

MODULE 7

DEFINE THE PRIORITY IN RURAL ROAD MAINTENANCE

Objectives

After fulfilling Module 7, you will be able to:

- Know how to define the order of priority in Rural Road Maintenance.
- Define independently activities in the maintenance of the Local Road Network.
- Self-Assessment

Requirement

The participants are required to have comprehended following modules

- Module 1: " *Local Road Network*"
- Module 2: " *The Concepts of Rural Road Maintenance*"
- Module 4: " *Rural Road Defects and Cause*"
- Module 5: " *Fund Mobilization and Rural Road Maintenance Implementation*"

Methodology

- The participants are introduced how to define priorities in Rural Road Maintenance.
- The participants undertake exercises to define the order of priority for Rural Road Maintenance activities.
- Self-Assessment

Training Kit

- Rural Road Maintenance Handbook
- Module 7 " *Define the Priority in Rural Road Maintenance*"

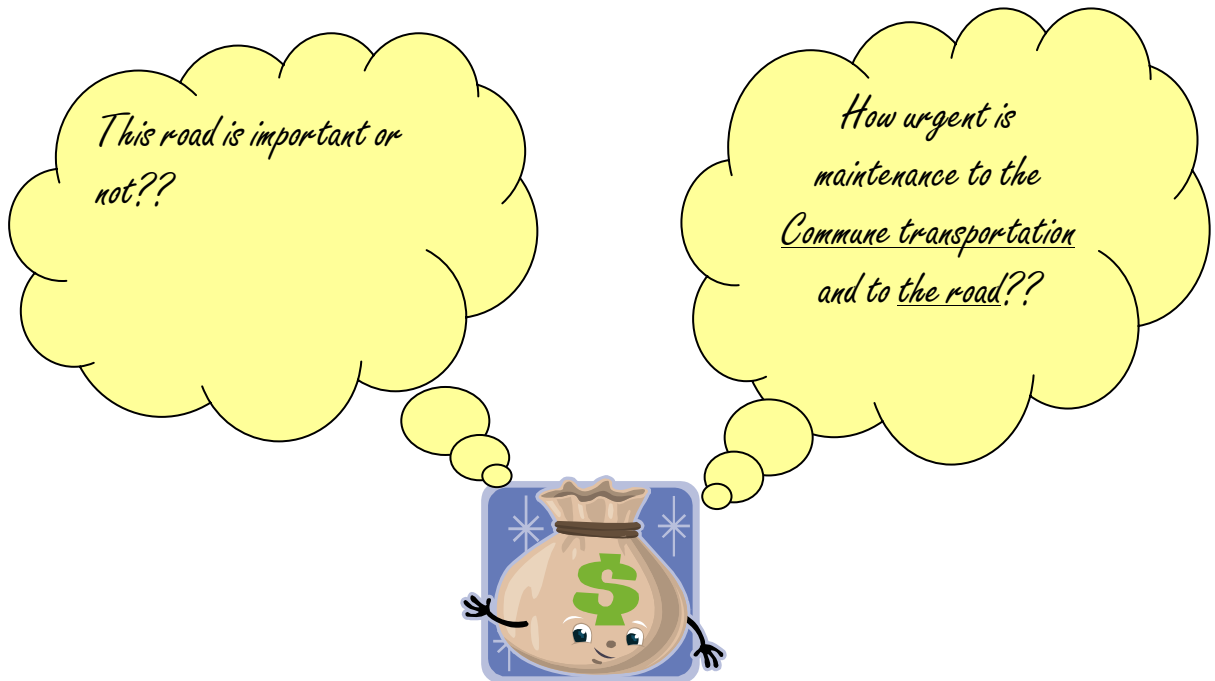
Studying Activities

1. Learn about methods to define priorities in road maintenance
2. Undertaking exercises to define the priority order of activities in road maintenance
3. Self – assessment

