सत्यमेव जयते

Ministry of Rural Development
Government of India

Strengthening Capacity of Panchayati Raj Institutions

Managing Maintenance of Rural Roads

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International Labour Office

NRRDA

Foreword

Rural Connectivity is a critical component in the socio-economic development of rural people as it provides amenities like education, health, marketing etc. To address the need of rural connectivity, the Pradhan Mantri Gram Sadak Yojana (PMGSY) was formulated by the Ministry of Rural Development and launched on 25th December, 2000. Well engineered and good quality roads, a systematic planning process, preparation of District Rural Roads Plans (DRRPs) as well as Core Networks in consultation with local MLAs and MPs and elected representatives of Panchayati Raj Institutions (PRIs), are the main features of PMGSY. This programme owes its success to managerial and technical support of the National Rural Roads Development Agency (NRRDA), sound implementation by the states and partnerships with the Principal Technical Agencies (PTAs) and State Technical Agencies (STAs). It is heartening that the states are now adopting similar programme architecture and strategies for their own rural roads programmes as well.

Rural roads act as facilitators to create and transport agricultural surplus, improve basic health, and provide access to schools and employment opportunities. Therefore, these roads should remain in the same condition as they were when we built them. In the context of a farm to market connectivity, proper maintenance is essential if risks of long term investments, on farm as well as off-farm, are to be taken by the rural entrepreneurs. Maintenance is also important as it prolongs the life of the road, lowers the transportation cost resulting in higher profit margins to the farmers and helps in sustaining benefits of improved access.

Programme Guidelines of PMGSY provide that the state governments will take steps to build capacity in the District Panchayats and shall endeavour to devolve the funds and functionaries on to these Panchayats in order to enable them to manage maintenance of rural roads. It is in this context that this Document has been formulated by International Labour Organization (ILO) in collaboration with the Ministry of Rural Development (MORD), to recommend strategies for strengthening the capacity of Panchayati Raj Institutions (PRIs) in managing maintenance of rural roads. The PRIs have a constitutional role in local economic development, poverty reduction and social justice. The PRIs have also been playing an important role in the planning, implementation and monitoring of the programmes of Ministry of Rural Development, Government of India. We believe that involvement of PRIs in maintenance functions of rural roads would lead to greater democratic participation, greater accountability and transparency as well as more efficient use of local resources.

The present Document, at the draft stage, was reviewed by the NRRDA and later deliberated upon at a Workshop organised jointly by the MORD and the ILO where the stakeholders, namely, state implementing agencies, PTAs, STAs, the World Bank and the Ministry of Panchayati Raj also participated. A

number of useful suggestions and comments were received. The document has accordingly being revised and updated.

The Document broadly covers the current interventions of the PRIs in the rural roads sector and strategies proposed for capacity building of PRIs in managing maintenance of rural roads as a gradual approach with technical support of rural road agencies in the states.

I would like to place on record my gratitude to the ILO, India team, especially Mr. D.P. Gupta who prepared the document with valuable inputs from the Rural Roads Maintenance Engineers (RRMEs) of the technical assistance team in close consultation with Mr. Htun Hlaing and Mr. Bjorn Johannessen. Thanks are also due to participants of all State Governments at the workshop, which provided useful feedback for further refinement of the draft. I would also like to acknowledge the painstaking efforts of my colleagues Mr. R. Basavaraja, Director and Mr. S.S. Bhatia, Deputy Director in the NRRDA in bringing the document to its present shape.

I sincerely believe that this Document will be found useful by the States in their efforts to devolve the function of managing rural road maintenance to the Panchayati Raj Institutions along with funds and functionaries.

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Abbreviations and Acronyms

ADB	:	Asian Development Bank
ADC	:	Autonomous District Council
AE	:	Assistant Engineer
BDO	:	Block Development Officer
BFT	:	Bare Foot Technician
BP	:	Block Panchayat
BRGF	:	Backward Region Grant Fund
CAA	:	Constitution Amendment Act
CBO	:	Community Based Organization
CD	:	Cross Drainage
CE	:	Chief Engineer
C&RD	:	Community and Rural Development
CRN	:	Core Road Network
CSO	:	Civil Society Organization
DDC	:	District Development Commissioner
DDPO	:	District Development and Panchayat Officer
DDU-GKY	:	Deen Dayal Upadhyay Grameen Kaushalya Yojana
DLI	:	Disbursement Linked Indicator
DM	:	District Magistrate
DPC	:	District Planning Committee
DPR	:	Detailed Project Report
DRRP	:	District Rural Roads Plan
EE	:	Executive Engineer
FC	:	Finance Commission
GIS	:	Geographical Information System
GP	:	Gram Panchayat
GS	:	Gram Sabha
IDFC	:	Infrastructure Development Finance Corporation
IGPR&GVS	:	Indira Gandhi Panchayati Raj and Grameen Vikas Sansthan (Jaipur)
ILO	:	International Labour Organization
IP	:	Intermediate Panchayat
IRAP	:	Integrated Rural Accessibility Planning
ITI	:	Industrial Training Institute
JE	:	Junior Engineer
LAD	:	Local Area Development
MGNREGA	:	Mahatma Gandhi National Rural Employment Guarantee Act
MGNREGS	:	Mahatma Gandhi National Rural Employment Guarantee Scheme

MIS	:	Management Information System
MLA	:	Member of Legislative Assembly
MOLE	:	Ministry of Labour and Employment
MOPR	:	Ministry of Panchayati Raj
MORD	:	Ministry of Rural Development
MP	:	Member of Parliament
NABARD	:	National Bank for Agricultural and Rural Development
NIRD&PR	:	National Institute of Rural Development & Panchayati Raj
NREP	:	National Rural Employment Programme
NRRDA	:	National Rural Roads Development Agency
PIU	:	Project Implementation Unit
PMGSY	:	Pradhan Mantri Gram Sadak Yojana
PR&RD	:	Panchayat Raj and Rural Development
PRED	:	Panchayati Raj Engineering Department
PRI	:	Panchayati Raj Institution
PS	:	Panchayat Samiti
PTA	:	Panchayat Technical Assistant
PWD	:	Public Works Department
RDD	:	Rural Development Department
RDPD	:	Rural Development & Panchayat Department
REO	:	Rural Engineering Organisation
RWD	:	Rural Works Department
SC	:	Scheduled Caste
SDO	:	Sub Divisional Officer
SE	:	Superintending Engineer
SFC	:	State Finance Commission
SHG	:	Self Help Group
SIRD	:	State Institute of Rural Development
SOR	:	Schedule of Rates
SRRDA	:	State Rural Roads Development Agency
ST	:	Scheduled Tribe
WB	:	World Bank
Units	:	1 lakh = 0.1 million 10 lakh = 1.0 million 1 crore = 10.0 million

Executive Summary

Rural roads are recognized as an infrastructure that provide access to social and economic services. They are an entry point for poverty alleviation and act as facilitators to create agricultural surplus, improve basic health and provide access to schools and employment opportunities. Allied agricultural activities such as animal husbandry, dairy development and fisheries, etc. are closely linked to availability of rural road network. Therefore, rural roads need to remain as we build them.

For building rural roads, the implementation of Pradhan Mantri Gram Sadak Yojana (PMGSY) launched since December 2000 has revolutionised the system of planning of road network for each District in due consultation with the Panchayati Raj Institutions (PRIs), Members of Legislative Assembly (MLAs) and Members of Parliament (MPs) and creating well engineered assets. The states are following similar standards for their own non-PMGSY rural roads. However, maintenance of these roads on a timely and regular basis continues to be an area of concern.

To address the maintenance challenge, the Ministry of Rural Development with support from the International Labour Organization and the World Bank prepared Guidance Notes for Maintenance Policy and Managing Maintenance of Rural Roads and circulated the same to all the states. Several states have formulated their maintenance policy and notified the same. This has helped in four-pronged strategy for improved maintenance namely government commitment, adequate funding, institutional reforms and implementation efficiency. This is essential so that these roads continue to help in generating agricultural surplus and provide benefits of access to our people on a sustainable basis. Maintenance of rural roads has witnessed increasing commitment from state governments in the recent past.

The Guidance Note on Maintenance Policy for Rural Roads circulated to the states by the Ministry of Rural Development (MORD) has also advocated that one of the policy actions to be adopted by the state governments should be entrustment of rural roads maintenance to the Panchayati Raj Institutions (PRIs). To quote "steadily move towards devolving maintenance responsibility of rural roads to PRIs along with funds and functionaries together with the needed technical support. Start on this with undertaking pilots for routine maintenance of non-core rural roads with the joint effort of the PIU of the road agency and the relevant block/gram panchayat": Unquote.

It may be appreciated that being geographically spread, the vast rural road network, particularly, the non-core rural roads are more conducive to management of their maintenance at local level. We may, therefore, consider

utilizing the local decentralized system of Panchayati Raj comprising three-tier structure – Zila Parishad, Block Panchayat and Gram Panchayat. For this, they need to be strengthened and provided with funds. These institutions have been playing an important role in several flagship programmes of the central and the state governments, notably Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) which has given a much greater role to Gram Panchayat (GP) and Panchayat Samite (PS) in planning and delivery of locally relevant rural development projects including rural road connectivity works. The process of devolution of functions to PRIs is in motion. The pace of decentralization is different in different states. But this is bound to gain momentum with the implementation of the recommendations of the 14th Finance Commission wherein a central grant of Rs.2002 billion will be provided to Gram Panchayats during the period 2015-20.

Already the Programme Guidelines by the Ministry of Rural Development provide for two critical participatory approaches of the PRIs in implementation of the PMGSY – one for planning of the rural road network and the other in conducting a transect walk to select the alignment. This is also enhancing the empowerment of women through their active participation in these processes. Apart from these functions, the PRIs have been constructing several stretches of rural roads – both internal village roads and non-core roads to small habitations under programmes such as Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), State Finance Commission Funds, Backward Region Grant Fund, MP/MLA Local Area Development Funds, etc. However, these roads have not been receiving any funds for their maintenance and consequently no maintenance treatment.

For devolving the function of maintenance of rural roads to PRIs, there is clearly an opportunity from the MGNREGS implementation which has provided a unique vehicle in strengthening the capacity and performance of the PRIs especially at Gram Panchayat and Mandal/Block Panchayat level to manage execution of minor civil works. Maintenance of rural roads should be declared as an essential and basic community service. As an immediate step, the following functions in respect of maintenance may be devolved to the Panchayats:

(a) The Gram Panchayats to undertake routine maintenance of internal village roads

(b) The Block/Mandal Panchayats to undertake routine maintenance of those non-core roads, which the PRIs have built or are building under the various centrally sponsored and state government schemes such as MGNREGS, Central and State Finance Commission, MPs/MLAs Local Area Development funds, etc.

(c) Steadily increase the reach of PRIs in routine maintenance of other non-core roads sequel to success in activities (a) and (b) above.

Needless to add that the devolution needs to accompany the allocation of funds and functionaries to the PRIs and strengthening their capacity to manage maintenance of these rural roads. For funds, there are several sources that include state budget, state finance commission funds, market committee fee, rural development cess, grants by the 14th Finance Commission and dedicated state road funds. Routine maintenance being a labour intensive activity, some part funds can be tapped from MGNREGS as per its guidelines which permit use of funds for maintenance of those rural roads which are built under this scheme.

Every block and every district should have Master Plans for the entire rural road network in the digitized form and for roads devolved to PRIs, simple inventory details (length, width, cross drainage works) and visual based condition surveys may be carried out. A unique ID can be given to each and every rural road. This should form the basis for preparation of Annual Maintenance Plans and submitted for approval by Panchayat Samities, Zila Parishads and thereafter District Planning Committees. The state government may allocate full funding for routine maintenance as per the district plans approved by the District Planning Committee.

In order to enhance transparency and governance in use of such funds, there is need to put in place proper reporting systems and uploading of key information on the PRIs departments website including photographs (geotagged and time stamped) before and after maintenance and percentage of roads that received maintenance out of funds made available to them. A system of computerization and Management Information System (MIS) at Mandal level can be established to enhance efficiency in implementation.

For managing execution of maintenance on the ground, there is need to have adequate technical staff at all levels consisting of site supervisors, technicians, engineers. The pool of Bare Foot Technicians being created under MGNREGS can constitute a reservoir of site supervisory cadre to support the JEs/AEs in managing the maintenance tasks.

Off-carriageway routine maintenance of rural roads involves activities like restoration of rain cuts on shoulders and side slopes, dressing of berms, painting of road signs, removing silt and debris from drains, clearance of vegetation growth in the waterway passage of culverts and bridges, bush clearance, trimming of tree branches etc. These activities can be easily performed by local communities and self-help groups living close to the rural roads within the Block/Gram Panchayats. Under the World Bank funded PMGSY project, the NRRDA is undertaking a few pilots with the support of ILO for community contracting in the states of Bihar, Himachal Pradesh and Meghalaya on both PMGSY and non-PMGSY roads. Such pilots can be extended to non-core and internal village roads as well.

Learning from implementation of MGNREGS works, the community contracts and contracts to be executed by contractors should integrate all the Decent Work elements of the ILO for the workers engaged for such works. The key elements are:

(a) Link wages without gender bias. Schedule of rates for women, elderly, people with disabilities to be fixed in a manner that enable equal wage for every worker who has worked for eight hours including one hour of rest;

(b) Payments to be made within three days of measurements taken at the worksite;

(c) Workers may form groups, labour cooperatives to improve their participation in implementation and also ensure provision of entitlements under the contract.

The PRIs particularly at Block/Mandal level would also need to develop contract management capacity in association with the Junior/Assistant Engineer who will inspect the works and request the Mandal Parishad to release payments to the communities / contractors engaged for the maintenance works. For this, initially, the road agencies (Public Works Department, Rural Works Department, SRRDAs) need to assist the local bodies in skill development of the technical personnel of the PRIs and enabling them to join the training programmes being organised by these agencies.

The booklets containing the training material developed by the NRRDA on maintenance of rural roads with the support of ILO would also be of immense help to the PRIs. The support of State Institute of Rural Development, Extension Training Centres at district level, polytechnics, Industrial Training Institutes would need to be obtained for this purpose.

Strengthening Capacity of Panchayati Raj Institutions

Managing Maintenance of Rural Roads

1. Context

Rural roads are recognized as an infrastructure critical to social, economic and agricultural growth of the country. They are an entry point for poverty alleviation. A major thrust to the development of rural roads was given at the beginning of the Fifth Five Year Plan in 1974 when it was made a part of the Minimum Needs Programme. However, in order to give a boost to rural connectivity and reduce poverty, a Rural Roads Programme known as the Pradhan Mantri Gram Sadak Yojana (PMGSY) was launched in December, 2000 with 100 percent funding for construction by the Central Government and 100 percent funding for maintenance by the respective State Governments. The year 2013 saw the launch of PMGSY- II with the objectives of consolidating the existing rural roads network and upgrading of existing rural roads to provide connectivity to rural growth centres and it envisaged sharing of construction cost between the centre and the states. However, there has recently been a change in funding pattern of construction of rural roads under the PMGSY. Now, the share of the central government in construction is 90 percent in respect of North-Eastern states, Sikkim, Jammu & Kashmir, Himachal Pradesh and Uttarakhand and 60 percent in respect of other states. For maintenance, the states continue to be responsible for 100 percent funding. Routine maintenance for 5 years after construction is the responsibility of the same contractor who is entrusted with the task of PMGSY road projects (both new connectivity and upgradation). The programme is administered by the Ministry of Rural Development (MORD) in the Government of India.

With the launch of the PMGSY, for the first time, well-engineered roads are being provided under this programme. The National Rural Roads Development Agency (NRRDA) – an arm of the MORD has developed a common set of engineering standards, specifications, contract documents, operating and financing procedures and are applied nationwide for implementation by the states through their road agencies. A systematic planning process is in place and District Rural Road Plans (DRRP) have been prepared building up from the block level master plans and identification of core road network in due consultation with elected representatives of Panchayati Raj Institutions (PRIs) at Gram, Mandal (Block) and Zila levels as also local Members of Legislative Assembly (MLAs) and Members of Parliament (MPs). The programme owes success to technical and managerial support by the NRRDA, sound

implementation by the states, partnership with the academic institutions which provide support as State Technical Agencies in scrutiny of estimates and upscaling cost effective technologies, and the three-tier quality management system (Project Implementation Unit, State Quality Monitor and National Quality Monitor). Funding support has been provided by the NABARD, the World Bank and the Asian Development Bank besides the Central Road Fund and the state budget. Now, the states are adopting similar strategies for their own rural roads programmes as well.

The contribution of the PMGSY and construction of other rural roads by the states has been undeniable in providing access to social and economic services. Rural roads are a necessary condition for rural development. They act as facilitators to create agricultural surplus, improve basic health and provide access to schools and employment opportunities. Allied agricultural activities such as animal husbandry, dairy development and fisheries, etc. are closely linked to the availability of rural road network. Therefore, rural roads need to remain as we build them. This will require adequate attention to maintenance of rural roads. Maintenance is important because it prolongs the life of the road by reducing the rate of deterioration, lowers the transportation costs resulting in higher profit margins to the farmers and encourages them to produce surplus and it helps in sustaining benefits of improved road access and enhances safety on roads. See Box 1.

Maintenance of rural roads, however, continue to be an area of concern. Fortunately, the states are addressing this concern. Funding levels for maintenance are witnessing enhancement. The central grants recommended by the 12th and the 13th Finance Commission also helped. Being geographically spread, the vast rural road network, particularly, the non-core rural roads are more conducive to management of their maintenance at local level. We may, therefore, consider utilizing the local

Box 1: Benefits of sustained access

- Owners of vehicles incur lower operation costs and slower depreciation of their vehicles,
- Reduces the cost of operating public transport services,
- Users of public transport benefit from reduced travel times, lower fares, higher frequencies, more regularity of services and better comfort,
- Farmers, entrepreneurs and traders retain access and incur lower transport costs,
- Improves the business environment for farmers and local entrepreneurs,
- Rural dwellers get easier access to health services,
- Children and youth experience easier access to school, resulting in lower drop-out rates,
- Communities as a whole can maintain social and economic ties to the outside world,
- Government agencies achieve better access to local communities in terms of providing outreach services such as health, education, agricultural extension services, etc.,
- Rural areas become more attractive to investors,
- Improved access to employment opportunities and other economic activities,
- Government saves expenditure in reconstruction and rehabilitation works.

decentralized system of Panchayati Raj comprising three-tier structure – Zila Parishad, Block Panchayat and Gram Panchayat. For this, they need to be strengthened and provided with funds.

2. Maintenance Challenge

The Ministry of Rural Development in its submission to the 14th Finance Commission brought out that the asset base of rural roads including PMGSY roads is of the order of Rs. 4870 billion (Table 1).

Table 1: Rural Roads: Asset Base (as of December 2013)

Sl.No.		Length	Amount (Rs. Billion)
1.	PMGSY	390,000 km	1560
2.	Non-PMGSY		
	(i) Core Roads	747,500 km	1196
	(ii) Non-core Roads	2,112,162 km	2112
	Total	3,249,662 km	4868
	Say	3.25 million km	Rs. 4870 billion

Source: MORD Note for 14th Finance Commission

These are huge assets and deserve to be preserved.

In this context, it may not be out of place to mention that the Ministry of Rural Development with support from the ILO and the World Bank prepared Guidance Notes on Maintenance Policy and Managing Maintenance of Rural Roads and circulated the same to all the states. Several states have formulated their maintenance policy and notified the same. This has helped in the four-pronged strategy for improved maintenance namely government commitment, adequate funding, institutional reforms and implementation efficiency. This is essential so that these roads continue to help in generating agricultural surplus and provide benefits of access to our people on a sustainable basis.

Studies in India and abroad have confirmed that one million rupees invested in routine maintenance saves two million rupees required for periodic surface renewal and one million rupees invested in surface renewal saves two million rupees required for reconstruction. Let us not forget that neglect of maintenance results in reconstruction which puts an avoidable burden on quarrying and transportation of aggregates and thus an adverse environment impact. Therefore, preventive maintenance would significantly cut down government expenditure on maintenance and also help in reducing the carbon footprint. The MORD may consider an all-India meeting of Ministers in charge of Rural Development and Rural Roads Agencies of the states to further highlight the importance of regular and timely maintenance to provide sustainable access. Performance based maintenance contracts are being increasingly adopted by the states with a view to improving delivery on ground and save on state budget maintenance. This is also a healthy development.

