

# **COMMUNITY CONTRACTING INITIATIVES IN THE ROUTINE MAINTENANCE OF RURAL ROADS BY ALL WOMEN SHGS/MMDS IN INDIA**

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## **ABSTRACT**

Different types of community contracting are used for the routine maintenance of the rural roads throughout the world. For the first time, in the state of Uttarakhand of India, a unique model of community contracting has been piloted on Pradhan Mantri Gram Sadak Yojna (PMGSY) roads in which the off-carriageway routine maintenance is carried out by all women Self Help Groups (SHGs)/Mahila Mangal Dals (MMDs) This paper brings out the experience of the pilot project including different aspects of planning and execution which was done on nine PMGSY roads. The paper also highlights the benefits to the community as well as to the road users and road agencies and endorses the feasibility of Community Contracting by all women SHGs/MMDs and encourages the road agencies to scale up the concept.

## **KEYWORDS**

Pradhan Mantri Gram Sadak Yojna, Rural Roads, Community Contracting, Self Help Groups / Mahila Mangal Dals

## **1. INTRODUCTION**

In India a very ambitious project called Pradhan Mantri Gram Sadak Yojna, PMGSY was launched on December 25, 2000, by the Central Government. The objective of this scheme is to ensure sustainable poverty reduction, by connecting all eligible habitations of population more than 500 (in some cases more than 250) by all weather roads in India. Since inception of the scheme, about 4,90,000 Km of rural roads have been constructed, out of which 3,19,000 Km are beyond five years Defect Liability Period (DLP) and are eligible for maintenance. There is a great challenge of maintenance of these newly built assets, therefore, there should be a institutionalized structure to sustain these assets. Since rural roads are scattered in inaccessible terrain, therefore, their maintenance become more difficult and challenging. This difficulty can be overcome if the maintenance of these roads is entrusted to the local community. Different models of Community Contracting have been tried in different parts of the world.

## **2. OVERVIEW OF COMMUNITY CONTRACTING**

Community Contracting is like any other contract in which the road agency enters in agreement with a) community as is practiced in Indonesia, Philippines, Cambodia, Sri Lanka or b) a small enterprise as is practiced in Nepal, Latin America or c) each individual worker as practiced in South Africa or d) the Community leadership as joint client as is practiced in Afghanistan, Thailand, Vietnam, Laos, Myanmar, Africa or e) the established contractor with the condition in the contract that the contractor will employ local community persons as is practiced in South

Africa, Himachal Pradesh of India( ILO 2015). Each model has its own merits but the main prerequisite of the success of any model is that there must be a demand of employment. If there is no demand of the employment then community members will not come forward to do the work and maintenance work will be done by the labourers of other places.

### **3. COMMUNITY CONTRACTING THROUGH ALL WOMEN SELF HELP GROUPS (SHGS)/ MAHILA MANGAL DAL (MMD) IN STATE OF UTTARAKHAND OF INDIA**

In hilly state of Uttarakhand, women are engaged in the maximum work of agriculture, horticulture, dairy etc. beside routine household chores. Often they go in groups to the nearby jungle to fetch fodder for the livestock. Mostly these women have joined different Self Help Groups (SHGs)/ Mahila Mangal Dals(MMDs) and are working in groups for their economic security and are helping fellow women in need of finance and as such these groups are working cohesively for their social security. Therefore, it was thought that these groups should be given the work of off-carriage way maintenance of PMGSY roads which will give them extra income and will help in sustainable poverty reduction, which is the main objective of the PMGSY scheme. Thus, a pilot on nine PMGSY roads was under taken.

### **4. PLANNING OF COMMUNITY CONTRACTING THROUGH ALL WOMEN SHGS/MMD IN UTTARAKHAND**

Since this type of model was new, therefore, it was important to do different activities in a planned way. Planning includes sensitizing/training the officials of department and members of the prospective SHGs/MMDs about the concept identifying the suitable roads, meeting & training members of the prospective groups. World Bank appointed International Labour Organization (ILO), Officials gave the technical support to this pilot.