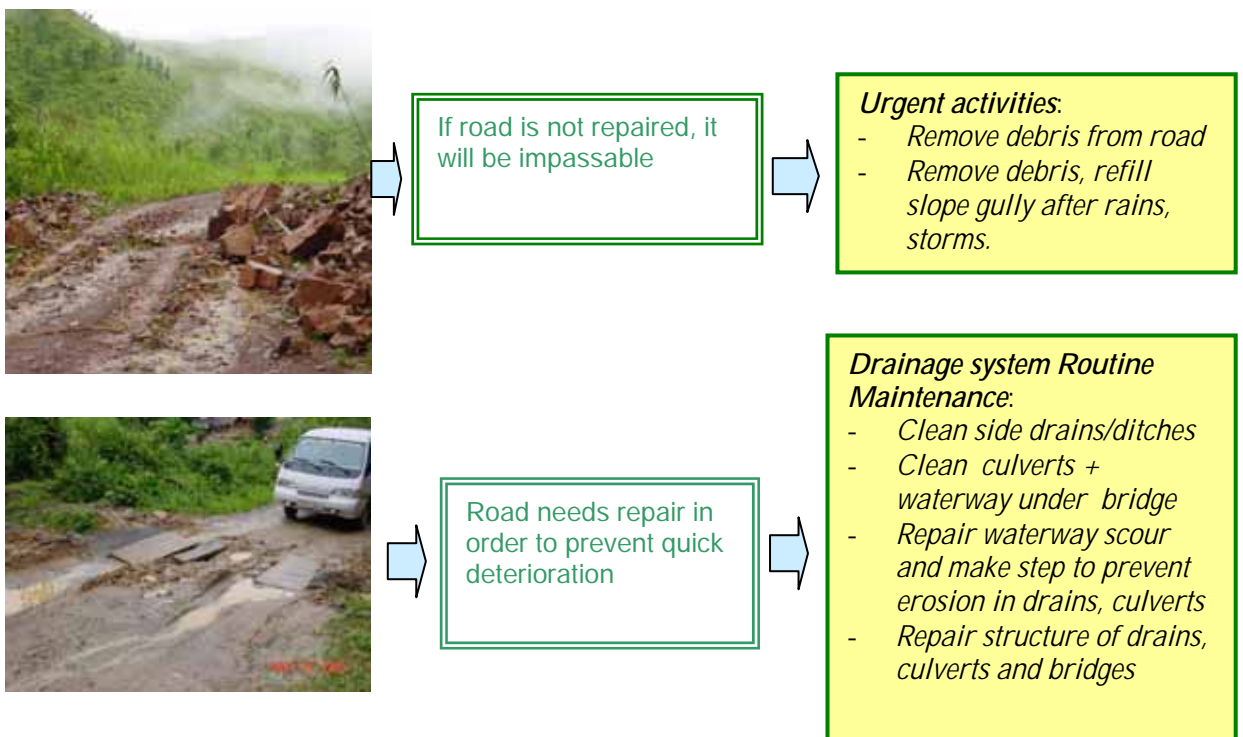
1. Learn about methods to define priority in Rural Road Maintenance



Look at the *picture* below to learn how to define the priority in Rural Road Maintenance



Look at the following presentation to define the order of *priority in Rural Road Maintenance*





Preventive maintenance is not expensive. Why it is not done yet?



- Road Surface Routine Maintenance Activities:**
- Repair local defects (Grade corrugation, reshape camber and fill potholes earth road)
 - Pothole filling, reseal road surface with bitumen



It is necessary to arrange budget for medium and/or big repairs to ensure road access.



- Periodic Maintenance activities**
- Grading earth road
 - Reseal bitumen road surface



Along road surface, it is necessary to repair defects of road shoulder, slope.. and control vegetation to ensure sight distance



- Other Routine Maintenance Activities:**
- Refill road shoulders and slope gully
 - Grass cutting and tree clearing
 - Wash, paint, repair or replace traffic safety facilities on the road



It is fortunate to have fund from Rural Transport Project No.2



- Special Activities**
- Overlay pavement
 - Reconstruct pavement



Write down names of maintenance activities based on the priority order

1. Urgent maintenance activities, such as
2.

3.
.....
4.
.....
5.
.....
6.
.....



Look at below presentation to understand the priority order in Rural Road Maintenance based on *the importance of the road* in the Network

... This is key route of our commune. Many vehicles pass on it, some carry goods as brick, vegetables, livestock... and pupil go to school ... All activities come to a halt if road defects are not repaired in time...



It is stated in the 'Road Maintenance Management for District Engineers' that the importance of the road is based on the traffic flow.

Road classification based on the importance (table 1)

Road Type	Traffic flow (veh./day)	Pavement Type
Type 1	(Key Route)	Bitumen/concrete
Type 2	>1000	Bitumen/concrete
Type 3	500-1000	Bitumen/concrete
Type 4	200-500	Bitumen/concrete
Type 5	>200	Macadam/Gravel/Earth
Type 6	<200	Bitumen/concrete
Type 7	50-200	Macadam/Gravel/Earth
Type 8	<50	Macadam/Gravel/Earth



Read carefully to know how to review in combination of the necessity in maintenance activities and the importance of road, **put priorities** in Road Maintenance **in appropriate order**

- Look at the following matrix, compare types of maintenance activities with types of road and give **priority numbers**. **The bigger the number is, the lower the priority is**. It means that the first priority (No.1) equals urgent maintenance for a local key route, and the last one (No.48) equals special maintenance for earth road with less than 50 vehicles /day.