The PMGSY Programme Guidelines of the Ministry of Rural Development asserts inter alia that proper maintenance is essential if risks of long-term investments, on-farm as well as off-farm, are to be taken by the rural entrepreneur. Accordingly, putting in place of institutional measures to ensure systematic maintenance of the rural core network will be key to the continuance of the PMGSY programme in the state. To this end, the state governments will take steps to build up capacity in the District Panchayats and shall endeavour to devolve the funds and functionaries on to these Panchayats in order to enable them to manage maintenance of rural roads.

The Guidance Note on Maintenance Policy for Rural Roads circulated to the states by the MORD has also advocated that one of the policy actions to be adopted by the state governments should be entrustment of rural roads maintenance to the Panchayati Raj Institutions (PRIs). To quote "steadily move towards devolving maintenance responsibility of rural roads to PRIs along with funds and functionaries together with the needed technical support. Start on this with undertaking pilots for routine maintenance of non-core rural roads with the joint effort of the PIU of the road agency and the relevant block/ gram panchayat": Unquote.

The draft of this report bringing out the possible strategies that may be considered for strengthening capacity of the PRIs in managing maintenance of rural roads in the states was drafted by the ILO and discussed with the stakeholders at a workshop organized by the NRRDA on 16 November 2015. The workshop also had the benefit of participation by the Joint Secretary, Ministry of Panchayati Raj. Based on the feedback, the Report has been modified.

3. Panchayati Raj Institutions

Panchayati Raj Institutions (PRIs) as units of local self-government have been in existence in the country for a long time. However, the Constitution (73rd Amendment) Act of 1992 formally established PRIs as a third level of federal democracy. It is an attempt to bring about uniformity in decentralization of powers and responsibilities at the district level. The key features include inter alia:

- A three-tier PRI system comprising Zila (district) Panchayat (ZP), Mandal/ Block (intermediate) Panchayat (IP) and Gram (village) Panchayat (GP).
- The Gram Sabha (GS), consisting of all adult members of the village, is the main deliberative body for decisions about development and other GP priorities and monitoring functioning of the GP head, ward members and non-elected officials like Panchayat Secretary, Rozgar Sewak/Sahayak.
- Devolution of functions with adequate power for preparation of plans for social justice and economic development and their implementation. (For brief details, see Annex 1).

- Each state to constitute a State Finance Commission to make recommendations for devolving funds to the PRIs.
- A District Planning Committee (DPC) to be constituted, comprising elected representatives of rural panchayats and urban local bodies, local MLAs and MPs.
- As per September 2013 data, there are 589 Zila Panchayats; 6,325 Block/ Mandal Panchayats and 239,539 Gram Panchayats.

The states have been enacting their own Panchayati Raj Act in conformance with the provisions of the Constitution (73rd Amendment) Act, 1992. The Gram Panchayat has a Gram Sachiv/Gram Secretary/Gram Vikas Sewak as a government functionary for providing assistance. At Block level, the Block Development Officer or Block Development and Panchayat Officer is ex-officio Executive Officer of Panchayat Samiti for assisting in discharging its powers and responsibilities. In the block, usually skeleton technical and accounts staff at junior level are posted. At the Zila Parishad/Panchayat level, an Additional Deputy Commissioner level officer functions as ex-officio Chief Executive Officer of Zila Parishad with the District Development and Panchayat Officer as Secretary for the Zila Parishad. Some states have District Rural Development Agencies (DRDAs) as the district level governing body comprising local MPs, MLAs, President of ZP, Heads of District Development Departments, etc. for management of funds and formulation of district level plans.

The 14th Finance Commission has recommended a grant of Rs. 2,002,922 million (approx. Rs. 2 trillion) to the GPs for the period 2015-20. Some key recommendations in this regard are included in Annex 1 referred above.

The expectation and rationale behind establishing the PRIs are greater democratic participation, better articulation of local needs and priorities, more efficient use of local resources and greater accountability and transparency. These institutions are a true process for harnessing the people's innate abilities to bring about rural transformation. Having been constitutionally conferred statutory status, the PRIs would need to evolve themselves in a healthy manner over the coming years to fulfil the intent and expectation behind the establishing of PRIs. These institutions have been playing an important role in several flagship programmes of the central and state governments, perhaps more role in implementation and monitoring than in planning. Thanks to the launch of the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), a much greater role is given to the Gram Panchayats and Panchayat Samities in planning and delivering locally relevant development projects including rural road connectivity works. Table 2 indicates the expected roles of PRIs in some of the centrally sponsored schemes.

Table 2: PRI Roles in Flagship Programmes

Sl.No.	Scheme	Planning	Beneficiary Selection	Implementation	Monitoring and Evaluation
1.	MGNREGS	✓	✓	✓	✓
2.	Backward Regional Grant Fund	✓		✓	✓
3.	Public Distribution System		✓		✓
4.	Shelter		✓	✓	
5.	Education		✓	✓	✓
6.	Health	✓		✓	✓
7.	Sanitation	✓	✓	✓	✓
8.	Electricity				✓
9.	Drinking Water	✓	✓	✓	✓

Source: India Rural Development Report 2012-13 by IDFC

4. Current Scenario on Decentralisation

It is heartening that the process of devolution of PRIs is in motion. Financial resources are also being made available to them. Elections are being held regularly and space being provided for the marginalized and the women in functioning of PRIs. A broad mapping of status regarding devolution of functions in the eight states for which the World Bank has provided financial assistance in accelerating the programme of rural road connectivity under the PMGSY is given in Table 3.

Table 3: Situation Analysis of Rural Roads with PRIs: World Bank funded PMGSY States

Sl. No.	State	Functions	Funds	Functionaries
1.	Bihar	20 line departments	Under evaluation	Departments, PRIs social sector staff
2.	Himachal Pradesh	27 subjects	GPs with Taxes	Departments, Technical staff to PRIs
3.	Jharkhand	Information not readily available		
4.	Meghalaya	Autonomous District Councils		
5.	Punjab	7 Departments, 13 subjects	GP with leasing of Panchayat land	Departments
6.	Rajasthan	5 Departments	10% untied funds	5 Departments staff to PRIs
7.	Uttar Pradesh	13 departments, 16 subjects	ZPs with taxes	Departments
8.	Uttarakhand	14 subjects	ZPs with taxes	PRIs supervision

Source: Road Map for Panchayati Raj 2012, Press Information Bureau

It would be noted that currently the progress on devolution varies from state to state. Different states have approached decentralization differently. While the decentralization models are similar, differences are in pace of

implementation. In any case, the PRIs system is clearly here to stay as is amply demonstrated by the recommendations of the 14th Finance Commission. As brought out earlier, an amount of around Rs. 2000 billion is proposed to be allocated to the Gram Panchayats (about 240,000 in number) over the 2015-20 period. Notwithstanding the fact that both technical and managerial capacity of the PRIs is currently weak and is a challenge in efficient planning and delivery of the various development programmes, it cannot and should not be a reason to delay the devolution process. Steps can easily be taken for building capacity of both the elected representatives of the PRIs and official functionaries including Junior Engineers and Assistant Engineers currently responsible for supporting them at GP, PS and ZP levels. Gram Sabhas which are vibrant and Civil Society Organizations (CSOs) which are vigilant do help in better performance and enhancing accountability of these local self-government institutions. PRIs are thus an inevitable institutional arrangement for achieving the intended fruits of rural development programmes through people's initiatives and participation. Accordingly, the Ministry of Rural Development and the Ministry of Panchayati Raj in the Central Government are continuing with their current policy advocacy to the devolution of functions side by side of providing support in capacity building of the PRIs within the National Capacity Building Framework of the government.

5. PRIs Interventions in the Rural Roads Sector: Current Situation

The Programme Guidelines of the PMGSY provide for two critical participatory approaches of the PRIs – one for planning of the entire rural road network and the other for selection of the road alignment through the system of a "transect walk". A brief note on these interventions is given in Annex 2. The District Rural Roads Plans have been prepared for all states building up from the Block Level Master Plan for all rural roads including the Core Network. The Core Network includes roads required to assure each eligible Habitation with a Basic Access (single all-weather road connectivity) to essential social and economic services. The Core Network consists of some of the existing rural roads as well as all the roads proposed for new connectivity under the PMGSY. It may be noted that the participation of local members including women from the GP in the 'transect walk' has considerably helped the states in getting land for rural roads on voluntary basis. This has also enhanced empowerment of the women and their social renaissance.

Apart from their involvement in network planning and fixation of road alignments under the PMGSY, the PRIs have been undertaking the work of rural roads particularly internal village roads under the various schemes of the central and state governments. A broad summary of the current situation in respect of rural roads constructed and maintained by the PRIs in the eight PMGSY states is captured in Annex 3. A summary of the details collected for each of the states is provided in Annexes 4 to 11.

6. Observations and Analysis of Current Situation

The following observations can be made from scan of the current situation:

(i) All the PMGSY World Bank funded states have formulated maintenance policy on rural roads. The policy advocacy by the MORD has helped in this process. The strategy of the World Bank to introduce the system of Disbursement Linked Indicator (DLI) on assured maintenance of rural roads provided the much needed fillip. Currently, no specific role is entrusted to the PRIs except by the state of Uttar Pradesh. In the policy notified by the state government of Uttar Pradesh, the Zila Panchayat has the ownership of rural roads with the PRIs (length about 27200 km). The works of maintenance on these roads are carried out by the Rural Engineering Department as deposit work. All these roads are black-top and funds for maintenance including renewal of surface are provided out of grants by the State Finance Commission. The state of Himachal Pradesh, in their policy, has proposed to undertake some pilot works of maintenance of rural roads jointly by the PIU of the PWD and the relevant block/gram panchayat and steadily devolve maintenance responsibility to PRIs. The state of Punjab has for the first time allocated funds for routine maintenance covering both off-carriageway and on-carriageway patch works, etc.

(ii) There is single technical agency responsible for rural roads in the states of Bihar, Himachal Pradesh, Jharkhand, Meghalaya and Rajasthan. While Bihar and Jharkhand have dedicated Rural Works Department, the state of Himachal Pradesh, Meghalaya and Rajasthan have allocated this responsibility to the Public Works Department. A separate wing for PMGSY rural roads at headquarters has been created in these states. A few rural roads are with Rural Development Department of Himachal Pradesh. In Punjab, rural roads are divided between the Public Works Department (PWD) and the Agricultural Marketing Board (Mandi Board). In Uttar Pradesh, there are three main agencies – Public Works Department, Rural Development Department and Zila Panchayats. Some rural roads vest in Sugarcane Board and Marketing Board also. In Uttarakhand, the PMGSY roads are with the Uttarakhand Rural Roads Development Agency and other rural roads with the Public Works Department.

(iii) In addition, in all these states, there are several stretches of rural roads – both internal village roads and non-core roads to small size habitations – constructed / repaired by the PRIs out of funds available from schemes such as MGNREGS, BRGF, Central and State Finance Commission, MPs/MLAs Local Area Development Funds, etc. The PRIs in Uttar Pradesh undertake the maintenance of these roads through the State Finance Commission Funds. In other PMGSY World Bank funded states, currently, these road stretches do not receive any maintenance

treatment, neither from the PRIs nor from any other agency. Culture of routine maintenance of rural roads except the PMGSY seems to be virtually absent.

(iv) All the states have prepared the District Rural Roads Plans building up from the Block Level Master Plans showing the core network and other roads as per the PMGSY Programme Guidelines in consultation with the PRIs and MLAs/MPs of the area. While data regarding the length of core network is regularly updated by the states and the NRRDA, there is not so much clarity on the total stock of rural roads in different states. The stock needs to include roads being built inside the village or connectivity to some habitation or rural production centres (farm-net roads), etc. particularly under the Centrally Sponsored Schemes such as MGNREGS and BRGF. (It may be noted that the BRGF has now been discontinued).

(v) For rural roads with the PRIs, there is currently no system of road inventory and condition surveys. Traffic counts are also not practiced on these roads. However, data on length and width of roads is available at district level in many of the states.

(vi) Funds for maintenance of rural roads are allocated out of the state budget non-plan head of account and grants of the Central and State Finance Commission. Punjab and Uttar Pradesh raise some funds through a levy on market committee fees. Uttarakhand proposes to tap funds from MGNREGS also. This state also has access to Devi Aapda head of account in case of landslides and other disasters. Meghalaya gets some funds from Department of Development of North-East Region, Government of India. However, as mentioned above, no funds for maintenance are provided to PRIs except by the state of Uttar Pradesh.

(vii) The PRIs undertake several small size civil works relating to buildings (Panchayat Ghar, Block Resource Centre), toilets, anganwadi shelters, earthen dams, check dams, contour bunds, boulder checks, renovation of irrigation canals and traditional water bodies (tanks, etc.) besides rural road stretches. For technical support, the Panchayati Raj Departments in the states have their own Engineering Wing. There are differences between the states as to the levels at which the technical personnel are posted at the Zila Panchayat and at the Block/Mandal Panchayat levels. All these states have Junior Engineers and Assistant Engineers at field levels. While it has not been possible to make an assessment about the adequacy or otherwise in absence of the financial work load at the block/district level being handled by the PRIs in the states, discussions with a few technical officers and the elected representatives (Mandal Pradhan, President Zila Parishad, Member Zila Parishad, etc.) at Zila Panchayat and Mandal Panchayat level gave the sense that technical support is recognized as a positive enabler for

the PRIs to discharge their functions. However, the need for training and capacity building was stressed as currently there is no regular system put in place except for training of PRI elected representatives, Block Development Officers, Panchayat Sachiv/Sahayak, etc. through the State Institute of Rural Development at the state level and Training Centres at District level.

(viii) The PRIs undertake the construction of civil works both departmentally and through local petty and small contractors. In most states, the PRIs do not have their own system of enlisting/registering the contractors. However, they utilize the contractors registered with line departments – irrigation, public health, building and roads, etc.

(ix) The state governments have benefited from the PMGSY and are adopting similar approaches for rural roads under their own programmes such as Mukhya Mantri Gram Sadak/Sampark Yojana to enhance durability and engineering standards for these roads. However, in respect of road stretches, foot paths, foot bridges, bridle and light vehicle roads being constructed by the PRIs, currently there is no linkage with the State Rural Roads Development Agencies to benefit from the practices adopted in respect of PMGSY roads. It may not be surprising that some of the roads constructed through the PRIs, particularly in hill regions, may suffer from substandard geometrics and steep gradients which may be difficult to correct later. There could be lack of appreciation about linkage between standards and quality of construction. Subsequent maintenance becomes more onerous if the road is substandard in quality at the time of construction. Awareness raising among the elected representatives and junior engineers also seem to be lacking.

There is evidence of the Mahatma Gandhi National Rural Employment Guarantee Scheme having served as a unique vehicle in strengthening the capacity and performance of the Panchayati Raj Institutions especially at Gram Panchayat and Mandal/Block Panchayat levels to manage execution of minor civil works. For devolving maintenance of rural roads to the PRIs, there is clearly an opportunity to build up on such strengths and lesson learning for achieving productive and durable rural road assets. In this context, the MORD has been circulating to the states convergence guidelines between MGNREGS and PMGSY from time to time with a view to improving the quality of assets taken up under MGNREGS. The states have been requested to constitute a convergence team consisting of senior officials of PMGSY and MGNREGS to operationalise these guidelines.

A good example of Engineering Wing functioning for delivery of rural roads duly integrating with the Panchayati Raj Institutions is seen in Telangana and Andhra Pradesh. Both these states have a dedicated Panchayat Raj Engineering Department (PRED) supporting the PRIs at block and district levels. A brief

description of the PRED, Telangana is given in Annex 12. Among other good practices, it was noted that a Junior Engineer is placed under the administrative control of Mandal Pradhan (Mandal in Telangana is a smaller unit than a Block), while he/she is under the technical control of the Assistant Engineer of the PRED. The SE level functionary is posted at district level for providing technical support to the Zila Parishad. The PRED, the Mandal Panchayats and the Zila Panchayats find this system productive and useful. In the PMGSY World Bank funded states, such practices could be easily integrated, where there is only one unified agency for rural roads.

It may be added that India is not the only country where PRIs are facing challenges of weak local planning, weak functioning and inadequate capacity. Countries like Thailand, Laos, Philippines, Nepal, Bangladesh to name a few have been facing similar challenges. Annex 13 provides a broad glimpse of Philippines, Laos and Cambodia. Box 2 gives an example of rural roads maintenance in Finland and Peru.

Box 2: Maintaining Rural Roads: Lessons from around the World

Rural road co-operatives for maintenance—the Finnish experience

The Government of Finland has promoted rural road maintenance using road co-operatives. A road-co-operative is a rural road maintenance organisation whereby people living along a road accept responsibility for its maintenance. The Finnish Government has provided a legal framework which stipulates the right-of-way, co-operative ownership, and the formula for distribution of maintenance costs amongst the road users and property holders along the road. Participation in the road co-operative is compulsory for property owners who use the road. The cost of road maintenance is shared amongst the members of the co-operative depending on the benefits to each member in the form of the size of the holding and the created traffic. Each co-operative holds an annual general meeting to decide the fees, to accept new members and to audit the previous year's accounts.

Routine maintenance by Community Based Micro-enterprises in Peru

In Peru, the Rural Roads Project (RRP) has set up a cost-effective routine maintenance system based on contracting out labour-intensive maintenance works to micro-enterprises, local co-operatives and other community based organisations. The composition of these entities varies according to the size of the road. Their average size is about 13 people and the average length of the road covered is about 36 km. Priority is given to unemployed people with prior experience in construction works.

The micro-enterprises are engaged through performance based contracts with the Peru Roads Department and paid on a monthly basis. The micro-enterprises are self-governing, and determine how the monthly payment is allocated to the various uses: wages, tools, rentals, transportation, savings and other investments.

Micro-enterprises carry out simple works continuously throughout the year, to clean the ditches and culverts, control vegetation, fill potholes and ruts, maintain the surface camber, remove small landslides, and undertake other emergency works. They have also demonstrated capacity to build retaining walls and small bridges and handle El Nino emergency works under the guidance of the highway authority.

Source: *IDFC Infrastructure Report 2007*

7. Rural Road Connectivity Works under the MGNREGS

The Mahatma Gandhi National Rural Employment Guarantee Act being implemented since February 2006 as a right-based, demand-driven and self-selecting scheme marks a paradigm shift in India's efforts to create employment opportunities in rural areas. Its basic aim is to enhance livelihood security by guaranteeing rural households not less than 100 days of paid employment per financial year provided the adult members volunteer to do unskilled manual work. Its other goals also have potentially far reaching social and economic ramifications besides serving as an instrument for strengthening of the Panchayati Raj Institutions. The core objectives of the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) are:

(a) Providing not less than one hundred days of unskilled manual work as a guaranteed employment to every household in rural areas as per demand, resulting in creation of productive assets of prescribed quality and durability.

(b) Strengthening the livelihood resource base of the poor

(c) Proactively ensuring social inclusion

(d) Strengthening Panchayati Raj Institutions

During the period 2006-2015, the works taken up under the MGNREGS have generated over 18 billion person-days of work at a total expenditure of Rs. 2812 billion. The share of SC/ST families has been 50-55 percent. About 40-45 percent of workers have been women. Major expenditure under the MGNREGS has been on water conservation and water related works (about 50 percent) and rural road connectivity (about 30 percent). This reflects the felt need for roads by the Gram Panchayats and Panchayat Samities. Under this scheme, the PRIs have been undertaking works on internal village roads and some non-core rural roads such as footpaths, footbridges, earth work and gravelling or metalling thereafter.

In some cases, drains and pipe culverts have also been provided. The roads are passable by light vehicles. However, instances are not lacking where compromises during execution were made on quality of assets, especially as regards to compaction and provision of camber and adequate drainage works. If the earthworks are not compacted properly to the specified standards, it leads to avoidable extra cost when such roads are taken up for further development through stage construction by line departments. There is perhaps a need to make a detailed assessment of the extent to which such inadequacies exist on the roads constructed under this programme as these would constitute a sizeable network of local access roads. It may also be pointed out that on some of these roads, further improvement works have been executed out of funds made available from other centrally sponsored and state government schemes such as the Backward Region Grant Fund, MP/MLA Local Area

Development Funds, State Finance Commission funds and Decentralised Planning allocations. Correct and quality construction of local roads under such programmes is equally important.