#### **4.1 Sensitizing the members of MMDs/SHGs**

Before the launch of the pilot a one day workshop was organized on 09-06-2016 at Dehradun where the World Bank and ILO experts under the aegis of National Rural Roads Development Agency (NRRDA), sensitized and explained to the officials of the department & the members of the SHGs/MMDs about the community contracting and its positive impact. This was most critical aspect of the pilot project since women are the main stakeholders of the pilot.

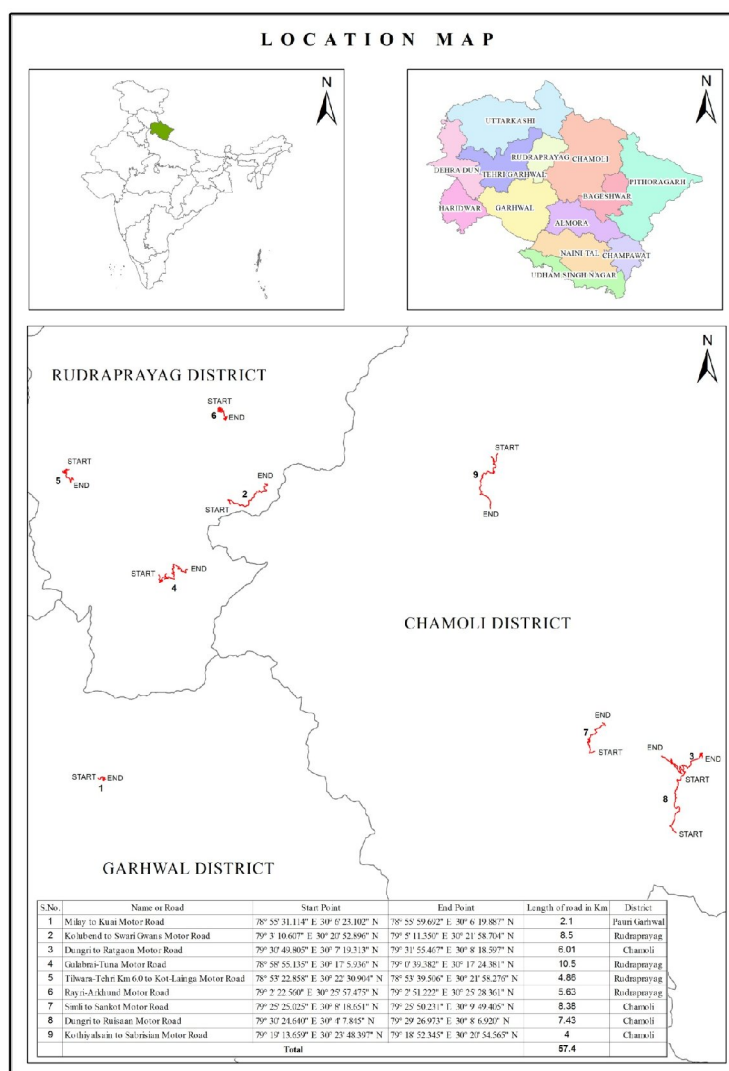
#### **4.2 Selection of Roads**

Selection of roads for pilot is important for the success or failure of the pilot. Since the maintenance activity of road is a dispersed activity, hence the road should be in the vicinity of the village so that women members of SHGs/MMDs could do the maintenance work according to their convenience and time should not be wasted in commuting the selected road. The road should be in “good” condition so that vehicles ply on the black top surface instead of using shoulders of the road which are not designed for the continuous traffic movement.

Based on the above criteria, nine roads of total length of 57.41 Km in three districts of Uttarakhand were selected as is shown in Table 1.