Types of maintenance activities	Importance Level of Road							
	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6	Type 7	Type 8
<i>Urgent Maintenance</i>	1	7	8	9	10	11	12	13
<i>Drainage System Routine Maintenance</i>	2	14	15	16	17	18	19	20
<i>Road Surface Routine Maintenance</i>	3	21	24	27	30	33	36	39
<i>Road Surface Periodic Maintenance</i>	4	22	25	28	31	34	37	40
<i>Other Routine Maintenance</i>	5	23	26	29	32	35	38	41
<i>Special Maintenance</i>	6	42	43	44	45	46	47	48



Notes

**Like other works, it is the same to Rural Road Maintenance,
waste not, want not**

2. Practice to define the order of priority in Road Maintenance



Read carefully the Road Network data of a Commune in below table

No.	Road	Type of Pavement	Traffic Flow	Road Defects
1	Road connect District to Commune Center - Son An District Road	Bitumen Sealing	Key Route	Vegetation growth excessive on road shoulders
2	Inter-Communes Roads - Son khe - Son thuy Road	Bitumen Sealing	320 vehicles/day	Potholes and soft spots
3	- An Lac - Son Thuy Road	Graded crushed stone	186 vehicles/day	Blocked Road by Soil Slide
	Inter-villages Roads			
4	- Mac village road	Concrete	86 vehicles/day	Blocked side drains
5	- Cao village road	Macadam	67 vehicles/day	Soft spots, settlement
6	- Quyet Tien village road	Graded crushed stone	120 vehicles/day	Eroded road shoulders
7	- Hamlet 6 road	Concrete	43 vehicles/day	Cracking at 3 concrete plates
8	- Hamlet 7 road	Laterite	60 vehicles/day	Eroded drains
	Road to field			
9	- Road to Chua field	Earth Road	25 vehicles/day	Gullied road slope
10	- Road to stock farm	Macadam Road	76 vehicles/day	Potholes
11	- Road to arboretum	Gravel Road	62 vehicles/day	Blocked sump hole
12	- Road to Dong field	Earth Road	21 vehicles/day	Excessive vegetation growth on road shoulders
13	- Road to Trung field	Earth Road	18 vehicles/day	Settlement, surface deformation



Compare data in table above with Road Specification (Table 1) *fill in Column 4 of Table below* to define road type based on the importance

No.	Structure	Types of composition	Vehicle Flow	Types of Defect
1	Road from District to Commune Center - Son An District	Bitumen Sealing	Type 1	Vegetation growth excessive on road shoulders
2	Inter-Communes Roads - Son khe - Son thuy Road	Bitumen Sealing	Type 4	Potholes and soft spots
3	- An Lac - Son Thuy Road	Graded crushed stone	Type 7	Blocked Road by Soil Slide
4	Inter-villages Roads - Mac village road	Concrete	.....	Blocked side drains
5	- Cao village road	Macadam	.....	Soft spots, settlement
6	- Quayet tien village road	Graded crushed stone	.....	Eroded road shoulders
7	- Hamlet 6 road	Concrete	.....	Cracking at 3 concrete plates
8	- Hamlet 7 road	Laterit	.....	Eroded drains
9	Road to field - Road to Chua field	Earth Road	.....	Gullied road slope
10	- Road to stock farm	Macadam Road	.....	Potholes
11	- Road to arboretum	Gravel Road	.....	Blocked sump hole
12	- Road to Dong field	Earth Road	.....	Excessive vegetation growth on road shoulders
13	- Road to Trung field	Earth Road	.....	Settlement, surface deformation



Circle the orders of priority and write down the number (or name) of roads in the following matrix table

Maintenance activities	Importance Level of Road							
	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6	Type 7	Type 8
Urgent Maintenance	1	7	8	9	10	11	12	13
Drainage System Routine Maintenance	2	14	15	16	17	18	19	20
Road Surface Routine Maintenance	3	21	24	27	30	33	36	39
Road Surface Periodic Maintenance	4	22	25	28	31	34	37	40
Other Routine Maintenance	5	23	26	29	32	35	38	41
Special Maintenance	6	42	43	44	45	46	47	48

1

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Fill roads' names and maintenance activities in descending order of priority in the following lines

1. *Son An District/ Cutting vegetation growth excessive on road shoulders*
2. *An Lac - Son Thuy Road/ Remove soil slide, clean road*
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.



nOTES

Combine maintenance activities and the importance of road to define what road maintenance & locations to be undertaken first.



1. Fill the right number (1- 6) in appropriate boxes on the right in accordance with the descending priority of maintenance activities

- *Reconstruct pavement*
- *Remove sliding soil to ensure road accessibility*
- *Fill Potholes*
- *Clear culverts*
- *Bush/tree clearing & grass cutting on road shoulders*
- *Scarify, grade & compact gravel road*

Good

Not good

2. Fill the right type of road in appropriate boxes (from type 1 to type 8) corresponding to the importance of road

- *Earth road, traffic volume of 52 vehicles/day*
- *Gravel road, traffic volume of 31 vehicles/day*
- *Key Commune route – asphalt concrete pavement*
- *Concrete road, traffic volume of 1100 vehicles/day*
- *Bituminous road, traffic volume of 530 vehicles/day*
- *Bituminous road, traffic volume of 120 vehicles/day*
- *Macadam road, traffic volume of 250 vehicles/day*
- *Concrete road, traffic volume of 280 vehicles/day*

Good

Not Good