The list of permissible works has recently been reviewed and expanded (Refer MORD Notification dated 3rd January 2014) in response to demands of the states for greater location-specific flexibility. Schedule I of MGNREGA has accordingly been modified. For road connectivity, the following works are relevant:

I. Category A: Public Works relating to National Resources Management
   (v) Tree plantation and horticulture in road margins with right to usufruct to the households

IV Category D: Rural Infrastructure
   (ii) Providing all-weather rural road connectivity to unconnected villages and to connect identified rural production centres to the existing pucca road network; and construction of pucca internal roads or streets including side drains and culverts within a village
   (iv) Works for improving disaster preparedness or restoration of roads
   (viii) Maintenance of rural public assets created under the Act
   (ix) Any other work which may be notified by the Central Government in consultation with the state government in this regard.

The scheme also expects the state government to take concrete steps to achieve effective inter-departmental convergence with other programmes so as to improve the quality and productivity of assets and also to ensure that before starting new works, the ongoing or incomplete works are completed first.

This scheme also stipulates that the state government shall ensure deployment of adequate technical personnel to complete the work within the stipulated period. Suitable persons from the families of workers may be trained or skilled and deployed as barefoot technicians with appropriate delegation of technical powers and paid wages as skilled workers. The MORD in its circular dated January 2015 issued guidelines to the states for identification, training, equipping and payment to the barefoot technicians. The Ministry proposes to train them with support of the ILO (Annex 14).

Other conditions of work include:

(i) Link the wages, without any gender bias, with the quantity of work done and to be paid according to the rural schedule of rates fixed after time and motion studies for different types of work and different seasons and revised periodically.

(ii) A separate Schedule of Rates (SOR) to be finalised for women, the elderly, people with disabilities and people with debilitating ailments so as to improve their participation through productive work.

(iii) The SOR of wages for various unskilled labourers to be fixed in a manner so that an adult person having worked for eight hours, which include an hour of rest, will earn a wage which is equal to the stipulated wage rate.

(iv) The working hours of an adult worker shall be flexible but shall not spread over more than twelve hours on any day.

(v) Payment shall be made based on the measurements taken at the worksite by the authorized personnel within three days of closure of the muster roll (system of e-Muster introduced).

The scheme also expects the State Government to take steps to organize, either through its own machinery or working with Civil Society Organisations (CSO), the workers into formal groups/labour cooperatives to improve their participation in implementation and to ensure provision of entitlements under the Act.

There is to be a Capacity Building Plan, Informal Education Communication Plan and a plan for strengthening Panchayats as part of the Scheme.

It will be seen from the list of permissible road connectivity works given earlier that maintenance of those rural roads which have been or are being constructed under the MGNREGS can be taken up out of funds available under the programme. Routine maintenance of rural roads has a high labour content and low material content. It is, therefore, proposed that as an immediate step, routine maintenance of all such roads as have been constructed or are being constructed under the MGNREGS may be got ensured from the Gram Panchayats as part of the MGNREGS. It is possible that some of the rural roads constructed earlier under the Scheme may require some rectification works before making them maintainable. Such works may be taken up by the states after proper assessment and identification of suitable rectification measures.

8. Managing Maintenance of Rural Roads: Essential Elements

It would be desirable that the PRIs appreciate the essential elements of maintenance management of rural roads. These are brought out here.

8.1 Types of Maintenance

There are four categories of maintenance as under:

(i) *Routine Maintenance:* These are routine activities to be performed on a regular basis throughout the year. It consists of both off-carriageway and on-carriageway activities. Most common activities are as under:

- Remove debris from roadway and drains
- Clear drains, allowing free passage of water

- Clear culverts and other water crossings
- Repair shoulders and side slopes
- Patch potholes, seal cracks and repair edges of pavement
- Cut grass and bushes
- Maintain road signages and pavement markings

(ii) *Periodic Maintenance:* Periodic maintenance covers renewal of the road surface. Normally on rural roads, it may be required at 5 to 6 year intervals depending upon the initial construction standards and quality, traffic and weathering effect. It needs to be borne in mind that if routine maintenance is assured, particularly attending to timely patchwork on the pavement, maintenance of camber/super elevation and side drains, the requirement of periodic maintenance can be postponed.

(iii) *Special Repairs:* This is required when culverts and bridges have suffered serious distress and damage requiring major repairs or even replacement. Major repairs of protective works such as breast walls, retaining walls may also be treated as special repairs.

(iv) *Emergency Works:* This is required when unforeseen events occur such as landslides, floods and earthquakes, etc. The immediate task is to re-open the safe passage on the road and subsequently plan for and provide for restoring the road to its former or better condition.

8.2 Maintenance Management Principles

These principles are:

- Conducting inventory and condition surveys
- Planning and economics of maintenance
- Timing of maintenance interventions
- Estimating and budgeting
- Works preparation and execution
- Reporting

8.3 Inventory and Condition Survey

To plan for funding and undertaking maintenance, first requirement is knowledge about the status of the rural road network at GP, IP and ZP levels. A regular system of simple inventory survey needs to be in place. These surveys would help in planning and prioritizing maintenance interventions duly taking into account the importance of the road (population served, linkage with markets, health care facilities and schools).

8.4 Planning and economics of maintenance

First priority should be given to allocation of sufficient budgets for routine maintenance of all roads in good condition. This strategy would prevent or at

least delay in further deterioration of the road. Equally, it is critical to attend to maintenance of all safety features and ensuring that all roads are kept continuously open to traffic (Box 3).

Secondly, priority should continue to be given to off-carriageway and cross-drainage maintenance of roads which are in even fair and poor condition. This applies particularly to clearing/cleaning of drains and drainage structures. There shall be no compromise on keeping the drainage system in good condition. This strategy would reduce the financial burden of pavement treatment significantly.

Box 3: Enhancing Safety through Maintenance

High priority needs to be accorded to ensuring maintenance of all safety features provided on the road. Particular attention needs to be paid to the following:

- Maintaining functionality of road signs, pavement markings and other traffic control devices so that they are clearly visible from a distance. This would involve pruning/trimming of tree branches, repairs/replacement of damaged signs, worn out markings and traffic control devices.
- Ensuring visibility of cautionary signs particularly near speed breakers, road junctions and pedestrian crossings.
- Taking corrective measures at locations where sight distance is seen to be compromised.
- Ensuring that the road remains open to movement of traffic at all times as far as possible.

8.5 Timing of maintenance interventions

Timeliness is critical for maintenance. There is need to undertake regular inspection of the road at JE level and formulate a programme of routine maintenance activities on a weekly basis, giving priority to tasks which are required to make the road passage safe for movement of traffic.

8.6 Estimating and budgeting

The Junior Engineer would need to prepare estimate of the maintenance activities based on applicable schedule of rates and submit to the Assistant Engineer for scrutiny and obtaining approval of the competent authority in the PRI for securing necessary funds.

8.7 Works preparation and execution

On approval of estimate and budget, steps have to be taken to plan for implementation on the ground for which the necessary tools and plants and materials have to be arranged if the maintenance work is to be done departmentally or by community contracting. Otherwise, tendering process needs to be carried out well in advance to ensure that actual execution can take place at the right time.

8.8 Reporting

The reporting of physical and financial progress is essential to keep the Presidents of the Mandal/Block Panchayat and Zila Panchayat informed on actual progress against the approved plan and budget.

9. Strategies Proposed for Strengthening Capacity of the PRIs

The strategies proposed for strengthening capacity of the PRIs in managing maintenance of rural roads are brought out under the following key components:

(i) Functions

(ii) Funds

(iii) Functionaries

(iv) Implementation

9.1 Functions

(i) Today, rural roads are being constructed as well engineered roads so that they are durable assets. It is recognized that rural roads help create agricultural surplus besides providing access to schools and medical services. Therefore, they need to remain as we build them. This will imply regular maintenance. Maintenance of rural roads has witnessed an increasing commitment from state governments in the recent past. Actually, maintenance of rural roads should be declared as an essential and basic community service. This would strengthen the accountability of the agencies responsible for rural roads under their jurisdiction and ownership. Now, a policy advocacy appears to be justified in devolving responsibility for maintenance of rural roads to the Panchayati Raj Institutions by the state governments. The PMGSY has channelled the interest of PRIs, MPs and MLAs into a structured planning system. They have been involved in preparation of comprehensive Block Level Master Plans and District Rural Roads Plans showing habitations connected and unconnected, existing roads, core roads and non-core roads, etc. As a first step, the District Panchayats may lend a process in collaboration with Gram Panchayats and Block Panchayats:

(a) To prepare a layout of the roads from the existing revenue map of the District Panchayat and plot District Rural Roads Plan (DRRP) on it.

(b) Colour coding of maps showing the roads yet to be constructed and yet to be upgraded.

(c) These maps shall be digitized and hosted on a GIS platform.

(d) These updated digital maps shall indicate roads constructed, roads upgraded, roads yet to be constructed and roads yet to be upgraded, internal village roads, non-core roads.

(e) Each rural road in every district should be given a Unique ID number just as Aadhaar Card for every citizen so that total stock of rural roads is available at one place in the Zila Panchayat Headquarter. Further, the Zila Panchayat, through the GIS platform can monitor and track the progress of road activities including maintenance.

(f) The Zila Panchayat will coordinate with the State Rural Roads Development Agency (SRRDA) in the state through the PIU for monthly progress review and coordination meetings. However, where multiple PIUs exist in the district, the Block/Mandal Panchayat will coordinate with the concerned PIU and then update the progress status to Zila Panchayat in the monthly meeting.

(g) The Zila Panchayat will strengthen the capacity of Block/Mandal Panchayat by placing Junior/Asstt. Engineers and Revenue Patwari/ officials to prepare the maps referred to in (a) and (b) above.

(h) The SRRDA would support in training of Gram Panchayat and Block/ Mandal Panchayat Engineers and Revenue officials, such training being conducted at training centers in respective districts headquarters.

(ii) It is proposed that whatever rural road maintenance function stands already devolved to the PRIs in the state may continue and suitable measures undertaken to reinforce the same.

(iii) In states, where currently, there is no function of rural road maintenance formally devolved to the PRIs, the following approach may be adopted:

(a) The Gram Panchayats to undertake routine maintenance of internal village roads

(b) The Block/Mandal Panchayats to undertake routine maintenance of those non-core roads, which the PRIs have built or are building under the various centrally sponsored and state government schemes such as MGNREGS, Central and State Finance Commission, MPs/MLAs Local Area Development funds, etc.

(c) The Block/Mandal Panchayats may increase their reach for undertaking routine maintenance of other non-core rural roads currently with other road agencies such as PWD, RWD, Mandi Boards, etc. For this, in the first instance, each state may select two districts and for each of these two districts, there may be three blocks where routine maintenance through community contracting or self-help groups may be piloted by the PRIs under the guidance of the PIUs of the road agencies.

(d) Needless to add that, except for a few states, currently routine maintenance of the non-core rural roads is virtually absent and funds are spent when serious damages have occurred or when they need rehabilitation due to previous neglect or lack of maintenance resulting in much higher costs of remedial treatment. Even otherwise, since routine maintenance works of non-core roads are geographically spread, the management of this type of activities can be more effectively organized at local level through the involvement of Gram and Block/Mandal Panchayats and the local petty contractors or local

communities. There is a strong case, therefore, for policy advocacy by both the Central and State Government to empower the Panchayati Raj Institutions as units of local government administration to entrust the routine maintenance of non-core rural roads to the PRIs. They will be able to more effectively promote community involvement. Also, the communities can then more forcefully demand their involvement in this effort.

(e) The devolution needs to accompany the allocation of funds and functionaries to the PRIs and strengthening their capacity to manage maintenance of these roads as essential pre-requisites.

9.2 Funds

(i) There are several sources of funds out of which funds required for routine maintenance of rural roads entrusted to the PRIs can be allocated by the state governments. These sources include state budget under the Non-Plan Revenue Expenditure, State Finance Commission, Market Committee Fee, Rural Development Cess, and Grants by the 14th Finance Commission.

(ii) Since routine maintenance of rural roads is a labour intensive activity with low material and equipment content, maintenance of those rural roads which have been or are being constructed under the MGNREGS can be taken up out of funds under the MGNREGS. The current convergence guidelines MGNREGS & PMGSY allow for post 5-year routine maintenance of PMGSY roads from MGNREGA funds[1]. The MORD may consider extending financial support from MGNREGA funds for routine maintenance of roads already built or being built under the MGNREGS. This will help in enhancing the preservation and extending life of the rural road network, besides creating off-farm employment opportunities resulting in strengthening the livelihood resource base of the poor.

(iii) Some states are creating dedicated maintenance funds for roads including the rural road network in order to ring-fence the same for assured maintenance on ground. A reasonable percentage of the fund should be reserved for being allocated to roads under the supervision of the PRIs.

(iv) In order to improve confidence among the decision makers who are requested to allocate funds for routine maintenance to the PRIs, there is need to put in place a sound mechanism to establish proper reporting systems by the PRIs that details the requirements for each road based on an inventory and condition survey (supported with digital photos as already being practiced by several agencies in the states) and how funds

[1]Refer MORD, Department of Rural Development (MGNREGS) letter No. J-11060/1/2011-MGNREGA dated 7 November 2013 (para 2.2.1)

have been spent and with what results. The road maintenance committees can be constituted at the Block/Mandal Panchayat and the Zila Panchayat levels to monitor and manage the funds made available for this purpose. These committees can take feedback from road users' groups.

9.3 Functionaries

(i) The scan of the eight World Bank funded PMGSY states shows that the PRIs at Gram, Block/Mandal and Zila Panchayat levels have reasonable strength of functionaries including technical personnel. Provisions are also being made to enable these institutions to engage junior level technicians and engineers from the market on contract basis for efficient execution of works. For improving efficiency and strengthening accountability, MGNREGS is already supporting the PRIs in computerization of various activities and instituting MIS. The volume of work with the PRIs is continuously on the increase. Computerisation would certainly help. This would need to be mainstreamed to include the proposed management of routine maintenance of rural roads.

(ii) Each Block/Mandal Panchayat may have one Assistant Engineer and two Junior Engineers to provide technical support in execution of civil works including maintenance of rural roads. Many of the states already have this set up in the Block Panchayats. It is proposed that these technical personnel may be under the administrative control of the Block/ Mandal Pradhan while technical control may rest with the Executive Engineer at the Zila Panchayat level. (Such a system is functioning quite effectively in Telangana and Andhra Pradesh). Typical duties of the Junior Engineer in charge of road maintenance are given in Annex 15.

(iii) Each Zila Panchayat may have one Executive Engineer supported by two Assistant Engineers and four Junior Engineers. One of the Assistant Engineers should be custodian of record keeping of all maintenance activities (planning, inventory surveys, and implementation) on the rural road network in the district and uploading the information on the ZP website with access to all citizens. The strength of the technical personnel may be regulated as per the expected/projected workload at the district level.

(iv) It is necessary to acknowledge that the road works of the PRIs form a part of larger rural development programmes covering several sectors. All the works need to be managed through the staff resources made available to the PRIs. As such there is need to have adequate technical staff at all levels consisting of:
- Site Supervisors
- Technicians
- Engineers

Currently, in many of the PRIs, they have no control over the functionaries. This anomaly would need to be addressed. Personnel control at GP level is virtually absent.

(v) The MGNREGS envisages creating a pool of Bare Foot Technicians (BFTs). The rationale behind this strategy is to supplement and support the existing technical manpower in the PRIs. Experience from the several Employment Intensive Investment Programmes undertaken in Africa bears evidence that training the leaders of the labour gangs and site supervisors was a key success factor in efficient rolling out of these programmes. In addition, there is need for a sound technical and managerial inputs from a well capacitated agency to ensure that field operations run smoothly. It is, therefore, essential that the existing technical resources of the PRIs are strengthened suitably as per assessed needs in the light of expected total work load including maintenance of rural roads. The BFTs being created under the MGNREGS can constitute a reservoir of site supervisory cadre along with the existing Works Inspectors/Road Inspectors for being deployed in maintenance of rural roads. Needless to add that the effective use of BFTs is dependent on the availability of Junior Engineers and Technical Assistants for providing the necessary guidance to them.

(vi) The state governments may consider lending the engineering personnel at JE/AE/EE levels from their regular road agencies to the PRIs on deputation basis for upscaling good technical practices in planning and execution of road maintenance works. In any case, these road agencies need to assume the role of mentorship of the PRIs in the initial years to ensure smooth process of devolution to the PRIs.

9.4 Implementation

For implementation of routine maintenance activities on the ground, the proposed strategies are brought out under the sub-heads:

- Planning
- Execution
- Accountability and Transparency
- Skill Development and Capacity Building

9.4.1 Planning

(i) As already brought out in para 9.1(i), every block and every district should have Master Plans for the entire rural road network including existing tracks/bridle paths in the digitized form. For the stretches and roads under the responsibility of the blocks/districts, brief inventory details (length, width of road, carriageway, and cross-drainage works)

and condition (based on visual inspection) should be carried out every year immediately after rains and compiled. Annex 16 gives a suggestive format.

(ii) The Maintenance Committee at Block level and District level may comprise of elected members of the Panchayat, and the Assistant Engineer at Block/ZP level for deciding priorities for routine maintenance of roads duly considering the results of inventory and condition surveys. This should form the basis of preparing Annual Maintenance Plans at block and district levels and submitted for approval of the District Planning Committee (DPC) already functioning in the states. Suggestions received from the MLAs, MPs and other members of the committee should be given full consideration in refining the Annual Maintenance Plans.

(iii) Since routine maintenance is a basic community service, the state governments may allocate full funding as per the district level plans approved by the District Planning Committee.

(iv) Creation of Technical Facilitation Clusters for preparation, vetting and approval of projects for routine maintenance would help in fast tracking of process.

9.4.2 Execution

(i) Execution of routine maintenance of rural roads – both internal village roads by the Gram Panchayats and non-core rural roads by the Block/ Mandal Panchayats may be undertaken with Block/Mandal as the implementation unit. The technical standards of maintenance need to be ensured during execution.

(ii) For execution of routine maintenance of rural roads, there are a few options that can be considered. These options are:

(a) Engaging local petty contractors

(b) Engaging/mobilizing local communities

(c) Engaging self-help groups, labour cooperatives, etc.

(iii) Under the World Bank funded PMGSY project, the NRDDA is developing simple contract forms for community contracting with the technical assistance from the ILO. A few states are undertaking pilots for such community contracting. Lessons learned are going to be incorporated into refining the contract formats for delivery on the ground and payments against well-defined performance indicators. Some states have also developed their own performance based maintenance contracts and results on the ground are reported to be encouraging. The PRIs would need to liaise with the line departments handling the work of rural roads to put in place an effective mechanism for execution of routine

maintenance works. The formats should include simple conditions of contract, work plan, bill of quantities and payment arrangements. The tendering process should be fast and works award need to synchronise with working season. The international experience on executing maintenance through PRIs suggests that the contract formats should be very simple.

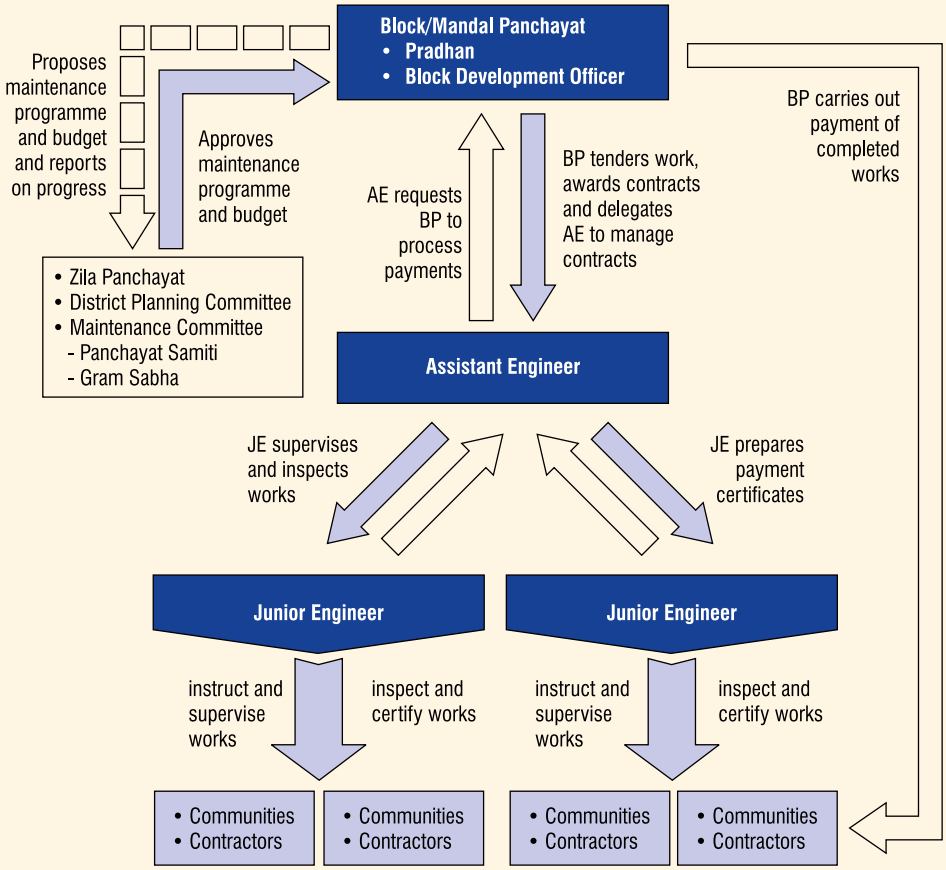
(iv) Off-carriageway routine maintenance of rural roads involve activities like restoration of rain cuts on shoulders and side slopes, dressing of berms, painting of road signs, removing silt and debris from drains, clearance of vegetation growth in the waterway passage of culverts and bridges, bush clearance, trimming of tree branches, etc. These activities can be easily performed by local communities and self-help groups living close to the rural roads within the Block/Gram Panchayats. The Junior/ Assistant Engineers posted with the block panchayat can provide good technical support in inspection of such works and oversight on the performance of the local communities so engaged. Pilots under the NRRDA-ILO Project on Community Contracting are in hand or planned in the states of Bihar, Himachal Pradesh and Meghalaya on both PMGSY and non-PMGSY roads. Such pilots can be extended to non-core and internal village roads under the jurisdiction of Block/Gram Panchayats as well. Some linkage can be established between the PIUs responsible for PMGSY and the JEs, AEs of the PRIs. Success of such pilots can pave the way for good off-farm employment opportunities in rural areas and strengthen livelihood resource base of people.