**TABLE 1 Roads Selected for Community Contracting**

S. No.	Name or Road	Length of road in Km	District
1	Milay to Kuai Motor Road	2.10	Pauri Garhwal
2	Kolubend to Swari Gwans Motor Road	8.50	Rudraprayag
3	Dungri to Ratgaon Motor Road	6.01	Chamoli
4	Gulabrai-Tuna Motor Road	10.50	Rudraprayag
5	Tilwara-Tehri Km 6.0 to Kot-Lainga Motor Road	4.86	Rudraprayag
6	Rayri-Arkhund Motor Road	5.63	Rudraprayag
7	Simli to Sankot Motor Road	8.38	Chamoli
8	Dungri to Ruisaan Motor Road	7.43	Chamoli
9	Kothiyalsain to Sabrisian Motor Road	4.0	Chamoli
	<b>Total</b>	<b>57.41</b>	

**FIGURE 1 Location Map of selected Pilots under Community Contracting**

### **4.3 Signing of Memorandum of Understanding (MoU) with SHGs/MMDs**

Once the roads were selected then SHGs/MMDs were selected for the routine off-carriageway maintenance of the road & then the road agency signed a MoU with the selected SHGs/MMDs of the villages located along the road. A Road Maintenance Committee (RMC) is formed which will consist of one village leader from each of the village along the road to be maintained. This RMC with road agency official holds a public meeting to explain about the project, the task system, the work involved & payment system to the communities. The MoU was vetted by World Bank appointed International Labour Organization (ILO) & National Rural Road Development Agency (NRRDA), Government of India.

### **4.4 Formulation of Community Road Maintenance Team (CRMT)**

SHGs/MMDs so selected decided the number of its members to be deployed in the month to carry out the assigned work and this small group is known as Community Road Maintenance Team (CRMT). On longer rural roads, more than one CRMT can be formulated from the members of SHGs/MMDs of the villages near to the road to be maintained. In this way commuting time of the members of the SHGs/MMDs is reduced as they have to work on the stretch of the road which is near to their village. A team leader was selected from each CRMT by the members of that CRMT, who would supervise the work, take the attendance, note down the hours spent by each member of the team and forward it to the Secretary and Chairperson of the SHG /MMD for further processing the data.

### **4.5 Off-Carriageway Maintenance Activities.**

Only following off-carriageway routine or preventive maintenance activities are to be performed by the SHGs/MMDs so that the off-carriageway is maintained at a desired level of service.

1. Clearing Minor Land Slides
2. Clearing side drains
3. Clearing CD works (Culverts)
4. Clearing Bridges
5. Clearing Vegetation
6. Repairing the road shoulder (Minor repairs)
7. Repairing the Drainage System (Minor repairs)
8. Repairing the Minor Retaining/Breast wall (Minor repairs)
9. Repairing edge stone
10. Planting Vegetation

### **4.6 Training of members of SHGs/MMDs**

Different SHGs/MMDs are registered societies with the Registrar of Societies of the State Government. Group size differs from group to group. Each SHG/MMD is headed by the Chairperson and for day-to-day administrative work, a Secretary is appointed by the group. A literate member is given the task of maintaining the financial accounts of the society if the Chairperson is not literate. Each SHG/MMD is having a bank account which is operated by the joint signature of Chairperson and Secretary. There is no interference by the road agency in the composition of the group or assigning different duties to the members of the society or distribution of the payment among the members of the society.

Since SHGs/MMDs would be handling the off-carriageway routine maintenance of the rural roads for the first time, it was necessary to impart training to the members of the group to strengthen their skill and make them understand the whole gamut of routine maintenance of Off-carriageway.

#### ***4.6.1 Technical Training***

Technical training was given to the members of the group by the World Bank and ILO Officials under the aegis of NRRDA. In this training, whole process of off-carriageway routine maintenance including the causes of damages, methods of slowing down the damages and implementing different interventions was discussed with them. They were made aware of their strength in carrying out the task by demonstrating that the off-carriageway maintenance can be best handled by them since they have been doing such type of work in their day-to-day work & the payment will not be based on the number of hours they have put in rather the group will be paid on the actual work done by them, hence, members of the group are free do the work at their own convenience and time. Monthly payment will be made to the SHGs/MMDs and chairperson will distribute the money as per the work done by each participating member.

