- ❖ *How can RAP3 hand RMGs over to full DDC management in a phased and sustainable manner?*
  - ❑ Form 5 Groups
  - ❑ Discuss and jot down process on brown paper **(20 min)**
  - ❑ Presentation (5 x 5 min = **25 min**)