(v) Learning from implementation of MGNREGS works, the community contracts and contracts for works to be executed by contractors should integrate all the Decent Work elements of the ILO for the workers engaged for the works. (Refer para earlier).

(vi) The critical requirement in this direction will be revisiting the Schedule of Rates for activities involved in routine maintenance of rural roads and which should be based on time and motion studies by the PRIs and duly accounting for outputs of male and female workers without any gender bias.

(vii) The PRIs particularly at Block/Mandal level would also need to develop contract management capacity in association with the Junior Engineer/ Assistant Engineer who will inspect and supervise works and requests the Mandal Parishad to release payments to the contractor or the community as the case may be. The typical flow chart of events in managing the maintenance contracts by the Block/Mandal Panchayat is given in Figure 1.

Figure 1: Typical Flow Chart of Events



(**Source:** Adapted from NRRDA-ILO document on Managing Maintenance of Rural Roads in India, January 2015)

9.4.3 Accountability and Transparency

(i) Actions must be in public domain. Proactive disclosure of basic information relating to list of roads in GP/Block being taken up for routine maintenance together with cost details, funds received, expenditure, etc. displayed at notice boards at the office of the Gram Panchayat and Mandal/Block Panchayat.

(ii) There is need to establish a system of performance evaluation at the Block/Mandal to enhance the accountability of the Panchayats at Gram and Block/Mandal levels. Some of the indicators that can be considered for this purpose are:

(a) Uploading of photographs of road stretches before and after maintenance.

(b) Percentage of rural roads within the jurisdiction of the Block/Mandal that receives routine maintenance.

(c) Amount of routine maintenance spent annually per km of road length.

(d) Percentage of the rural roads within the jurisdiction of the Block/Mandal which is in poor condition.

(iii) Regular technical audits should be undertaken with the help of the PIUs involved in implementation of PMGSY road projects and observations arising therefrom should be factored in to improve performance.

(iv) Regular financial audits should be done through the Comptroller and Auditor General and observations complied with. This should also serve towards implementation reforms and efficiency in future maintenance activities by the PRIs.

(v) The MGNREGS has a system of concurrent social audits and social audits for works being executed under this scheme. This system can be extended to the routine maintenance activities of the PRIs at Block/ Mandal level. Similar steps can be taken for establishing grievance redressal mechanism. Consideration may be given to creation of users groups committees.

9.4.4 Skill Development and Capacity Building

(i) The state PWDs and the Rural Engineering Works Departments should assist the local bodies in skills development of the technical personnel of the PRIs by enabling them to join the training programmes organized by the road agencies. Box 4 gives practice followed in Ghana when the works of feeder roads was transferred to local government. Similar arrangements could be adopted for strengthening capacity of the PRIs with the road agency providing the mentorship.

Box 4: Maintenance of Feeder Roads by Local Government Administration in Ghana

In Ghana, the Department of Feeder Roads (DFR) is responsible for rehabilitation and maintenance of all feeder roads. However, under the on-going decentralization process DFR's district staff have become part of the District Works Departments of the Local Government Service. Again, the creation of a "road administration" by separation with new roles and responsibilities through functional re-classification is on-going. This is to optimize the road classification system to provide a clear definition for the respective Agencies and Metropolitan, Municipal and District Assemblies (MMDAs) in the planning, development, maintenance and administration of the entire feeder roads network in Ghana within the decentralised system. Although the MMDAs road engineers are to be responsible for managing maintenance of the feeder roads, some lacked the capacity in team building, project planning, contract administration and management, procurement procedures and project coordination. Therefore under the World Bank funded Ghana Social Opportunities Project (GSOP) and Danish International Development Agency (DANIDA) funded Local Service Delivery and Governance Programme (LSDGP), engineers and local contractors' capacity in these areas was enhanced.

Under the GSOP, experience showed that a few weeks of classroom training alone was not sufficient to capacitate the engineers and contractors. Therefore, for capacity building of the local government technical staff and local contractors, a training programme was implemented under the Technical Assistance of the ILO. The training included one-third classroom and two-thirds practical hands-on training. On completion of the training, the engineers from the Regional Office of DFR were requested to provide mentorship and technical backstopping to the local government staff for one year. As part of an arrangement with DFR, as and when they provide support, the MMDAs were responsible for the actual reimbursable cost incurred by DFR Engineers.

(ii) The NRRDA with the support of ILO have prepared training modules and booklets containing the course material for field engineers and contractors and communities associated with rural road maintenance works. Arrangements for capacity building and training of the PRI functionaries and Junior Engineers and Technical Assistants would need to be made. The barefoot technicians being created and skilled under the MGNREGS may also be provided training in routine maintenance of rural roads so as to supplement the existing cadre of site supervisors. The booklets containing the course material can be of immense help to the PRIs in their effort to secure proper delivery of maintenance works on the ground.

(iii) For training of elected representatives of PRIs, the states are endowed with the State Institutes of Rural Development along with Extension Training Centres at district level or Block Resource Centres. Box 5 gives a broad functioning of the SIRD in Rajasthan. At the national level, there

Box 5: State Institute for Rural Development: Rajasthan

- An apex institution for capacity building and training of PRI elected representatives and official functionaries in the state
- Major areas of training
  - MGNREGS programmes
  - Refresher courses on Rashtriya Gram Swaraj Yojana, Watershed Development
  - Hands on computer
  - Sectoral themes on pilot mode
  - Responsibilities and rights of GP, PS and ZP
- Coordination with Extension Training Centres, Panchayat Resource Centres
- Collaboration with partner institutions for sectoral training
- Brain storming, focused group discussions (women groups, SC/ST groups)
- Awareness campaigns
- Faculty: In-house, guest faculty
- Training Material: Booklets, handouts
- Categories of stakeholders (within the National Capacity Building Framework)
  - Elected Panchayat Representatives: Zila, Block, Gram levels
  - Officials working with Panchayats (Panchayat Secretary, Block Development Officer, Junior Engineer….)
  - Pressure Groups: SHGs, CBOs
- Infrastructure Facilities
  - Lecture and seminar halls, auditorium, computer lab, hostel (90 persons)
  - Satellite communication (one-way video, two-way audio)
- Next Steps
  - Strategic alliance with selected polytechnics, industrial training institutes, engineering staff training institutes, etc.
  - Increasing in-house faculty
  - Identifying beacon Panchayats
  - Documentation, dissemination of good and innovative practices
  - Reaching the unreached

Source: Discussions of ILO Team with Prof. Anita, SIRD Jaipur-October 2015

is the National Institute of Rural Development and Panchayati Raj at Hyderabad together with extension arms in Guwahati, Jaipur, etc.

(iv) The SIRDs may consider associating practicing retired engineers, engineering colleges, polytechnics and state level technical training centres as guest faculty or even on short-term deputation to expand their reach for providing sectoral training including rural road maintenance.

(v) For funding support in the skill development and capacity building of communities and entrepreneurs in managing routine maintenance by the PRIs, the possibility of leveraging the Deen Dayal Upadhyay Grameen Kaushalya Yojana (DDU-GKY) in the Ministry of Rural Development may be explored. They are already providing support for capacity building of functionaries involved in MGNREGS.

(vi) It is given to understand that the MORD had allocated one per cent of its budget to the Ministry of Panchayati Raj to strengthen infrastructure, build capacity and monitor PRIs. Some funds out of this allocation can be provided as per needs.

10. Recommendations on Short Term Measures

10.1 Policy Advocacy

The routine maintenance of rural roads should be declared an essential basic community service. Awareness raising campaigns among politicians, bureaucrats and engineers have built up an increasing commitment of state governments for maintenance of rural roads in recent years. Such campaigns need to be extended to PRIs also, particularly the Gram Panchayats and Block/ Mandal Panchayats.

10.2 Immediate Devolution

PRIs to undertake routine maintenance of internal village roads and those non-core roads which are currently under their jurisdiction/ownership – principally out of road connectivity works under the MGNREGS and other schemes.

10.3 Strengthening Capacity of PRIs and Financial Support

Side by side of devolution, measures need to be taken for skill development and capacity building of elected representatives and official functionaries including Junior Engineers and Assistant Engineers in planning, management and implementation of routine maintenance activities. For this, funding support may be provided by the MORD. The barefoot technicians being created under MGNREGS may also supplement the existing cadre of site supervisors and included in the capacity building for maintenance of rural roads.

10.4 Extend Community Contract Pilots to Block/Mandal Panchayats

The MORD to extend the current pilot experiments of community contracting in off-carriageway maintenance to selected blocks in not only the eight World Bank funded PMGSY states but also to other states in selected blocks throughout the country. Contract conditions should be simple and to incorporate Decent Work elements of ILO and Labour Laws of MOLE. Funds required for the purpose to be provided out of state budget and 14th Finance Commission Grant to GPs.

Off-carriageway routine maintenance of rural roads involve activities like restoration of rain cuts on shoulders and side slopes, dressing of berms, painting of road signs, removing silt and debris from drains, clearance of vegetation growth in the waterway passage of culverts and bridges, bush clearance, trimming of tree branches etc. These activities can be easily performed by local communities and self-help groups living close to the rural roads within the Block/Gram Panchayats. The Junior/Assistant Engineers posted with the block panchayat can provide good technical support in inspection of such works and oversight on the performance of the local communities so engaged. Pilots under the NRRDA-ILO Project on Community Contracting are in hand or planned in the states of Bihar, Himachal Pradesh and Meghalaya on both PMGSY and non-PMGSY roads. Such pilots can be extended to non-core and internal village roads under the jurisdiction of Block/Gram Panchayats as well. Some linkage can be established between the PIUs responsible for PMGSY and the JEs, AEs of the PRIs. Success of such pilots can pave the way for good off-farm employment opportunities in rural areas and strengthen the livelihood resource base of people.

10.5 Digitized Block Level and District Level Rural Roads Plans

Preparation of Digitized Block Level and District Level Rural Roads Plans on GIS platform and giving a Unique ID to each and every rural road so as to know the total stock of rural roads in the country.

10.6 Utilising NRRDA-ILO Training Modules in Skill Development

The training modules and course material on maintenance of rural roads prepared by the NRRDA with technical assistance by the ILO under the World Bank funded project to be available to PRIs functionaries and the training providers.

10.7 MIS and Computerisation

Establish a system of computerization and MIS at the Block/Mandal level to improve efficiency and enhance transparency in implementation of maintenance works.

10.8 Leveraging MGNREGS

Routine maintenance of rural roads built under the MGNREGS is a permissible activity. Already the GPs and PSs are executing several works of rural connectivity under this scheme. Unique opportunity to build upon the strengths of PRIs.

11. Forward Path

The strategies proposed in this Document for strengthening the capacity and performance of Panchayati Raj Institutions to undertake maintenance of rural roads have been brought out based on a quick scan of the current situation in the eight states where the World Bank is providing funding support to PMGSY and feedback received at the workshop organized by the NRRDA in November 2015.

These strategies may be considered and discussed among key senior level policy administrators both in the centre (MORD and MOPR) and the states (Rural Development and PR Departments and SRRDAs, other rural road agencies). This would help in refining these strategies and chalking out a road map for steadily devolving function of maintenance of rural roads to the PRIs side by side with capacity building of the elected representatives and official functionaries including the engineering personnel and providing funding support together with enhanced accountability and transparency in implementation on the ground.

12. Acknowledgements

This Document has been prepared with the support extended by the Rural Road Maintenance Engineers of the ILO Team and perusal of a number of reports relating to maintenance of rural roads both from India and abroad. Discussions held by the ILO Team with some PRIs at Zila level and Block/ Mandal level in a few states and the SIRD in Jaipur also provided gainful insights. Visit to Panchayati Raj Engineering Department in the states of Telangana and Andhra Pradesh also proved rewarding. The team also benefited from feedback at the workshop organized by the NRRDA in November 2015 and guidance from the JS (RC), MORD & DG NRRDA and his team of officers who gave several suggestions for strengthening of PRIs.

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Annex 1

Panchayati Raj Institution: 73rd Constitution Amendment Act, 1992

A. Salient Features

- Three-tier system of Panchayats at village, intermediate and district levels
- Regular conduct of Gram Sabha comprising all persons enrolled in the voters list.
- Seats reserved for Scheduled Castes (SCs) and Scheduled Tribes (STs) on population basis.
- 1/3rd reservation for women in all categories.
- Reservation for Backward Classes.
- Election after every 5 years. In the event of dissolution, within 6 months.
- Constitution of State Finance Commission (SFC) for adequate financial support.

B. Subjects listed in 11th Schedule (29 subjects)

1. Agriculture, including agricultural extension
2. Land improvement, implementation of land reforms, land consolidation and soil conservation
3. Minor irrigation, water management and watershed development
4. Animal husbandry, dairying and poultry
5. Fisheries
6. Social forestry and farm forestry
7. Minor forest produce
8. Small-scale industries, including food processing industries
9. Khadi, village and cottage industries
10. Rural housing
11. Drinking water
12. Fuel and fodder
13. Roads, culverts, bridges, ferries, waterways and other means of communication
14. Rural electrification, including distribution of electricity
15. Non-conventional energy sources
16. Poverty alleviation programmes
17. Education, including primary and secondary schools
18. Technical training and vocational education
19. Adult and non-formal education

20. Libraries
21. Cultural activities
22. Markets and fairs
23. Health and sanitation, including hospitals, primary health centres and dispensaries
24. Family welfare
25. Women and child development
26. Social welfare, including welfare of the handicapped and mentally retarded
27. Welfare of the weaker sections, and in particular, of the Scheduled Castes (SC) and the Scheduled Tribes (ST)
28. Public distribution system
29. Maintenance of community assets

C. State Finance Commissions

- Review of financial position of Panchayats
- Recommend principles to govern distribution of taxes, duties etc. between State and Panchayats
- Determination of taxes, duties etc. assigned or appropriated by the Panchayats
- Recommend grants-in-aid to Panchayats from State Consolidated Fund
- Recommend measures needed to improve the financial position of the Panchayats

D. Key Recommendations of the 14th Finance Commission relating to PRIs

1. FC is required to recommend "the measures needed to augment the Consolidated Fund of State to supplement the resources of the Panchayats and Municipalities in the State."
2. The local bodies should be required to spend the grants only on the basic services within the functions assigned to them under relevant legislations.
3. The local bodies should distinctly capture income on account of own taxes and non-taxes, assigned taxes, devolution and grants from the State, grants from the Finance Commission and grants for any agency functions assigned by the Union and State Governments.
4. FC has recommended distribution of grants to the States using 2011 population data with weight of 90 per cent and area with weight of 10 per cent. The grant to each State will be divided into two - a grant to duly constituted gram Panchayats and a grant to duly constituted municipalities, on the basis of urban and rural population of that State using the data of Census 2011.
5. The total size of the grant to be Rs. 2,874,360 million for the period 2015-20, constituting an assistance of Rs. 488 per capita per annum at an aggregate level. Of this, the grant recommended to Panchayats is

Rs. 2,002,922 million and that to municipalities is Rs. 871,438 million. The grant assessed by FC for each State for each year is fixed.

6. FC has recommended grants in two parts - a basic grant and a performance grant for duly constituted gram Panchayats and municipalities. In the case of gram Panchayats, 90 per cent of the grant will be the basic grant and 10 per cent will be the performance grant.
7. FC has recommended that the grants should go to gram Panchayats, which are directly responsible for the delivery of basic services, without any share for other levels. The FC expects that the State Governments will take care of the needs of the other levels. The earmarked basic grants for gram Panchayats will be distributed among them, using the formula prescribed by the respective State Finance Commissions for the distribution of resources.
8. To be eligible for performance grants, the gram Panchayats will have to submit audited annual accounts that relate to a year not earlier than two years preceding the year in which the gram panchayat seeks to claim the performance grant. It will also have to show an increase in the own revenues of the local body over the preceding year, as reflected in the audited accounts.
9. It may be better that the detailed procedure for disbursal of the performance grant to gram Panchayats based on revenue improvement be designed by the State Governments concerned,
10. The grants recommended shall be released in two instalments each year in June and October. This will enable timely flows to local bodies during the year, enabling them to plan and execute the works better. FC has recommended that 50 per cent of the basic grant for the year be released to the State as the first instalment of the year. The remaining basic grant and the full performance grant for the year may be released as the second instalment for the year. The states should release the grants to the gram Panchayats and municipalities within fifteen days of it being credited to their account by the Union Government. In case of delay, the State Governments must release the instalment with interest paid from its own funds.
11. FC has suggested that the levy of vacant land tax by peri-urban Panchayats be considered. In addition, a part of land conversion charges can be shared by State Governments with municipalities and Panchayats.
12. FC has recommended that State Governments take action to assign productive local assets to the Panchayats, put in place enabling rules for collection and institute systems so that they can obtain the best returns while leasing or renting common resources.

Annex 2

Role of PRIs in PMGSY Rural Roads

(Source: PMGSY Programme Guidelines: January 2015 by MORD)

1. District Rural Roads Plans (DRRP)

For planning of rural roads under the PMGSY, the PRIs have an important role particularly in identification of the Core Road Network and preparation of the District Rural Roads Plan (DRRP). For proposing the new links under the DRRP, the Zila Panchayats (ZP) are expected to select the set of socio-economic/ infrastructure variables and accord weightages to them. The Plan is first prepared at Block level as per priorities spelt out by the ZP. Such a Block Level Master Plan is required to show clearly:

- The existing roads
- The unconnected habitations (along with size of population)
- The roads required to connect the unconnected habitations

Such a plan is then subjected to approval of the Intermediate Panchayat (Panchayat Samiti). Simultaneously, this Plan is also sent to MLAs/MPs concerned for their comments. After approval by the Intermediate Panchayat, these block level plans are integrated at district level and the ZP is required to give full consideration to views of the Block level panchayats, MLAs/MPs concerned. On approval by the ZP, the District Rural Roads Plans are sent to the SRRDA and the NRRDA.

2. Maintenance of rural roads is the responsibility of the state governments. The programme guidelines of the PMGSY envisage inter alia that the state governments take steps to build up capacity in the District Panchayats and endeavour to devolve funds and functionaries onto these panchayats to be able to manage maintenance of rural roads. Till such time as District Panchayats take over maintenance functions, the state government will continue to be responsible for maintenance of these roads.

3. Transect Walk

Another key role played by the PRIs relates to making land available for construction of PMGSY roads. By and large, the Panchayats donate land voluntarily. It is, therefore, necessary to take them into confidence while fixing the alignment. Therefore, as part of the PMGSY process, the state is required to include a simple non-formal "transect walk" to be organized by the concerned Assistant Engineer of the PIU at the time of preparing the Detailed Project Report (DPR). During the transect walk, the Panchayat Pradhan, local Patwari, the Junior Engineer, Women PRI members and representatives of Women Self

Help Groups are expected to participate. Forest officials are also included where forest land is involved. Box 1 gives a summary of the Transect Walk process.