#### ***4.6.2 Managerial Training***

Managerial training includes the training on the work of organizing, managing and planning of the monthly task. Each SHG/MMD was assigned a monthly task in the last week of month for the upcoming month based on the monthly requirement assessed by the road agency. The group discusses the monthly plan and the monthly payment to be made to SHGs/MMDs after completion of the task of the month. If any item of the monthly plan is not completed in the month then the remaining work has to be completed in the next month. At present there is no provision of penalty for not doing a particular item of the task in the month.

#### ***4.6.3 On the Job Training***

On the job training to the SHGs/MMDs was organized in the actual field and all the activities were explained to the members of the SHGs/MMDs by demonstrating different works in maintenance of Off-Carriageway works like cutting of grass, cleaning of drain to the required section, cleaning of cross-drainage works. They were demonstrated to use different equipments effectively and safely. Safety equipments such as helmets, safety jackets etc were provided to the SHGs/MMDs by the agency. Safety of the members of the group is paramount and they were given training in carrying out the maintenance of the road with proper safety.

### **4.7 Preparation of Monthly Work Plan**

Monthly work plans were prepared by the URRDA, on the basis of monthly and seasonal requirement of the road under maintenance. In monthly plan, items to be undertaken in the month, quantities of the items, rates as per sanctioned schedule rates are taken and the total cost of monthly work is calculated. Since Schedule of rates takes into account 12.5 percent profit for contractor, the rates of schedule of rates are reduced by twelve & half percent as no contractor is involved in the work. A typical monthly work plan is shown in Table 2.

**TABLE 2 Monthly Work Plan (MWP)**

**Name of Work:- Off-Carriage way maintenance of Kolubend Swariwans Motor Road under Community Contracting Mode**

<b>Bill of Qty.</b>						
<b>Item No.</b>	<b>Item of Work</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate</b>	<b>Amount (Rs.)</b>	<b>Remark</b>
1	Slip clearance (by manual means) of loose earth and other small loose materials including disposal as directed by the Engineer-in-charge.	236.09	cum	164.90	38930.83	
2	Maintenance of Drains The maintenance of drains include erosion repair, clearing, cleaning, reshaping, regr specification Clause 1907.	3750.00	mtr	2.80	10500.00	
3	Maintenance of Slab type Culverts by way of clearing and Cleaning,	16.00	no.	730.71	11691.36	
4	Trimming of grass and weeds from the shoulders/berms and disposing off the same to suitable locations as per technical specifications Clause 1914.	7500.00	sq.m	2.30	17250.00	
5	Filling with fresh selected soil Making up loss of material/ irregularities on shoulders	850.00	sq.m	17.18	14603.00	
<b>Total :</b>					92975.19	
	Deduction for C.P. and overhead charges i.e. (12.5%)				11621.8986	
<b>Amount</b>					<b>81353.29</b>	

Maintenance activities are carried out throughout the year depending upon the season and road conditions. A suggestive yearly activity plan is also prepared based on activities to be performed before the monsoon, during the monsoon and after the monsoon. A typical suggestive yearly activity plan is shown in Table 3.