Box 1: Transect Walk under the PMGSY

- Transect Walk shall be organized by the Assistant Engineer of the PIU
- Participants to include Panchayat Pradhan, local Patwari, the JE, Women PRI members, Women SHGs, Forest official (where forest land involved) and members of local community
- During the walk, issues relating to alternative alignments, land requirement and its impact on land owners to be discussed with local community members present
- Environment impact on vegetation, soil, water, etc. identified for resolution during preparing of DPR and execution
- Digital photographs of the Transect Walk
- During walk, due opportunity to interested persons to put forward their point of view.
- At the end of walk, alignment shall be finalized after recording gist of discussions that arose during the walk and action proposed. A copy of the minutes shall be prepared and signed by the Pradhan/Panch, Secretary of the GP present
- A copy of the Minutes of the Transect Walk along with Digital Photographs must be attached with the DPR

Source: PMGSY Programme Guidelines: January 2015 by MORD

Annex 3

Current Situation of Rural Roads Maintenance through Panchayati Raj Institutions (PRIs)

World Bank Funded PMGSY States

S. No.	Item	Bihar	Himachal Pradesh	Jharkhand	Meghalaya	Punjab	Rajasthan	Uttar Pradesh	Uttarakhand
1.	Agencies responsible for construction and maintenance of rural roads	• All rural roads with RWD (Rural Works Department) • A few stretches constructed under MGNREGA, etc. by PRIs	• Most rural roads with PWD (Public Works Department) • Some rural roads are also with Rural Development Department	• All rural roads with RWD (Rural Works Dept) • A few stretches constructed under MGNREGA, etc by PRIs	• All rural roads with PWD • A few stretches constructed under MGNREGA, etc by Community and Rural Development Blocks under the Autonomous District Councils	• Rural roads are with – PWD – Agricultural Marketing Mandi Board	• All rural roads with PWD • A few stretches constructed under MGNREGA, etc.	• Rural roads are with – PWD – Rural Engineering Dept. – PRIs at Zila Panchayat • A few stretches constructed under MGNREGA, etc.by PRIs • Some roads are with Mandi Board and Sugar Cane Board also	• Rural roads are with PWD and URRDA • Some rural roads constructed by PRIs
2.	(a) Total length (km)[1] (b) Core network (km)[2]	1,22,598 km 86,517 km	* 27,036 km	55,000 km 49,133 km	* 12,390 km	62,148 km 30,693 km	* 1,61,983 km	* 2,13,832 km	* 27,200 km
3.	Role of Panchayati Raj Institutions (a) Construction (b) Maintenance	(a) A few stretches constructed under MGNREGA, Backward Regional Grant Fund (BRGF) and grants from Central Finance Commission. Generally gravel or brick soling and minor CD works. Earthwork done through MGNREGA (b) Nil. No maintenance work is undertaken	(a) Ambulance roads to small habitations constructed out of funds under MGNREGA, MP/MLA LADs, Backward Area and Decentralised Planning Schemes. (b) Nil. On some roads maintenance carried out by beneficiaries. The state policy envisages routine maintenance pilots through community contracting by PRIs.	(a) A few stretches constructed under MGNREGA, BRGF, and grants from Finance Commission. Generally gravel or brick soling and minor CD works. Earthwork done through MGNREGA. (b) Nil. No maintenance work is undertaken.	System of Autonomous District Council in the state (a) Pedestrian paths, WBM roads, limited blacktopping under MGNREGA, MP/MLA LAD and other grants. Earthwork through MGNREGA (b) Nil. No maintenance work is undertaken	(a) Construction: • Recently initiated construction of connecting Dhanis (hamlets) with adjoining rural roads. These roads are 2.6 m wide brick on edge. • Internal village roads being paved with inter-locking cement concrete blocks as per IRC standards. Width is 1.5 m for light vehicles and 3.0 m or more for normal vehicles. • Restoration of berms and shoulders of village link roads under MGNREGA (b) Nil. No maintenance work is undertaken	(a) Construction: • A few stretches constructed under MGNREGA funds upto gravel standards, mostly earth work and provision of berms • A total length of 2048 km will be constructed with cement concrete roads under the Gramin Gaurav Path Scheme in 33 districts (b) Nil. No maintenance work is undertaken	(a) Construction: • Rural roads under Zila Panchayat are constructed to blacktop standards • Under MGNREGA, construction of WBM and gravel roads done in a small length. (b) Maintenance of rural roads is undertaken as per PWD norms out of funds available from State Finance Commission	(a) Construction of pedestrian paths, bridle paths and light vehicle roads. Either gravel or cement concrete. Sometimes labour component contributed by Panchayat Funds provided under MGNREGA, MLA/MP LAD schemes, and land lease amount levied by Panchayats (b) Maintenance of some roads with MLA/MP LAD schemes and Devi Aapda Funds

[1]Data on total length of rural roads being collected
[2]Data on core network – PMGSY website (NRRDA)

S. No.	Item	Bihar	Himachal Pradesh	Jharkhand	Meghalaya	Punjab	Rajasthan	Uttar Pradesh	Uttarakhand
4.	Technical support staff available with PRIs at HQ, District, Block level	• For BRGF, there is provision of one EE at state level, one AE at commissioner level and one JE at district level. JE on deputation from Fisheries Dept. • For MGNREGA, one Panchayat Technical Assistant and one JE at block level work on contract basis They are responsible for all civil works.	• Engineering Wing with PR Dept. – EEs - 3 – AEs – 24 – JEs – 228 • Responsible for all civil works	• Engineering Wing with PR Dept. – One EE and two AEs at district level, – One JE at block level • Responsible for all civil works • Either on contract or on deputation from other department	• Engineering Wing with PR Dept. – One EE, 3 AEs and 18 JEs at district level – One AE, 2 JEs and 4 Tech. Assistants at block level • Responsible for all civil works	• Engineering Wing with PR & RD Dept. – SE – 1 – EE – 14 – AE – 48 – JE – 357 • Responsible for all civil works	• Engineering Wing with PR Dept. – Addl. CE – 1 – SE – 4 – EE – 110 (3 EEs in each district) – AE – one in each block and one at district level – JE – one in each block	• Engineering Wing with PR – One AE at district level – One JE at block level Total 75 AEs and 306 JEs	• Engineering Wing with PR & RD Dept. – One EE and 2-4 JEs in each District Panchayat – Two JEs in each Block Panchayat (Total technical staff – 242)
5.	System of inventory survey, traffic counts by the PRIs	No system	No system	No system	No system	No system	No system	Road registers at district level	Records of length and width of roads kept at AE level
6.	Sources of funds for maintenance	• State budget • Grants from Central Finance Commission	• State budget • Grants from Central Finance Commission	• State budget • Grants from Central Finance Commission	• State budget • Grants from Central Finance Commission • Grant from DONER, Govt. of India	• State budget • Grants from Central Finance Commission • Market Committee fees • Rural Development Cess	• State budget • Grants from Central Finance Commission	• State budget • Grants from Central Finance Commission • Mandi Board funds • Sugar Cane Development funds • State Finance Commission • BRGF	• State budget • Grants from Central Finance Commission • MLA/MP LAD schemes • Devi Aapda head in case of landslides, etc. • State policy envisages tapping of funds from MGNREGA also • State proposes to create dedicated maintenance funds for roads
7.	System of enlistment of contractors for construction and maintenance by PRIs	PRIs hardly engage contractors	PRIs hardly engage contractors	PRIs hardly engage contractors	Contractors are enlisted at district level	Contractors enlisted by PWD and Mandi Board engaged by PRIs	PRIs do not enlist the contractors. Those listed by PWD are engaged.	Contractors are enlisted at Zila Panchayat level	• PRIs do not enlist the contractors. Those listed by PWD are engaged.
8.	Training programmes for technical staff with PRIs	No training, although needed	No training, although needed	No training, although needed	No training, although needed	No training, although needed	No training, although needed	No training as of now. Recently Panchayati Raj Training Institute set up. It will take some time for staff. The PR Dept. proposes to use Training Modules developed by NRRDA-ILO	No training, although needed
9.	Linkage between PRIs and SRRDA	No linkage as of now	No linkage as of now	No linkage as of now	No linkage as of now	No linkage as of now	No linkage as of now	No linkage as of now	No linkage as of now
10.	Whether Maintenance Policy exists	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

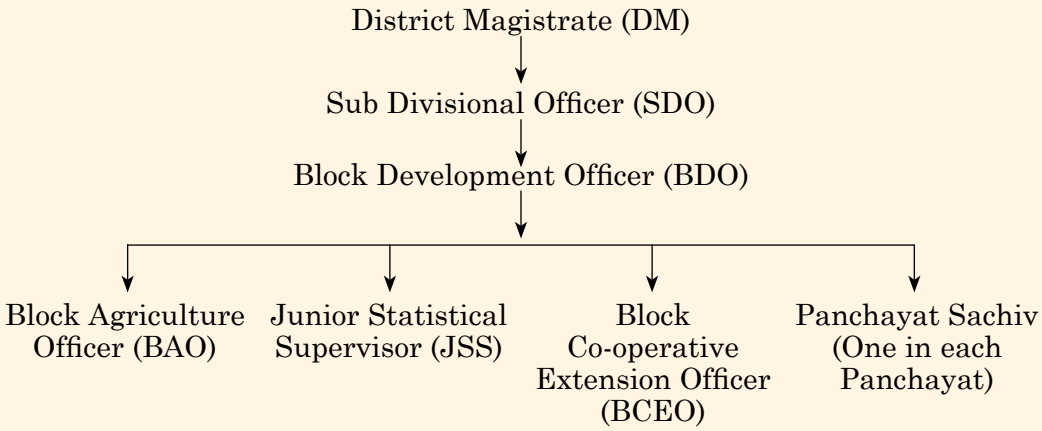
Annex 4

PRIs Role in Maintenance of Rural Roads in Bihar: Current Situation

In Bihar, the Rural Works Department (RWD) is the agency responsible for construction and maintenance of all rural roads.

There is no system of undertaking construction and maintenance of rural roads by any agency separately designated for Panchayats. However, there is one technical cell operating under the Planning and Development Department, Government of Bihar which is responsible for construction of local area projects recommended by public representatives. One Junior Engineer (JE) is deputed from the Fisheries Dept. to provide technical support for civil works undertaken at the block level.

Administrative Structure of Block



Execution of Schemes

Generally, developmental works in the Panchayats are executed through following different heads of funds:

Backward Rural Grant Fund (BRGF)

This scheme is sponsored by Government of India. Generally earth work, brick soling, concreting of roads, construction of cross drainage works etc. are undertaken. The selection of schemes is finalized in the Gram Sabha meeting of Panchayat under the chairmanship of Mukhiya (head) of the respective Panchayat. The list approved by Gram Sabha is submitted to the Programme Officer stationed at each block. The Programme Officer forwards the approved list of all Panchayats to the District Magistrate and finally approved list is returned back to all Panchayats.

The estimate of the scheme is prepared by the Junior Engineer of Fisheries Department who is made in charge of all Civil Works done in the panchayats. There is provision of one Junior Engineer in each district of the state, one Assistant Engineer at the Zonal Commissioner's office and one Executive Engineer at state level. The works are executed through Panchayat Sachiv and supervised by the deputed Junior Engineer in the district. The Assistant Engineers and Executive Engineer can also supervise the works. The bill is prepared by the Junior Engineer and payment made by Mukhiya (head) of the Panchayat.

Central Finance Commission (13th and 14th)

This scheme is also sponsored by Govt. of India. The same process as explained for BRGF is applied to works taken up under this scheme also. The Junior Engineer, Panchayat Sachiv etc. are the same persons responsible for this scheme as well. The delegation of powers for technical sanction and administrative approval is reported to be as follows:

Amount	Technical Sanction	Administrative Approval
Upto Rs. 0.5 million	Junior Engineer	Mukhiya (head) Gram Panchayat
Rs. 0.5-1.0 million	Assistant Engineer	BDO
Rs. 1.0-5.0 million	Executive Engineer	DDC

MGNREGA

This is a labour oriented rural employment guarantee scheme sponsored by the Government of India and administered by the Ministry of Rural Development (MORD). This scheme is executed as per guidelines of the MORD. Approval and sanction of schemes are done similarly as that of BRGF and Finance Commission. But, the execution is entirely different.

This scheme has a separate team of technical personnel. There is a Panchayat Technical Assistant (PTA) who prepares the estimate. It is then checked by the Junior Engineer. The higher officials such as Assistant Engineer and Executive Engineer can also check the estimate. All these technical persons viz. PTA, JE, AE and EE are working on contract basis.

The schemes are executed through Panchayat Rozgar Sewak (PRS). After the works are carried out, the bill is prepared by the JE/AE and payment made by the Mukhiya (head) and Panchayat Rozgar Sewak (PRS). It may be added that each beneficiary is required to have a Bank Account and the payments for work are directly credited in the Bank Account of the beneficiaries.

Technical Aspects

Backward Region Grant Fund (BRGF), 13th & 14th Finance Commission, MGNREGA etc. are a few programmes under which rural roads are constructed.

There is no standard configuration of the road. It depends upon the road width available inside the village. Generally soling is done over sand layer. Sometimes drains are also provided there. Resources from different schemes are used to provide different items on the same road stretch. As for example in MGNREGA, earthwork is done through this scheme and any pucca (paved) items such as CD works etc. if required are done through Finance Commission or BRGF head of account.

There is no sanction of post for road construction in Panchayats. Panchayat Sachiv or Panchayat Rozgar Sewak is responsible for execution of roads in panchayats. There is no provision of maintenance of roads. The JE deputed in Block assists in execution of all types of civil works for Panchayats in the block. The JEs belong to some other department or they are on contract. Apart from road works, the JEs in the PRIs are involved in activities related to drinking water, irrigation works, construction of check dams, small sheds, Indira Awas Yojana, etc.

Technical aspects of the schemes such as preparation of estimate as per ground conditions, execution of schemes, quality control, supervision, etc. are some of the activities which appear to need improvements. Training of personnel involved in execution of schemes would be helpful.

There is no system of inventory and condition surveys for the rural roads being constructed by the PRIs. Also, no system of traffic counts.

Maintenance of Rural Roads by PRIs

There is no concept of maintenance of assets including roads in the Panchayats. During discussions with GP and PS level elected representatives and official functionaries, it was gathered that the PRIs can be involved in maintenance of rural roads as this will be a good initiative for the community. This will also create a sense of belongingness amongst the community and the stakeholders. This will open the door for employment opportunities for the rural youth particularly. However, this must accompany earmarking of funds for this purpose.

Village Community should be used for getting maintenance of roads done in phase wise manner. To start with, the PRIs may be entrusted with the maintenance of internal village roads and those rural roads which are being constructed by them under schemes such as MGNREGS, BRGF, state and Central Finance Commission, etc. They can be deployed for doing off-carriageway maintenance and after getting experience, on-carriageway maintenance can also be done by them. This can be initiated through pilot project and when this succeeds, further steps may be taken on a larger scale.

Since Rural Works Department (RWD) is having its cadre strength spread up to Zila Panchayat and block level, it will be more practical to utilize RWD staff for providing technical support to PRIs.

Annex 5

PRIs Role in Maintenance of Rural Roads in Himachal Pradesh: Current Situation

Construction and maintenance of rural roads are basically the responsibility of the Public Works Department in the state. However, some village roads are being constructed by the Rural Development and Panchayati Raj Department also.

The total length of roads by the RD&PR department is 2149 km of which 1768 km are katcha (unpaved) and 202 km gravel. Rest are blacktop/CC roads.

Two roads of Mashobra Block in Shimla district were visited. The visit revealed that the roads comprised of only formation cutting with sub-base in isolated pockets provided. There are no side drains, no culverts, and no road safety structures such as parapets or railings on valley side. The roads have steep grades since the roads are constructed within the land width available which is insufficient to provide curves of desired radii for ensuring proper horizontal and vertical alignment. The main objective is to provide some form of connectivity to the villagers.

The roads are constructed out of funds made available under different schemes such as MGNREGS, MLA/MP Local Area Development, Decentralised Planning, Central/State Finance Commission, Backward Area Sub-Plan, etc.

Construction of roads is done by concerned BDO through Panchayats and maintenance is carried out by beneficiaries in a few cases. BDO is assisted by a number of officials including Junior Engineers and Technical Assistants.

As mentioned above, specifications for construction are not being followed in totality and roads are being constructed as per the availability of land leading to narrow width of 2.75 m at some locations and steep gradients. The objective is that the roads can be used for transport of patients in ambulance vehicles and fruits can be transported through light vehicles.

The routine maintenance work is not being carried out. However, there is clear need for filling depressions, dressing of road shoulders, providing katcha (unpaved) drains and kharanja (stone on edge) soling in slushy reaches, bush cutting, etc.

The Rural Development and Panchayat Raj department has a number of technical officers to provide technical support in construction of roads. The staff strength is as under:

Rural Development Department

At Headquarter

(i) Executive Engineer – 1

(ii) Assistant Engineer – 1

(iii) Junior Engineer – 1

At other locations

(i) Executive Engineer – 1 each at Mandi and Dharamshala

At District and Block levels

(i) Assistant Engineer – 36 (only 21 in position)

(ii) Junior Engineer – 83 (only 25 in position)

Panchayati Raj Institution

(i) Assistant Engineer – 4 (3 in position)

(ii) Block Engineer – 39 (32 in position)

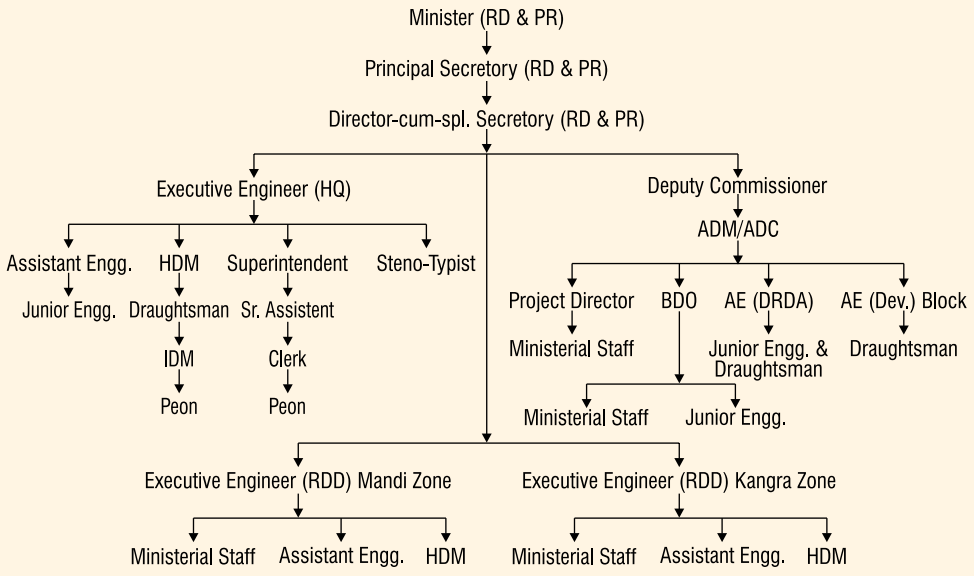
(iii) Junior Engineer – 187 (171 in position)

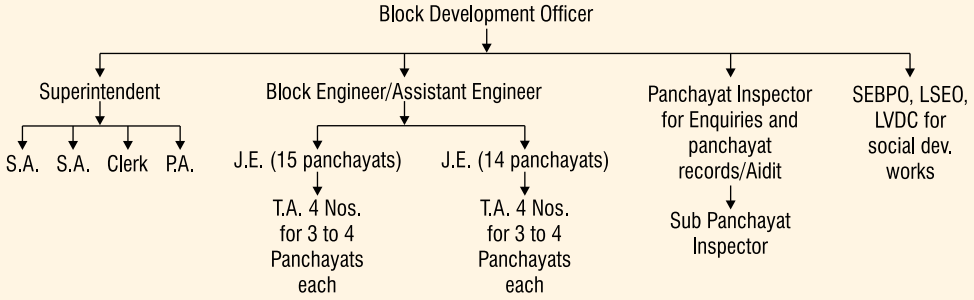
It was suggested by the Director RDD that initially, 10 percent of staff may be on deputation from the PWD to train the technical staff of RDD and PRI. This can be done by rationalization from staff of PRI and RDD and other posts can be filled as per requirement.

The technical staff is involved in all civil works of rural development such as building works, irrigation channels, tanks, watershed and drinking water schemes, MGNREGA schemes. Some staff is on deputation from the Public Works Department as also other Engineering departments.

The Department is in a position to undertake routine maintenance of rural roads and ambulance roads constructed by them under the various programmes provided funds are made available for this purpose. Discussion with the Director-cum-Special Secretary gave confidence that some pilots for routine maintenance through local communities can be undertaken where there is felt demand for such jobs. In case the experiment turns out to be promising, the technical staff available with the PRIs can be provided training through the help of district level practicing engineers of the PWD and engineering colleges, etc.

Attachment 'A' to Annex 5



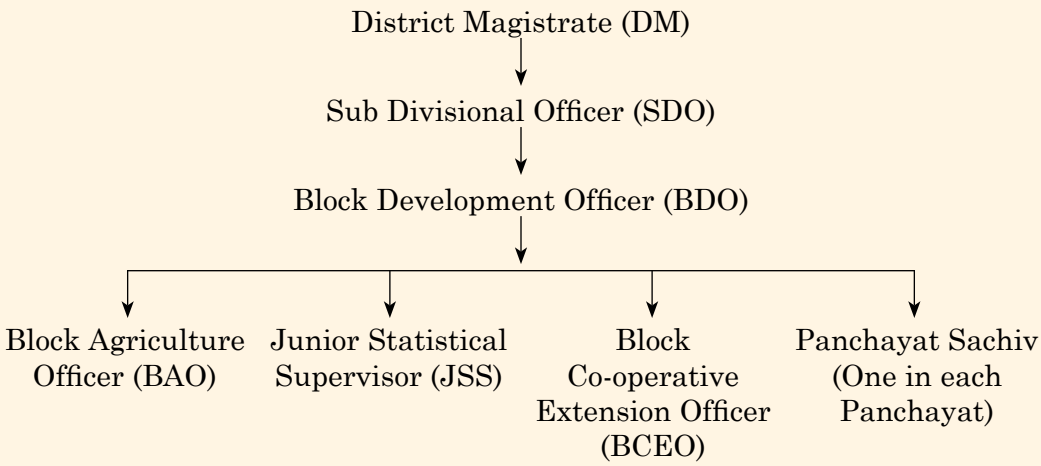


PRIs Role in Maintenance of Rural Roads in Jharkhand: Current Situation

In Jharkhand, the Rural Works Department (RWD) is the agency responsible for construction and maintenance of all rural roads.

There is no system of undertaking construction and maintenance of rural roads by any agency separately designated for Panchayats. However, the PRIs undertake a few works of rural road construction under the centrally sponsored schemes and state government schemes for rural development such as BRGF, MGNREGS and Finance Commission grants. For technical support, the Junior Engineers recruited under the NREP (National Rural Employment Programme) some years back are deputed.

Administrative Structure of Block



Execution of Schemes

Generally, developmental works in the Panchayats are executed through following different heads of funds:

Backward Rural Grant Fund (BRGF)

This scheme is sponsored by Government of India. Generally earth work, brick soling, construction of cross drainage works etc. are undertaken. The selection of schemes is finalized in the Gram Sabha meeting of Panchayat under the chairmanship of Mukhiya (head) of the respective Panchayat. The list approved by Gram Sabha is submitted to the Block Development Officer stationed at

each block. The approved list by all Panchayats are submitted for final approval to the District Development Commissioner through the BDO. The finally approved list is returned back to all Panchayats.

Every block has been provided with Junior Engineers and an Assistant Engineer under NREP. One Executive Engineer is also deputed and sits in the collectorate at District Headquarter and works under the District Magistrate. The estimate of the scheme is prepared by the Junior Engineer deputed in the blocks who is made in charge of all Civil Works done in the panchayats. The works are executed through Panchayat Sachiv and supervised by the deputed Junior Engineer in the district. The Assistant Engineers and Executive Engineer can also supervise the works. The bill is prepared by the Junior Engineer and payment made by Mukhiya (head) of the Panchayat.

Central Finance Commission (13th and 14th)

This scheme is also sponsored by Govt. of India. The same process as explained for BRGF is applied to works taken up under this scheme also. The Junior Engineer, Panchayat Sachiv etc. are the same persons responsible for this scheme as well. Administrative approval of the projects are accorded by the Mukhiya (head) upto Rs. 5 lakh and the District Development Commissioner up to Rs. 50 lakh.

MGNREGA

This is a labour oriented rural employment guarantee scheme sponsored by the Government of India and administered by the Ministry of Rural Development (MORD). This scheme is executed as per guidelines of the MORD. Approval and sanction of schemes are done similarly as that of BRGF and Finance Commission.

The schemes are executed through Gram Rozgar Sewak. There is a Panchayat Technical Assistant (PTA) who prepares the estimate. It is then checked by the Junior Engineer of the NREP. After the works are carried out, the bill is prepared by the JE and payment made by the Mukhiya (head) and Gram Rozgar Sewak.

Technical Aspects

Backward Region Grant Fund (BRGF), 13th & 14th Finance Commission, MGNREGA etc. are a few programmes under which rural roads are constructed. There is no standard configuration of the road. It depends upon the road width available inside the village. Generally soling is done over sand layer. Sometimes drains are also provided there. Resources from different schemes are used to provide different items on the same road stretch. As for example in MGNREGA, earthwork is done through this scheme and any pucca (paved) items such as CD works etc. if required are done through Finance Commission or BRGF head of account.

There is no sanction of post for road construction in Panchayats. Panchayat Sachiv or Gram Rozgar Sewak is responsible for execution of roads in panchayats. There is no provision of maintenance of roads. The JE deputed in Block assists in execution of all types of civil works for Panchayats in the block. Apart from road works, the JEs in the PRIs are involved in activities related to drinking water, irrigation works, construction of check dams, small sheds, Indira Awas Yojana, etc.

Technical aspects of the schemes such as preparation of estimate as per ground conditions, execution of schemes, quality control, supervision, etc. are some of the activities which appear to need improvements. During site visits in one of the blocks, it was noted that drains needed cleaning. Compaction of earthwork also appeared to be lacking in some cases. Training of personnel involved in execution of schemes would be helpful.

There is no system of inventory and condition surveys for the rural roads being constructed by the PRIs. Also, no system of traffic counts.

Maintenance of Rural Roads by PRIs

There is no concept of maintenance of assets including roads in the Panchayats. During discussions with GP and PS level elected representatives and official functionaries, it was gathered that the PRIs can be involved in maintenance of rural roads as this will be a good initiative for the community. This will also create a sense of belongingness amongst the community and the stakeholders. This will open the door for employment opportunities for the rural youth particularly. However, this must accompany earmarking of funds for this purpose.

Village Community should be used for getting maintenance of roads done in phase wise manner. To start with, the PRIs may be entrusted with the maintenance of internal village roads and those rural roads which are being constructed by them under schemes such as MGNREGS, BRGF, state and Central Finance Commission, etc. They can be deployed for doing off-carriageway maintenance and after getting experience, on-carriageway maintenance can also be done by them. This can be initiated through pilot project and when this succeeds, further steps may be taken on a larger scale.

Since Rural Works Department (RWD) is having its cadre strength spread up to Zila Panchayat and block level, it will be more practical to utilize RWD staff for providing technical support to PRIs.

Annex 7

PRIs Role in Maintenance of Rural Roads in Meghalaya: Current Situation

Articles 244(2) and 275(1) – Sixth Schedule of the Indian Constitution provides for administration with the establishment of Autonomous District Councils (ADC) in the Tribal Areas of Khasi, Jaintia and Garo Hills of Meghalaya. Accordingly, at the district level, there are Autonomous District Councils and at block level, there are Community and Rural Development (C&RD) offices. At village level, there is Village Headman selected by village people. These ADCs and C&RDs are constructing mainly cement concrete footpaths 1.2-1.5 m wide and foot bridges. The C&RDs are executing very limited blacktopping work on the built-up earthen sub-grade constructed through MGNREGA in the subsequent years subject to availability of funds. These roads are normally 3 m wide. Shoulders and drains are provided at few locations only.

The sources of funds for these works are MGNREGA, MPLAD programme, State Government, MLAs requisition, Central Finance Commission and other rural development schemes of State and Central Government.

There is no maintenance practice followed for roads constructed under these schemes excepting minor repair works when the condition is very poor.

The Autonomous District Councils and the Community and Rural Development Blocks have their own Engineering Wing for providing technical support in construction of footpaths, foot bridges and roads referred to above. At the district level, there is one Executive Engineer, one Assistance Executive Engineer, two AEs and 18 JEs. At block level, there is one AE supported by 2 JEs and 4 Technical Assistants. These technical officers also supervise other civil works – buildings, irrigation channels, other works under MGNREGS, etc.

The works done by the ADCs are: Construction of public toilets, improvement/ extension of Darbar Halls, improvement of playgrounds, small foot bridges, PCC footpaths, and construction of council buildings. The works done by C&RD Blocks are: Construction of bituminous and earthen roads, PCC footpaths, piggery sheds, poultry farms, goat sheds, cow shelters, water conservation works, fruits tree plantation, land development works.

At ADC level, there is a system of enlistment of contractors for construction and maintenance of civil works. At Block level there is no such system, since all works are done either departmentally or through MGNREGA scheme.

The services of the technical staff of ADCs and C&RD blocks can be utilized for routine maintenance of rural roads through community contracting provided funds for the purpose are allocated by the state. Arrangements for training of both technical personnel and elected representatives would need to be made.

Annex 8

PRIs Role in Maintenance of Rural Roads in Punjab: Current Situation

Rural roads are basically divided between PWD and Mandi Board. However, a few rural roads – internal village roads, village peripheral roads and some non-core roads constructed under MGNREGA are with the PRIs.

The Gram Panchayat having regard to the availability of funds at its disposal is expected to perform the function including preparation of annual plans for the development of the Panchayat area. One of the functions is construction and maintenance of culverts and bridges; and slaughter houses, the laying out of new roads and pathways and maintenance of existing ones. The Gram Panchayat can approve the works up to an estimated cost of Rs.10 lakh. The Panchayat Secretary is in charge of the Gram Panchayat office. This person is responsible for the maintenance of records of the Gram Panchayat. These records are normally kept in the custody of the Sarpanch.

The Panchayat Samiti is expected to make arrangements for carrying out the requirements of the area under its jurisdiction, including construction and maintenance of public roads, drains, culverts and other means of communications which are not under the control of any other local authority of the State Government. A Panchayat Samiti can approve works up to an estimated cost of Rs.20 lakh. The Block Development and Panchayat Officer (BDPO) is the Executive Officer of the Panchayat Samiti. Besides other functions, the BDPO has custody of all papers and documents connected with the proceedings of the meetings of the Panchayat Samiti and of its Committees.

The Zila Parishad undertakes the following activities in relation to rural roads:

- Construction and maintenance including bridges and culverts
- Identification of major link roads connecting markets, educational institutions, health centres and link roads;
- Organizing voluntary surrender of lands for new roads and for widening of existing roads.

Zila Parishad can approve works with estimated cost up to Any Limit.

In every district, the Additional Deputy Commissioner (Development) is the ex-officio Chief Executive Officer of the Zila Parishad of that district and an officer of the Department of Rural Development and Panchayats not below the rank of the District Development and Panchayat Officer (DDPO) is the Deputy Chief Executive Officer of the Zila Parishad.

The Rural Development and Panchayats Department is responsible for the implementation of various Centrally Sponsored and State Funded Schemes for poverty alleviation, employment generation, sanitation, capacity building, women's social and economic empowerments, apart from provision of basic amenities and services.

The main functions and duties of the officers and employees working in the department are providing administrative frame-work for smooth functioning of the PRIs, rendering assistance in implementing schemes and projects through PRIs, to extend the technical support and know how to PRIs in order to execute various development schemes at different levels, providing appropriate forum for redress of grievances of rural people concerning the department.

Organization Structure of Rural Development and Panchayats Department:

(a) At Headquarter:
  (i) Rural Development and Panchayats Minister
  (ii) Secretary to Govt. of Punjab, DRDP
  (iii) Director RDP
  (iv) Joint Development Commissioner (RDP)
  (v) Joint Director RD
  (vi) Deputy Directors: 2 (Two)
  (vii) Superintending Engineer (PRC)

(b) In Field
  (i) Divisional Deputy Directors: 3 (Jalandhar, Patiala, Ferozepur)
  (ii) Additional Deputy Commissioner (Development): 22 (One at each District Headquarter)
  (iii) Secretary Zila Parishad: 22 (One at each District Headquarter)
  (iv) District Development and Panchayat Officer: 22 (One at each District Headquarter)
  (v) Block Development and Panchayat Officer: 146 (One at each Block Headquarter)

Engineering Wing of Rural Development and Panchayats Department

At present Engineering Wing of the RD&P Department is headed by the officer of the rank of Superintending Engineer supported by 14 Executive Engineers and 48 Sub Divisional Officers including Assistant Engineers. A strong contingent of 357 Junior Engineers forms the back bone of the engineering wing with area of their jurisdiction spreading to every nook and corner of the state.

They are responsible for simultaneously management and technical supervision of the development works in more than 12800 Panchayats/villages of the state. Gram Panchayats and Block Panchayats are responsible for execution of the works under their jurisdiction.

The Engineering Wing of RD&P Department provides the much needed technical support in term of preparation of plans, estimates, freezing of the technical specifications, measurement and supervision of the construction works. Engineering Wing ensures meaningful and measurable utilization of the funds spent by the PRIs on the development works.

Apart from the supervision of numerous Panchayat Works that basically include the provision of internal road network along with surface drains and construction of Panchayats Infrastructure, Engineering Wing often has an opportunity to execute different categories of works assigned to it from time to time.

The Engineering Wing of the Rural Development and Panchayats in the past has successfully handled the construction work of:

(i) several multi-storied complexes

(ii) executed road works

(iii) has undertaken the drainage and sanitation works

(iv) development of Rural Focal Point

(v) the infrastructures such as Schools, Rural Houses, Rural Toilets, Primary Health Centres, Veterinary Hospitals, Fish Feed Farms, Stadiums, Yards, Godowns and Plinths

(vi) the project of development of the state-of-art Modern Cattle Fair Grounds at different notified cattle markets of the state, which are currently in bad shape having no proper infrastructure

At present, the department has undertaken a Mega Project of Rs. 500 crore of the State Government in which village "DHANIS" (hamlets) are being connected with the adjoining rural roads by providing 2.6 m wide Brick on Edge roads. This work is to be completed by December, 2015

In order to improve the quality of paving and modernize the internal village streets, the department has decided that the village internal streets shall be paved with inter-locking cement concrete blocks and have issued the detailed guidelines based on IRC: SP 63-2004 and IS: 15658:2006:

Technical Powers of the Officials of Engineering Wing

(i) Junior Engineer: Rs.1.00 lakh

(ii) Assistant Engineer: Rs.2.00 lakh

(iii) Sub Divisional Officer: Rs.10.00 lakh

(iv) Executive Engineer: Rs.20.00 lakh

(v) Superintending Engineer: Rs.40.00 lakh

(vi) Technical Committee: Above Rs.40.00 lakh

Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)

Mahatma Gandhi National Rural Employment Guarantee Scheme/Act was started from 1 April, 2008 in Punjab. Implementation of this scheme has been performed by Zila Parishad through Block Development and Panchayat Officer-cum-Programme Officer and Gram Panchayat. Planning is being done through organizing Gram Sabha in October and as per channel of Block Samiti and Zila Parishad, it is consolidated and submitted to the State Govt. with the labour budget by 31 January. The Gram Panchayat executes the works under MGNREGA such as issuing of Job Cards, receiving applications of work and work allocation. Present wage rate is Rs.200/- per day. Payment of wages is given directly to worker's bank accounts through E-FMS (Electronic Fund Management System). Social Audit is carried out through Gram Sabha at the Gram Panchayat level.

The MGNREGS includes rural road connectivity works also. The works of construction of Village Roads in the state are carried out by PWD (B&R) and Punjab Mandi Board. However, works on construction of village "Phirnis" (peripheral road of a village), paving of internal village streets, roads to "Dhanis" etc. are taken up through the Gram Panchayat.

One of the most important achievements in Punjab is the earthwork for the restoration of berms and shoulders of village link roads under MGNREGA. The Block Panchayats and Gram Panchayats have not only undertaken the maintenance of berms but have also reclaimed the land encroached by adjoining farmers.

Annex 9

PRIs Role in Maintenance of Rural Roads in Rajasthan: Current Situation

Rural roads are basically with the Public Works Department. However, some rural roads – internal village roads and non-core roads to smaller habitations constructed under MGNREGS and other centrally sponsored schemes and state finance commission funds are with the PRIs.

Organization structure at three levels of PRIs is:

(i) Gram Panchayats: The organizational structure of a GP comprises of a directly elected Sarpanch and Ward Panches. With regard to other staff members, Section 78 of the Rajasthan Panchayati Raj Act (RPR Act) provides for a Secretary at each Panchayat level or a Group-Secretary for a group of Panchayats.

(ii) Panchayat Samities: Panchayat Samities are the nodal agencies in charge of implementing development works assigned to PRIs. A Panchayat Samiti is headed by an elected non-official, the Pradhan, who is duly assisted by a Chief Executive known as the Block Development Officer (BDO). He is supported by a Programme Extension Officer, Cooperative Extension Officer, Panchayat Extension Officer, Junior Engineer, Accountant, and other ministerial staff.

(iii) Zila Parishads: Zila Parishads have Members of Parliament (MPs) and Members of the Legislative Assembly (MLAs), and directly elected members from their territorial constituencies of the district. The ZP is headed by a Zila Pramukh who has a Chief Executive Officer (CEO) who is also the Project Director of the District Rural Development Agency (DRDA). The other functionaries to assist the CEO are Additional CEO, Assistant Engineers, Accounts Officer, Panchayat Extension Officer, Accountant, and ministerial staff.

Road works are being undertaken by the Panchayati Raj Department under the following schemes:

1. $13^{th}/14^{th}$ Finance Commission
2. State Finance Commission
3. MGNREGS
4. BRGF
5. DANG/MAGRA/MEWAT

6. MPLAD
7. MLALAD

The Engineering Wing of the Panchayati Raj Department:

- The department has the following qualified engineers with Degree/ Diploma in Engineering:
  1. Additional Chief Engineers: 2
  2. Superintending Engineers: 4
  3. Executive Engineers: 110 (3 EEs in each district)
  4. Assistant Engineers: One in each Block and one at District level
  5. Junior Engineers: One in each Block

Although the department has a vast network of qualified engineers but the hierarchy arrangement is unusual. For example, Assistant Engineer in a block is under the control of BDO and not under the Executive Engineer. Similarly, Executive Engineer reports to the CEO or Zila Pramukh and his Annual Confidential Report is also written by these officials. In this arrangement, the Additional Chief Engineers do not have any control over their junior staff and the organization. Possibly, while administrative control of junior engineers could be given to BDOs, the technical control may remain with higher technical officers.

The State Institute of Rural Development

The Indira Gandhi Panchayati Raj & Gramin Vikas Sansthan (IGPR & GVS) or the State Institute for Rural Development (SIRD) is the apex institution for capacity building and training of PRI functionaries in Rajasthan. It is carrying out various capacity building interventions, which are commendable.

The above institution imparts training to 1,25,000 elected members and 25,000 officials of the PRIs every year in 90-100 days period.

Currently, only five subjects (out of twenty nine subjects) as per the PRI Act stand transferred to the Panchayats. These five subjects are:

1. Primary education
2. Health and sanitation
3. Women and Child Development
4. Social Welfare
5. Agriculture and Agriculture extension

Although in 2003, as many as 18 subjects were transferred to the PRIs but many were later withdrawn by the Government.

In addition to the various ongoing schemes of rural connectivity, Rajasthan Government has initiated Rs. 1115 crore major road construction programme called "Gramin Gaurav Path" under which about 2048 km cement concrete roads would be constructed in 33 districts. Under GGP, village roads would be connected to main highways in one year in all the 2105 villages of 33 districts by PWD.

Annex 10

PRIs Role in Maintenance of Rural Roads in Uttar Pradesh: Current Situation

In Uttar Pradesh, the responsibility for the construction and maintenance of rural roads is divided into three main agencies, namely, the Public Works Department, Rural Engineering Department and Panchayati Raj Institutions. Besides these agencies, some rural roads are with Mandi Parishad and Sugar Cane Development Board also. The state government formulated a rural road maintenance policy and adopted the same in November, 2013. As per this policy, the department which constructs the rural road would be responsible to maintain also. However, in case of rural roads constructed by the PRIs, while the funds for maintenance will be provided out of central and state finance commission grants, their maintenance works would be executed as deposit works by the Rural Engineering Department.