**TABLE 3 Suggestive Yearly Action Plan (YAP)**

**Monthly Action Plan for Community Contracting in Kolubend to Swarigwans Motor Road**

<b>Sl. No</b>	<b>Maintenance Activities</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug.</b>
1	Clearing Minor Land Slides	√	-	√	-	√	-	-	-	√	√	√	√
2	Clearing side drains	√	-	√	√	-	-	√	-	√	√	√	√
3	Clearing CD works (Culverts)	√	√	-	√	-	-	√	-	√	√	√	√
4	Clearing Bridges	√	√	-	-	-	√	-	-	√	√	-	-
5	Clearing Vegetation	√	√	-	-	√	-	-	√	-	-	√	-
6	Repairing the road shoulder (Minor repairs)	√	-	-	-	-	√	-	√	-	-	-	√
7	Repairing the Drainage System (Minor repairs)	√	√	-	-	√	-	√	-	√	√	√	-

Sl. No	Maintenance Activities	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug.
8	Repairing the Minor Retaining/ Breast wall (Minor repairs)	√	-	-	-	-	-	-	√	-	-	-	√
9	Repairing edge stone	√	-	-	-	-	-	√	-	-	-	-	√
10	Planting Vegetation	√	-	-	-	-	-	-	-	-	√	√	√

## 5. WORKING PROCEDURE

Monthly meeting is held on the twenty fifth day of the month between Uttarakhand Rural Roads Development Agency (URRDA) officials and SHGs/MMDs to discuss the monthly work plan of the upcoming month, number of members of group to be employed based on monthly work plan and the amount of the work to be done in the month. On the first day of the upcoming month members of the SHGs/MMDs start work at the site.

## 6. MONTHLY PAYMENT

URRDA officials inspect the work assigned to the group in the first week of the month. No work is measured rather payment is made on the basis of performance of each activity. Grading of each activity is assigned like Satisfactory (S) or Unsatisfactory (U) in the Monthly Inspection Form (MIF). A typical monthly inspection form (MIF) is shown in Table 4. Only amount of satisfactory works is paid to the group and unsatisfactory work (U) is asked to be upgraded to satisfactory category and the amount of that activity is paid next month, if the activity is upgraded to satisfactory category. This way it is like Performance Based Maintenance Contract (PBMC) with the difference that unlike PBMC, equal amount is not paid in each month rather payment is paid monthly based on quantum of work and performance of the activity.

**TABLE 4 Monthly Inspection Form**

Month:-

Road Name and Length:-

Road Section: Start Km

Road Section End Km:-

MMD Leader Name: -

Village:-

Sl. No.	Maintenance Activities	Satisfactory	Unsatisfactory	Remark	Deduction
1	Clearing Minor Land Slides				
2	Clearing side drains				
3	Clearing CD works (Culverts)				
4	Clearing Bridges				
5	Clearing Vegetation				
6	Repairing the road shoulder (Minor repairs)				
7	Repairing the Drainage System (Minor repairs)				
8	Repairing the Minor Retaining/Breast wall (Minor repairs)				
9	Repairing edge stone				
10	Planting Vegetation				





S. No.	Name of Road	Length Km	Annual Maintenance Cost (Rs.)	District	Block	PIUs	Date of Agreement	No. of MMD Groups Involved	Name of MMD Chairperson	Name of MMD Secretary	Total No. of MMD Members
7	Dungri to Ratgoan Motor Road	6.01	4,42,900.00				1/9/2016	3	Reka Devi, Gamma Devi & Sheela Devi	Susheela Devi, Munni Devi & Shanti Devi	265
8	Dungri to Ruisaan Motor Road	7.43	3,58,000.00				1/9/2016	2	Sarashwati Devi & Sheela Devi	Kavita Devi & Munni Devi	265
9	Kothiyalsain to Sabrisain Motor Road	4.00	2,12,296.29		Dasoli	Pokhari	1/9/2016	1	Lata Devi	Santoshi Devi	40
Total		57.41	33,15,492.87					14			1142