Total length of rural roads with the PRIs is 27,200 km. They are all blacktop roads. Under MGNREGA, construction of kutcha (paved) road is done in small lengths. The configuration of road with the PRI is same as that of village roads with the PWD, which is 20mm thick premix carpet, 150mm thick WBM in two layers and 100mm thick GSB. The carriageway width is 3.75m in general. However, several roads of width 3.00 m which was the earlier norm, are in existence. The shoulder width is 1.00 m on either side. The construction is done by Zila Panchayat. Some roads constructed by Rural Engineering Department are proposed to be handed over to Zila Panchayat.

The Zila Panchayats construct the roads out of funds made available under different schemes such as 13th and 14th Finance Commission, State Finance Commission, Backward Region Grant Funds and MGNREGS. As mentioned earlier, under the MGNREGS, only katcha (unpaved) roads are constructed – mostly earthwork and berms/shoulders, etc.

For maintenance of rural roads, the Zila Panchayats use PWD specifications and PWD maintenance manual. Maintenance practices, again, are same as those of PWD with 8 year cycle between renewals and routine maintenance in the intervening period. Only State FC funds are available for maintenance.

The road inventory is not available centrally but is kept in the form of road register with Assistant Engineer (AE) at district level.

Each district has a Zila Panchayat with an elected Chairman and a Chief Executive Officer from the Administration. At this level, the Engineering Wing is headed by an AE with JEs at Tehsil level to execute construction and maintenance works of assets including roads of Zila Panchayat. The coordination

of works at State level is done by Zila Panchayat Maintenance Cell working under the Principal Secretary (PR). In all, there are 75 AEs and 306 JEs responsible for providing technical support to the PRIs. The staff are also responsible for maintaining other assets of Zila Panchayats such as buildings, markets etc. The work of design of civil works is outsourced since the department does not have any specialist design cell.

For effective functioning, at least an Executive Engineer (EE) at district level and the support personnel on the lines of a PWD division would be needed for effective construction and maintenance activities and enhanced role in future maintenance of rural roads. An SE would be required at Commissioner level and a CE at State level would be required for monitoring and policy-making.

For execution of civil works including roads, the contractors are enlisted at Zila Panchayat level. The procedure is given in the special gazette notification which is commonly referred to as "Nirman Niyamavali" (construction rules).

For capacity building of elected representatives and official functionaries, a Panchayati Raj Training Institute has been inaugurated in September 2015. Arrangements are being made to depute the staff and faculty. Thereafter, the department wants to carry out training modules for engineers. The Zila Panchayat Maintenance Cell can use the training modules developed by ILO for training of RRDA / PWD officials.

Annex 11

PRIs Role in Maintenance of Rural Roads in Uttarakhand: Current Situation

Construction and maintenance of rural roads are basically the responsibility of the Public Works Department (PWD) and Uttarakhand Rural Roads Development Agency (URRDA) in the state. However, some village roads are being constructed by the PRIs as well. The roads constructed by these PRIs are either foot paths or light vehicle roads. The foot paths are either gravel surfaced or in cement concrete. They have width of about 1.5 to 2 m. The cement concrete paths have thickness of 100 mm to 150 mm as they are normally meant for pedestrian traffic only. The other light vehicle roads and bridle paths are gravel topped only and in most of the cases, they are finished at sub grade level after hill cutting. The width of these roads varies from 3.00 m to 4.25 m. The length of these roads is 2256 km.

The roads are constructed under the supervision of Block Development and Panchayat Officer either by floating tenders or through the Panchayat who contribute the labour component. There is one AE and 2-4 JEs in each District Panchayat who provide technical guidance and supervision etc. in construction of roads and other civil works. For Village Panchayat's minor civil works, there are two JEs in each block, who provide the technical assistance to the Panchayat for carrying out these civil works.

The roads are constructed under different rural development schemes sanctioned by the State Government against which funds are allocated, the financial income generated by the village panchayat from the panchayat land lease amount or toll fee levied by panchayat on the pilgrims visiting the temples if any in the village. Funds received from the state for construction of footpaths and light vehicle roads or grants received in the case of restoring damages caused due to natural calamities under Devi Aapda and the funds received from the local Members of Parliament and MLAs for the maintenance/ construction of new roads falling under their respective constituencies. Some roads are also constructed against the MGNREGA funds. The state has introduced a new scheme "Meri Sadak Mera Gaon" (My road, my village) under which 2 km of road is sanctioned in each block at an estimated cost of Rs.3.5 million of which 50 per cent amount is met out of state funds and 50 per cent out of MGNREGA. No road inventory data is maintained. However, the records of length and width of light vehicle roads, footpaths bridle paths is maintained in the inventory records.

The PRIs are not maintaining any blacktop surface roads. Only footpaths and gravel light vehicle roads are being maintained either through the Village Panchayat or the skeleton maintenance staff on the rolls of PRI in the Zila

Panchayat. The maintenance of the roads under PRIs is being done from the own resources of the Zila Panchayat/Gram Panchayat and allotment of funds received from the State Govt. The funds are also allotted by the MLAs and MPs for the maintenance of roads, falling under their respective Assembly and Parliament constituencies. In addition, funds for the roads, which are damaged due to natural calamities, are allocated to the PRIs under Devi Aapda head for the restoration of the rural light vehicle roads etc.

The footpaths constructed with gravel need periodical maintenance to fill up the depressions/settlement etc. in the surface or restoration at the portions of the footpath that get eroded due to heavy rains or natural calamities. Similarly, in case of light vehicle roads, maintenance work is carried out to maintain the compacted gravel surface and cleaning of the katcha (unpaved) drains wherever required.

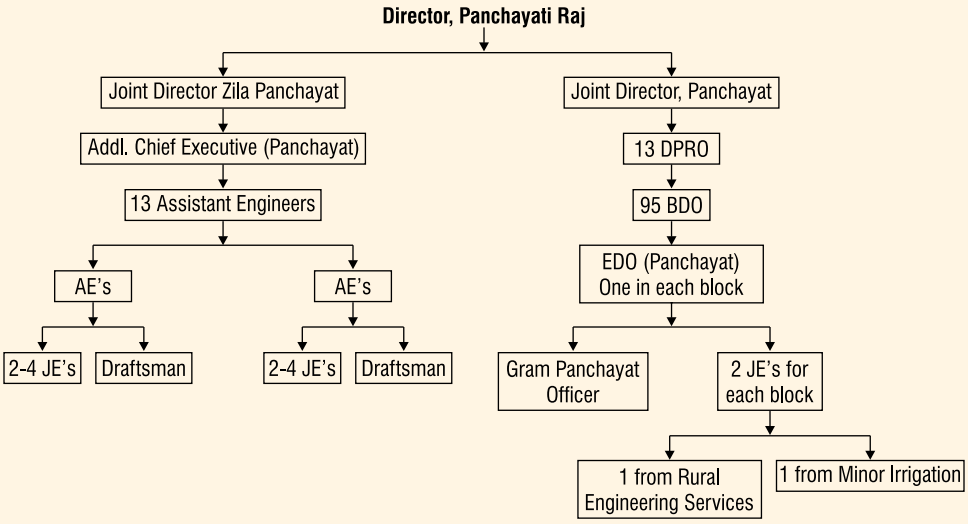
The organisational chart of the Directorate of Panchayat Raj is given in Attachment A. It will be seen that the technical staff works under two separate wings i.e. under Zila Panchayats and Village Panchayats. The works of the Village Panchayats are technically supervised by two JEs posted in each block. The works under Zila Panchayats are technically supervised by one AE at district level and 2-4 JEs posted at block level as per the work load requirement. Currently, there are 52 technical personnel in Zila Panchayats and 190 JEs in Village Panchayats at Block level.

Apart from roads, the technical staff is also involved in the construction of panchayat ghar, toilets, small pedestrian bridges, village drains and minor protection works on the streams to prevent damages to the village habitations.

The PRI does not enlist any contractor. In case of need if any, the work is got done from the contractors enlisted by state PWD.

At present, the technical organisational strength of the PRI does not have enough capacity to take over the maintenance of Rural Roads Network in the State. The meagre technical staff at present working in the PRI does not have sufficient know how about the construction/maintenance of properly designed bitumen surface roads. The senior most technical engineer presently working in the PRI is of Assistant Engineer rank. The process of transfer of maintenance roads can only be initiated after the requirements with respect to funding and adequate technical staff are ensured. Also, proper detailed guidelines in this respect have to be put in place. At this stage, maintenance of some non-core village roads may be transferred to the PRIs on pilot basis. While transferring the roads for maintenance to the PRIs, the process of transferring the staff engaged on their maintenance should also be initiated simultaneously. The system as to how the funds for the maintenance of the roads will be allocated to the PRIs should also be well defined. Moreover, as the roads maintenance policy in Uttarakhand State has already been notified, the PRIs should be fully equipped to maintain the roads as per the norms approved in the policy.

Organisational Structure of Directorate of Panchayati Raj in Uttarakhand



Annex 12

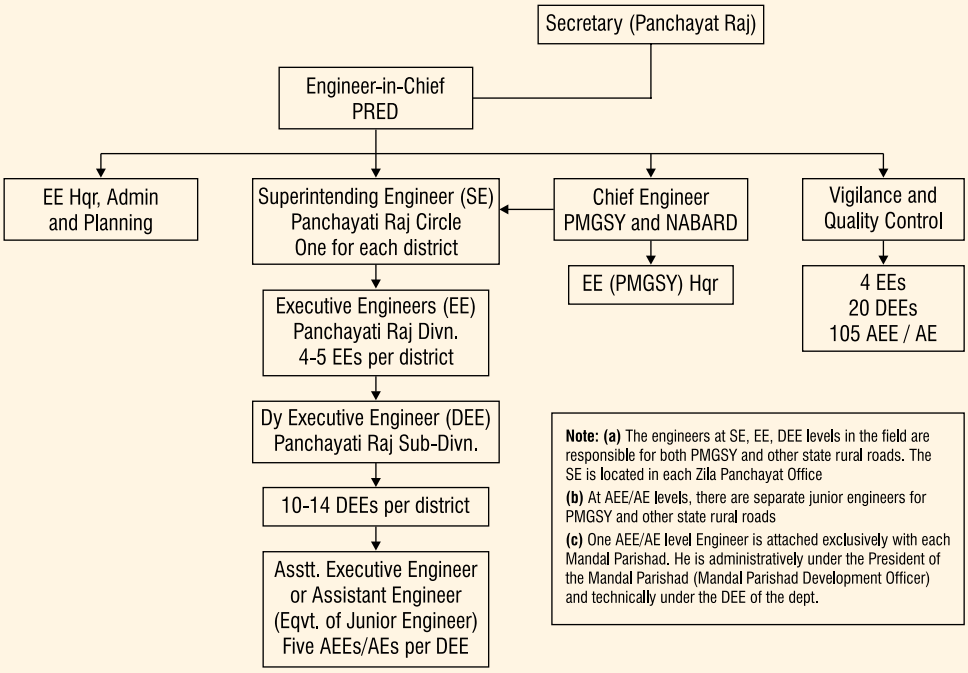
State Government of Telangana
Panchayati Raj Engineering Department (PRED)

A 'Good Practice' Example of Technical and Managerial Support in Maintenance of Rural Roads and Integration with PRIs

All rural roads are under the jurisdiction of PRED. This department was created in the year around 1960 (erstwhile Andhra Pradesh) and has been responsible for rural roads since then. There are no multiple agencies for rural roads in the state.

The Department is headed by the Secretary/Principal Secretary Panchayati Raj with the Engineer-in-Chief as the Technical Head. Figure 1 gives an overview of the organisation structure. The entire engineering department serves as a technical support arm of the PRIs in the state.

Figure 1: Organisation Structure of PRED, Telangana



Whatever good practices – engineering, technical standards and specifications, OMMAS, quality control, standard bidding documents, e-tendering, 5-year maintenance by same contractor who constructs, etc. have been implemented under the PMGSY are being unscaled and adopted for all other rural roads as well. The local rural farmers are thus benefiting from well-engineered roads.

The state department recognises that the intervention by the Central Government under the PMGSY has raised their performance level for both technical and managerial aspects in construction and maintenance of rural roads. Also, several engineers of the Department at various levels have improved their skills with the training programmes arranged by the NRRDA with support of the Indian Academy of Highway Engineers and NIT Warangal, etc. The Technical Assistance component of the World Bank and the Asian Development Bank has enabled the NRRDA to support the states in this endeavour. The state government now plans to formulate its own skill development and training policy and undertake large scale refresher courses in various topics with the help of NRRDA, NAC Hyderabad and state level STAs, so that every engineer of the department including the Junior Engineers working with the Mandal Parishad can benefit.

The SRRDA of the state is part of PRED itself within the department. One Chief Engineer is given charge of CE (PMGSY). He is assisted by one EE level officer for planning and expenditure monitoring at the state headquarter.

While a Junior Engineer level functionary for rural roads is attached from the PRED under the administration of the Mandal Parishad, there is no such earmarking to the PRIs at mandal level from other line departments such as agriculture, veterinary, health, education, although these departments are also responsible to PRIs at mandal/district level. The President of the Bibi Nagar Mandal Parishad in Nalgonda district during the meeting held under her chair expressed comfort on the support of JE level officer of PRED on exclusive basis for construction and maintenance of rural roads. The Mandal Parishad Development Officer (equivalent of Block Development Officer) added that the performance of the Mandal can be enhanced if similar arrangements are made by other line departments as well.

Inventory survey has been carried out for each and every rural road in the state. Each road has a unique ID number. Details of the information collected are uploaded on the Department website. Attachment A to this note indicates the format on which information is collected. Currently, the rural road network in the state (as on 1st April 2014) is as under (Table 1):

Table 1: Rural Road Network by Surface Type

(a)	Paved Roads	Length	(Percent)
	- Cement Concrete Roads	1717 km	(2.7)
	- Black Top Roads	18564 km	(29.0)
	Sub Total (Paved)	20281 km	(31.7)
(b)	Non-Paved Roads		
	- WBM Roads	14148 km	(22.1)
	- Gravel Roads	14733 km	(23.0)
	- Earthen Roads	14884 km	(23.2)
	Sub Total (Non-Paved)	43765 km	(68.3)
	Grand Total	64046 km	(100.0)

Note: Figures within brackets give percentage of total rural road network. Paved roads include roads built / upgraded under the PMGSY project

The Department has made arrangements for regular update of the inventory and condition survey of the rural road network. This serves as the bed-rock for planning of the upgradation and maintenance works on the road network and deciding prioritisation within the constraints of the availability of the funds.

In a recent performance review of the PRED rural road network at the level of the Hon'ble Chief Minister, (November 2014), - it has been decided to undertake the following programmes on a time-bound basis:

(i) Periodic Maintenance: Periodic renewal of those BT roads which were completed or which received their periodic renewal before the year 2009. This would help in clearing of the old pending backlog of periodic renewal. This programme involves renewal for a length of 14500 km at an estimated cost of Rs.1885 crore. The government has accorded sanction for a length of 11578 km at an estimated cost of Rs.1705 crore. Covering all mandals (blocks) in the state under the MRR (Maintenance of Rural Roads) grant, the department is gearing itself to complete the work in two financial years 2014-15 and 2015-16. The contractors are further obliged to ensure subsequent maintenance and removal of pot-holes if any for a period of two years after renewal work is completed and the road opened to traffic. Information boards are also displayed at site. Fortunately, the state does not face any difficulty in the availability of good contractors with adequate machinery and manpower to undertake this important task.

(ii) Upgradation of existing non-paved roads: Conversion of WBM, Gravel and Earthen roads to black-top roads shall be taken up in a phased manner. This project involves upgradation for a length of 43765 km. The government has accorded sanction for upgradation in a length 3782 km at an estimated cost of Rs. 1987 crore. Priority is given to those roads

where buses are plying. In addition to this, upgradation work in a length of 1398 km is in progress as part of PMGSY and NABARD assistance.

(iii) Strengthening of earthen, gravel and WBM roads: The government has accorded sanction for strengthening of earthen, gravel and WBM roads in a length of 14762 km at an estimated cost of Rs.386 crore under maintenance grant. For selection of roads under this activity, priority has been given to bus plying roads or link roads or single connectivity roads to villages where damages have occurred.

(iv) Repairs to bridges and causeways: An amount of Rs.250 crore has been sanctioned for 173 bridges under NABARD-RIDF loan scheme.

The above programmes are a laudable initiative of the government and an example of a Visionary approach to the achievement of a healthy rural road network for the social and economic uplift of the rural masses of the state. For instance, the project of periodic renewal would help not only in savings of travel time and vehicle operation cost for the farmers, bus operators and the local masses but it would also help in prolonging the life of these roads and save the government exchequer from spending funds on reconstruction of these very roads at 3 to 4 times the cost of renewal. Furthermore, renewal of these roads wherever completed has already helped the state in projecting a good image of the government in the eyes of the local people.

The challenge will now be for the state to ensure routine maintenance of rural roads so that benefits of periodic maintenance and strengthening of unpaved roads continue to be available on a sustained basis. This challenge is all the more real, as over time, the system of gang labour for routine maintenance has virtually vanished. The government had no option but to do so because in actual practice the productivity of gang labour continued to be on the decline and was proving to be an undue and avoidable burden on the state budget. Several countries in the world, particularly those in Africa and Latin America faced the same problem (huge gang-labour and low productivity). Micro-enterprises and community based cooperatives provided relief at low cost. And, routine maintenance undertaken by this approach helped these countries in reducing the burden of even periodic renewal. Community contracting and petty local contractors are promising options for us also.

The state authorities are already deliberating over formulation of a rural road maintenance policy based on a guidance note prepared by the NRRDA, Ministry of Rural Development, and Government of India and sent across to all states including Telangana. Once the maintenance policy is formulated and announced, it would pave the way for a proper financing and implementation plan so that the rural road network continues to be an instrument of not only poverty alleviation but also a vibrant rural economy.

The PRED has a vibrant Quality Control Cell with one CE as overall in charge. He has four Executive Engineers supported by 20 DEEs and over 100 AEEs / AEs for quality control checks during execution of construction and maintenance works. The SE in-charge of each Panchayati Raj circle has instructed his EEs to certify and recommend payment to the contractors only after such quality checks have been undertaken.

The department is endowed with dedicated and competent engineers at all levels for delivery of the various rural road development and maintenance programmes. Their performance and capacity would need to be maintained and even enhanced to undertake the recent initiatives referred to above. This will require a skill development and training strategy for the department staff. The Department is already formulating plans in this direction. Use of IT-enabled services will also help improve efficiency in planning and delivery of rural road programmes.

The PRED is continuing to serve as a sound technical, managerial and professional resource to the PRIs at district, mandal (block) and gram panchayat levels. Contrary to other states, the 'Mandal' in this state (and Andhra Pradesh) is not synonymous with 'Block'. Rather, it is a smaller unit (4 to 5 mandals may constitute one Block). The idea of the state government is that much closer attention can be given to the aspirations and expectations of the people at this intermediate level from level of local government for planning and implementation with the support of the technical arm which is the PRED.

Attachment 'A' to Annex 12

Format for the Details Collected for each Rural Road by the PRED, Telangana

1. S. No.
2. Name of District
3. Name of Assembly
4. Name of Mandal
5. Road Number
6. Road Name
7. Road Code (DRRP – District Rural Road Plan)
8. Reach Chainage – Start
9. Reach Chainage – End
10. Surface Type (CC/BT/WBM/Gravel/Track)
11. Length (in metres)
12. Road Condition (Good/Fair/Bad)
13. For BT Roads, Year when laid/renewal done
14. For BT Roads, proposed nature of repairs
15. For BT Roads, cost of repairs in Rs. lakh
16. For CC Roads, cost of repairs in Rs. lakh
17. For WBM Roads, Amount required for blindage and shoulders
18. For Gravel Roads, Thickness of gravel resurfacing in cm
19. For Gravel Roads, cost of gravel carpeting in Rs. lakh
20. For Earthen Roads, gravel carpeting in cm
21. For Earthen Roads, cost of gravel carpeting in Rs. lakh
22. For CD works, number of CD works proposed (pipe culvert, slab culvert)
23. For CD works, repairs to existing CD works
24. For CD works, type of structure proposed
25. For CD works, linear waterway proposed in metres
26. For CD works, chainage at which structure proposed
27. For CD works, cost for new works in Rs. lakh
28. For CD works, cost for repairs in Rs. lakh
29. Total cost in Rs. lakh and remarks, if any

Note: In item 12 above, the word 'bad' condition is to be deemed to reflect 'poor' condition in respect of PMGSY roads

Annex 13

Some International Examples of Local Self Government

(Source: Building Local Government Capacity for Rural Infrastructure Works by Geoff Edmonds and Bjorn Johannessen, ILO ASIST-AP, 2003)

Philippines

The Local Government Code was passed into law in 1991. Under this law not only responsibility but also authority for a broad range of rural infrastructure was passed to the provinces, municipalities and villages. The Code has certain key features:

- It broadens the taxing powers of local government units and increases their share of national taxes (internal revenue allotment to as much as 40%).
- It devolves responsibility for certain key services to local governments– tertiary health services, social services, community based forestry, agriculture extension and field research, locally funded public works.
- It strengthens their regulatory powers.
- It expands the participation in local governance by allocating specific seats to civil society.
- It encourages local government units to be more entrepreneurial both by floating bonds and obtaining loans but also by working more closely with and being more receptive to the private sector.