**TABLE 6 Details of monthly activities performed by SHGs /MMDs**

S. No.	Name of Road	Length Km	Annual Maintenance Cost (Rs.)	Monthwise Activity Performed *****									No. of MMD Members Involved	Length Maintained till May, 2017 (km)	Total Payment to MMDs till May, 2017 (Rs)
				Sept, 2016	Oct, 2016	Nov, 2016	Dec, 2016	Jan, 2017	Feb, 2017	March, 2017	April, 2017	May, 2017			
1	Milay to Kuai Motor Road	2.10	1,44,743.00	1,2,3,5,6	1,2,3,5,6	0	1,6	1,3	1, 2, 6	0	5	1,2,3,6	28	2.10	1,25,000.00
2	Tilwara-Tehri km-6.00 to Kot-Launga	4.86	2,73,000.00	1,2,3,5,6	1,2,3,5,6	0	1,6	1,3	1,2,6	0	5	1,2,3,6	46	4.86	1,79,668.00

S. No.	Name of Road	Length Km	Annual Maintenance Cost (Rs.)	Monthwise Activity Performed *****									No. of MMD Members Involved	Length Maintained till May, 2017 (km)	Total Payment to MMDs till May, 2017 (Rs)
				Sept, 2016	Oct, 2016	Nov, 2016	Dec, 2016	Jan, 2017	Feb, 2017	March, 2017	April, 2017	May, 2017			
	Motor Road														
3	Rayri-Arkhund Motor Road	5.63	3,13,000.00	1,2,3,5,6	1,2,3,5,6	0	1,6	1,3	1,2,6	0	5	1,2,3,6	40	5.63	1,63,164.00
4	Gulabrai Tuna Motor Road	10.50	5,86,586.70	1, 5,	2, 3, 9	0	6,7,10	1,8,9	0	3,5,6,7	0	1, 2	216	10.50	3,46,047.00
5	Kolubend to Swari Gwans Motor Road	8.50	4,67,966.88	0	0	0	1,3,5	2,6,7	5,8,10	0	1,2,9	0	105	8.00	2,15,860.00
6	Simli to Sankot Motor Road	8.38	5,17,000.00	2,3,6	5	6	0	0	5	0	6	0	125	8.38	2,65,697.14
7	Dungri to Ratgoan Motor Road	6.01	4,42,900.00	2,3,6	5	6	0	0	5	0	6	0	220	6.01	2,11,120.50
8	Dungri to Ruisaan Motor Road	7.43	3,58,000.00	2,3,6	5	6	0	0	5	0	6	0	210	7.43	2,61,416.06
9	Kothiyalsain to Sabrisain Motor Road	4.00	2,12,296.29	5,2,6	5,2	0	5,2,6,3,1	5,2,6,3,2	1,2,6	0	0	0	40	4.00	1,22,419.00
<b>Total</b>		<b>57.41</b>	<b>33,15,492.87</b>										<b>1030</b>	<b>56.91</b>	<b>18,90,391.70</b>

Activity Code *****	Activity	Activity Code *****	Activity
1	Clearing minor Land Slides	6	Repairing the Road Shoulder
2	Clearing Side drains	7	Repairing the drainage System
3	Clearing Cross Drainage (CD) works (Culverts)	8	Repairing of Minor Retaining wall /Breast wall
4	Clearing bridges	9	Repairing edge stone
5	Clearing Vegetation	10	Planting Vegetation

All the payments are made by cheques in the bank account of the SHGs/MMDs thereby ensuring transparency in the system. Distribution of the amount to each member of the group based on the work done by them is done by the Secretary and Chairperson of the group and there is no interference by the road agency. However, it is ensured by the officials of the road agency that each member of the group is paid her remuneration according to work done by her in the group.

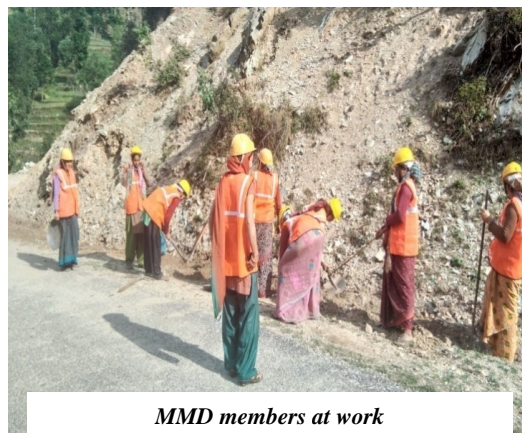
## 7. DISCUSSIONS

Prerequisite of success of this model of maintenance of rural roads is the demand of the employment. Therefore, while selecting the roads for community contracting, due diligence must be given to the demand of employment in that area. In the initial phase of the pilot, some resistance was faced from the male members of the village which is understood, since male members did not want to lose their tag of 'Bread Earner'. Women members of the group are happy that they are earning some money at their door step and now have the sense of financial security and self-respect & thus rural women have been empowered. Main aim of PMGSY program is sustainable reduction of poverty, which is achieved through participation of the local community in maintenance work of rural roads. It creates employment opportunities in the rural sector. These women are becoming financially empowered and are better controlling the funds at community level. Giving the routine maintenance work to the local communities has created a sense of ownership of the road & thus these roads are better maintained. Overall, these empowered women are more confident, financially independent which is good for the community & the nation. It is heartening to know that some members of some groups have demanded the work of on-carriage way for maintenance also which speaks volume of the success of this model. In the first few months, there may be more cost of maintenance than the traditional per kilometre cost. This is because in the first few months the quantum of work is more than the work estimated on the basis of per kilometre length since the maintenance level of road maintained by department is not as good as the work done by the SHGs/MMDs. Till 31st May of 2017, 1030 members of the 1142 members of SHGs/MMDs were financially benefitted from this model and a total of Rs. 18, 90,391/- was incurred on this pilot till 31st of May 2017 since September 2016.

A large number of women have been trained in the off-carriageway maintenance and these women are now the 'Bare-Foot' technicians for the road maintenance. A second line of work force has been created which may be used in any eventuality. Since job is created near their village hence migration from the villages will be checked which is important from the strategic point of view also. Average per km cost of off-carriageway comes out to be Rs.58,000/- km which is comparable with the per km norms of the government department, and will increase the life cycle of the road. Since no contractors are involved in this model hence there is a direct saving of twelve & half percent beside other benefits to the community & to the road agency. In this way there is a 'win - win' situation for road agency, road users & local community in adopting this model of routine maintenance.

## 8. CONCLUSIONS & FINDINGS

Rural road connectivity is a key component of rural development & poverty alleviation. Therefore, to preserve the vast network of rural roads, maintenance of these roads is a vital aspect. Therefore, there should be a institutionalized & sustained structure to maintain this vast network of rural roads. The pilot project of routine maintenance of off-carriageway by women SHGs/MMDs in Uttarakhand has shown the potential of institutionalized & sustainable rural road maintenance mechanism by local community. Since the rural road connectivity gives access to schools, hospitals, markets etc. hence the routine maintenance of these assets must be in good condition. The pilot has



*MMD members at work*

shown that these scattered rural roads are best maintained by local all women groups to give access to the economic centers etc. There is a saving in the cost of maintaining these rural roads hence this model of routine maintenance is financially viable. This model can be scaled up

further by making it compulsory to give the routine maintenance to the local communities. This will be a game changer for the road agency, road users & local community. This pilot has shown that women of the community have become financially empowered & are more confident than before. Main findings of the project are :- (i) women/rural community empowerment (ii) creation of employment (iii) income generation opportunities at community level (iv) reduction in maintenance cost of rural roads (v) creation of sense of ownership of the road (vi) better control over funds at community level (vii) development of skills in administration and work management for community members (viii) development of skills in construction work which could be applied in other construction work (ix) developing confidence in the women folks.



*Status of off-carriageway road after maintenance by MMD members*

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## REFERENCES

1. Community Based Routine Maintenance of Roads by Women's Groups, Asian Development Bank (2011)
2. PPTs on community contracting by ILO.
3. Managing Maintenance of Rural Roads in Uttarkhand, Uttarakhand Rural Road Development Agency (URRDA), October 2015.