Decentralisation has certainly provided the local government units with both authority and increased financial resources. The Code was the most radical overhaul of governance in the Philippines. Nevertheless, there have been and there continues to be some major challenges. The financial resources available to the local governments have increased considerably, for example, the proportion of local revenue held at the local level increased from 10% to as much as 40%. However, costs have also increased for the local government units, particularly in terms of devolved staff. Moreover, the national institutions still dominate the allocation of resources.

The central budgets of devolved agencies, such as health and social services, have actually increased and the extra budgetary funds provided to a province by senators and congressmen can often be larger than the total provincial budget. Of more general concern has been the justified emphasis on the process of devolution rather than with the overall development of the concept of decentralisation. Coming from a very centralised form of government, the

decentralisation process has often been more concerned with effective devolution rather than an acceptance of the autonomy of the local government units as enshrined in the constitution.

The impact on infrastructure service delivery has in general been positive. Certainly at the lower end of the administrative hierarchy, there has been a concerted effort, supported by NGOs and People's Organisations, to both mobilise and effectively plan the use of local resources. At the provincial and municipal levels the impact has been mixed. Faced with budget constraints and the continuing top down approach of central government, these local governments have been able to improve their skills but still find themselves the implementers of programmes rather than the channel for planning, selection and authority. Roads are a good example.

Local roads fall under the jurisdiction of the barangays (village). Limited improvements in resource availability and some innovative methods for raising tolls have in general improved both the capacity of the barangays and the condition of the network at this level. On the other hand, a significant portion of the funds for the development of provincial and municipal roads is still provided from large donor supported programmes. These programmes have their own criteria, which are often imposed on the local governments. In addition, the funds available for maintenance of these roads have not increased with the devolution of responsibility.

One of the significant elements of the support to the decentralisation process was the establishment of a specialised institution, the Local Government Academy (LGA), within the Department (Ministry) of Interior and Local Government. The LGA had the task of providing training for local government officials on all aspects of decentralisation. Thus the issue of lack of capacity at the local government level was recognised from the start and efforts were made to remedy the situation. As part of its work, the LGA provided training in infrastructure planning, implementation and maintenance.

It has been argued that decentralisation affords the potential for a greater use of local resources. In terms of planning, this has definitely been the case in the Philippines. It was recognised that a fundamental problem of the local authorities was their lack of planning capacity. As part of the process, therefore, Integrated Rural Accessibility Planning (IRAP) was introduced as a simple infrastructure planning tool, with the use of IRAP, the access needs of the rural population were mapped to define priorities in the location of physical infrastructure including rural roads.

This planning tool has now been institutionalised in all provinces of the country. The IRAP process is now consistently applied in the local government units thus ensuring that proposals for investments in rural infrastructure respond to the actual needs of the rural population. Moreover, the planning skills of the local government units have been improved and this has provided

them with the means to effectively advise rather than merely implement. The one area where there has been little impact in terms of the use of local resources has been in the potential for employment creation. There have been many effective labour-based equipment supported pilot programmes. However, these have not been translated into any general acceptance of the technical and economic efficiency of the methods. Rather labour-based methods have been seen as tools of make work programmes or emergency employment programmes. It remains to be seen whether these methods will be more generally adapted as the local government units take on a greater share of the responsibility for infrastructure provision.

Laos

General

Decentralisation has been initiated in the country and the major concern has been the lack of capacity at the provincial and district levels. Rural infrastructure in general is in very poor condition in Laos and only limited funds are available for maintenance. With low population densities in the rural areas and long distances between population centres, the government is still struggling to connect all its districts with all-weather road access.

A number of foreign development agencies are active in assisting the government in providing basic services to its rural population. The attention given to rural development in Laos during the last 10 to 15 years has required a significant demand for capacity improvements within local government.

This situation has led to the use of IRAP process for the identification of the best use of resources made available for rural infrastructure development. Moreover, given the limitation of funds, it has been necessary to look at local solutions to local problems. This has involved the use of labour-based work methods, the testing of community contracts for maintenance and the development of local contractors relying on locally available labour and resources.

Integrated Rural Accessibility Planning (IRAP)

The ILO IRAP Project in Laos provided support to provincial and district authorities and their technical staff to plan for rural infrastructure development through the use of a simple, easy-to-apply and inexpensive data gathering and analysis procedure that takes the households' access to basic goods, services and facilities as a key determinant of development needs.

This was achieved by first developing the Division of Local Roads within the Ministry of Communication, Transport, Post and Construction (MCTPC) as the focal institution on accessibility and rural infrastructure planning, and enhancing the capacity of the IRAP provincial teams, being the conduits of technical assistance to the provinces and the districts.

Road Access in Laos

Of the total provincial road network of nearly 6,000 km, it is estimated that less than 35 percent is passable in the wet season, and only half of the population have road or river transport access throughout the year. Only 51 district centres of the total of 133 have all-weather access, and 15 have no road access even in the dry season.

On the basis of these figures, it is evident that the need for rural road development are enormous and varied. In the rural road sector, the needs are not just for development of village and district roads, but also of provincial roads. In some provinces, the most immediate need is building roads to connect the isolated provinces to the main road network. As the network of rural roads (provincial, district and village roads) is small and in an unmaintainable condition, the needs also include reconstruction of roads to a maintainable state and extension of the network to reach isolated district and major villages particularly in the mountainous regions.

The planning tool was designed to encourage wider community participation, empower the rural households to make sound decisions and promote coordination with concerned government agencies and departments at local and national levels. The ultimate beneficiaries of the project were members of rural households who need access to basic goods, services and facilities. The immediate beneficiaries were the technical staff at provincial and district levels who acquired the technology by participating in an IRAP hands-on skills-development training programme.

The project started in 1995 and was applied in the provinces of Luang Namtha, Savannakhet, Oudomxai, Luang Prabang, Sayaboury, Sekong, Khammouane and Xieng Khoang. The application resulted in sets of information describing accessibility conditions in the province, villages and districts, which were used in identifying, prioritizing and implementing access improvement infrastructures such as potable water supply, elementary schools, footpaths, health dispensaries and rural access roads.

The project clearly demonstrated how capacity can be built at provincial and district levels with the use of innovative and easily understood procedures for data collection, mapping and analysis. The project produced maps, indicating population centers, location of facilities and how they are linked, of all the villages and districts in the eight provinces covered thus providing additional level of detail to the topographic maps produced by the designated national government agency.

MCTPC, in the document Strategic Directions for the Development of the Road Sector for 2000-2015, "supports integrated rural development and poverty reduction through active participation in the IRAP project and inter-sector coordination", and will implement IRAP as a tool for planning and prioritisation of investment decisions in the local road system.

The project's focus on rural roads still supports a multi-sectoral approach as the other sectors are also covered because the Ministry believes that "the socio-

economic benefits of providing road access to rural communities can only be fully realized by coordinating road development with investments on health, support to education and agriculture."

Rural Road Works

Through the labour-based rural road works project in Savannakhet and Oudomxai, the ILO managed to develop a comprehensive strategy for construction and maintenance of rural roads in Laos – all implemented through the country's local government structure.

The viability of these policies and implementation strategies were clearly verified through the road works activities carried out in the two provinces. The main recommendations with regard to the viability of and potential for using labour-based technology in the road sector were summarised in a strategy document[2] prepared for the government by this project. In addition, the project documented how labour-based technology can be applied under the prevalent conditions of Laos in a technical manual.

The success of this comparatively small project is today reflected in the appreciation by the government and the donor community in (i) the appropriateness of applying labour based works technology and (ii) relying on the local government organisations for the implementation of rural road construction and maintenance works. Today, labour-based road works technology is applied in a number of rural road works programmes in the country – all under the direct supervision of the local authorities.

Cambodia

Background: Given the war torn history of the country, it is not surprising that rural infrastructure in Cambodia is in poor condition and that local capacity is still limited. However, capacity is now growing at an impressive rate. Under the Asian Development Bank (ADB) funded Rural Infrastructure Improvement Programme (RIIP), the Government has made a significant effort in addressing these issues. This major project was executed by the Ministry of Rural Development. In the RIIP, it was decided to engage local contractors utilising labour based work methods, all managed by the provincial authorities. This both developed local capacity and provided employment and income in the rural areas.

Contracting Capacity: Responsibility for contract administration was devolved, rather apprehensively, to the provinces. With the practically non-existent capacity within local government, this implied that entirely new civil works organisations needed to be established in each of the provinces. This involved developing a technical, managerial and administrative capacity at provincial level. For the technical component, engineers, technicians and supervisors

[2]Strategy Document for a Labour-based Road Works Programme in Lao PDR, ILO December 1996

were recruited and trained in all aspects of civil works planning, execution and supervision. Administrative and financial support staff were also engaged and trained to achieve fully independent and capable province based rural infrastructure works agencies. In order for these teams to work effectively, a complete set of new administrative, financial, planning and management procedures was developed and established. Works in the provinces were coordinated by a small unit at central level, mainly responsible for overall planning, coordination of funds disbursement, reporting and monitoring, development and introduction of new guidelines and procedures and staff training.

Contractor Involvement: An important feature of this project was the involvement of the domestic construction industry in a structured manner with the development of a complete contracts management package tailor-made for the works carried out, combined with a comprehensive training programme for both government staff and contractors. Basically, the project sought to utilise the various types of contracting firms already operating in the provinces. Local builders were engaged on simple culvert works, building contractors were engaged for bridge works, irrigation structures and building works, and smaller petty contractors were utilised for routine maintenance of rehabilitated roads. Construction firms with some limited experience in carrying out civil works were trained and engaged in road works construction utilising labour-based appropriate technology. The contractors trained for rural road works have subsequently been able to tender and win contracts for other infrastructure works outside the RIIP.

Physical Outputs - RIIP

Secondary and tertiary roads: **600 km**

Average direct costs: **12,500 US$ per km**

Percentage costs: **unskilled labour 40, skilled 11, structures 15, laterite 20, equipment O&M 8, and others 6**

No. of culverts: **988**

Cost per culvert: **Ø 0.60 m = 450 US$**
Ø 1.00 m = 800 US$

No. of bridges: **98**

Cost per linear metre: **Single span (4-7m) $ 1,200**
Double span (10-20m) $ 1,550

Peak Labour force: **9,500**

Accumulated employment generated: **3,223,807 workdays**

No. of contractors involved: **206 local contractors**

No. of civil works contracts awarded: **657**

Results

The results have been encouraging. Due to the decision made to decentralise full implementation authority to the provinces, the government has in effect created independent works agencies (one in each province), and thereby managed to quickly establish an impressive implementation capacity. This capacity was further strengthened by the involvement of the locally based private construction industry.

Local engineers and administrators have proven themselves well able, after some training, to administer contracts, and local contractors have responded well to the training provided including labour based techniques and business management.

In terms of physical works, all envisaged outputs were completed in advance of the originally planned schedule. Commencing works in 1998, all 600 km of rural roads, markets and other infrastructure construction and rehabilitation were completed before 2002, well within the original budget estimates. The road works also included the construction of 988 culverts and 98 small bridges. The quality of work has been proven through the solid resistance the created assets have shown during the major floods, which Cambodia has experienced over recent years.

This has now been clearly acknowledged by both the World Bank and the Asian Development Bank, which have been significantly increasing their lending programme to this sub-sector in Cambodia. They are now comfortably vesting the implementation authority with the Ministry of Rural Development, hoping to tap into the successful experience of RIIP. This is clearly illustrated through the fact that since the RIIP started, this Ministry has taken on the management of the similar programmes, i.e. the Emergency Flood Rehabilitation Programmes of both the WB and ADB, thereby expanding the initial programme into 16 of the 23 provinces of the country.

In addition, both development banks are currently supporting the Government in launching a number of new rural infrastructure investment programmes. In all the new programmes, the government has decided to apply the implementation arrangements of the RIIP. Key features in this policy are the use of labour-based works technology, decentralised implementation authority, appropriate contract management procedures, purpose designed for rural infrastructure works, sound financial management and full involvement of the private sector.

Maintenance

A major concern was the future maintenance of the improved infrastructure. Cambodia, like many other developing countries, has a rather lack luster track record when it comes to maintaining its road network. Therefore, the project developed a full maintenance management system at an early stage, which was installed immediately when the first roads had been completed. As a result, the rural roads can now boast of the best maintenance programme in the country. This system, based on petty contractors recruited in the vicinity of the roads, provides the regular maintenance work required to keep roads open through terrain with floods on an annual basis.

P.W.D.

No. J-11011/2/2014-RE-I (336967)
Government of India
Ministry of Rural Development
Department of Rural Development
(MGNREGA Division)

Krishi Bhavan, New Delhi
2nd January 2015

To
Spl CS/ Principal Secretary / Secretary of States in charge MGNREGA

Subject: Guidelines for identification, training, deployment and payment of Bare Foot Engineers (BFEs)

Sir / Madam,

This has reference to the Ministry's letter J-11011/18/2007-NREGA dated 25th October 2013 on positioning of Barefoot Engineers as part of the **core staff** of MGNREGS and the subsequent amendment to para 16 of Schedule 1 of the Act dated 3rd Jan 2014 which reiterated the provision of Barefoot Engineers. The provision has been made to improve the technical input and supervision of MGNREGA works.

2. In furtherance of the above statutory provision for deployment of Barefoot Engineers, the following are the guidelines for identification, training, equipping and payment to the barefoot engineers:

a) A **'Barefoot Engineer'** is an educated person identified from the local SC/ST MGNREG worker households and specially trained in civil engineering concepts using a customised training module such that he acquires required skills for identification and estimation of works, giving mark-out for works in the field and record measurement of the work done in the Measurement-Book of the MGNREGS.
b) **Scope:** Initially, all the 2,500 Blocks which are selected for IPPE would be eligible for deploying BFEs @ one for every 2,500 active workers. A BFE can also be deployed in addition to the TA if the State Government, after due assessment, finds a need for an additional person for improving the technical support in the backward areas.
c) **Eligibility:** The following shall be the eligibility criteria for selection as BFE:
    a. Shall be from an 'active' (should have worked in the last two years) worker household.
    b. Shall be educated upto 10th class.
    c. Shall be resident of the local area (the GPs for which being considered).
    d. Preference shall be for the SC/ST candidates in such a manner that the percentage of SC or ST candidates selected in a Block shall not be less than double the SC/ST population of the Block.
    e. At least half of the selected candidates shall be women.
d) **Identification:** The Programme Officer shall be authorised to identify the area requiring services of a BFE, which shall be done keeping in view the scope already stated above. The indicative list of expected number of Barefoot Engineers for the 2500 Blocks is enclosed in Annexure 1.
e) **Selection:** Subsequent to the identification of the area, the selection shall be done in the following manner:
    a. All the job card holders in the area shall be listed in the descending order of number of days worked in MGNREGA in the past 2 years.

b. If there is a willing and qualified person in the household which has the highest number of days of work shall be selected as the BFE; and if not, the search shall continue in the same order till a willing and qualified candidate is found.

c. The limits laid down for SC/ST/Women shall necessarily be complied with.

f) **Training:** The candidates so identified shall be sponsored by the State Government with a 'commitment to appoint the person as BFE in case of successful completion of the training programme' for a training programme that would be run for 3 months in identified institutions, the cost of which would be met by the Central Government. The details of these institutions would be communicated separately.

g) **Contents of training & certification:** The Ministry has held two national consultations with State governments and civil society stakeholders in conjunction with Ajeevika Skills and the International Labour Organisation to develop and ratify National Occupational Standards for Barefoot Engineers. The selected Barefoot Engineers will be trained and certified as per these standards.

h) **Employment:** On successful completion of the training and certification, the candidates shall be designated as 'skilled worker (BFE)' for the identified area by the Programme Officer.

i) **Work entrusted:** A BFE shall be entrusted with the task of identification of proposed works, conduct technical surveys, prepare estimates and assist in the planning process. They shall be authorised to give lay-out for works as per requirement, supervise execution of work and also record measurement in the M-Book of MGNREGS works. These measurement shall however, be check- measured by a regular Junior Engineer. Barefoot Engineers will perform these functions under the supervision and guidance of Qualified Technical Assistant/Junior Engineer/Assistant Engineer. The BFE shall also guide the Mates/Masons in executing the works under various government programs.

j) **Payment:** The Barefoot Engineers will be paid as skilled workers from the estimate meeting the same from the provision of 1% in the work estimate.

3. Since it is proposed that the first phase of trainings would be launched from the 1st week of April the following is the tentative time schedule of various activities:

Identifying areas requiring BFEs in 2,500 IPPE Blocks by the POs	31st Jan 2015
Selection of candidates by the POs and communication of the lists by the State Govt to Ministry of RD	28th Feb 2015
Allocation of candidates to the training institutes by the Ministry of RD	15th March 2015
Launch of the 1st Phase of trainings	1st week of April 2015
2nd Phase of training	July-Sept 2015
3r Phase of training	October – Dec 2015

4. You are requested to take action accordingly and make use of this facility to improve the technical support in the backward areas of your State. For any queries in the matter, kindly address Ms Inayat Sabhiki (inayat.sabhikhi@gmail.com) or Mr. Panjak Dubrekar, Consultant MoRD at pduberkar@gmail.com.

Yours faithfully,

2/1/2015

(R Subrahmanyam)
Joint Secretary, MGNREGA

Page **2** of **3**

Indicative number of Barefoot Engineers in the IPPE Blocks

S. No.	State	Active Job Cards (lakh)	Barefoot Engineers Required @ 1 per 2500 active job cards
1	ANDHRA PRADESH	10.36	414
2	ARUNACHAL PRADESH	0.8	32
3	ASSAM	0	0
4	BIHAR	20.73	829
5	CHHATTISGARH	23.38	935
6	GOA	0	0
7	GUJARAT	4.06	162
8	HARYANA	1.12	45
9	HIMACHAL PRADESH	1.44	58
10	JAMMU AND KASHMIR	2.08	83
11	JHARKHAND	12.92	517
12	KARNATAKA	12.13	485
13	KERALA	3.67	147
14	MADHYA PRADESH	0	0
15	MAHARASHTRA	13.64	546
16	MANIPUR	3	120
17	MEGHALAYA	0.75	30
18	MIZORAM	1.24	50
19	NAGALAND	1.15	46
20	ODISHA	15.68	627
21	PUNJAB	1.06	42
22	RAJASTHAN	18.47	739
23	SIKKIM	0.15	6
24	TAMIL NADU	24.92	997
25	TELANGANA	4.3	172
26	TRIPURA	1.47	59
27	UTTAR PRADESH	39.49	1580
28	UTTARAKHAND	1.3	52
29	WEST BENGAL	30.43	1217
	Total	**249.74**	**9990**

2/1/2015

Annex 15

Job Description – Junior Engineer (Incharge of Maintenance)

General:

The *Junior Engineer* is in charge of providing timely maintenance of rural roads. This involves inspection of roads, preparation of budgets and work plans, work supervision, on-the-job training and work guidance, inspecting and certifying completed works, following established technical, administrative and financial procedures.

Main responsibilities:

- inspection of all maintainable roads, inventorying deficiencies and estimating remedial maintenance works,
- estimate annual rural road maintenance budgets and prepare annual maintenance work plans based on field surveys,
- prepare detailed work plans and cost estimates,
- prepare contracts documents for maintenance works,
- estimate required inputs and costs of tools and materials for maintenance,
- assist in procurement of tools and materials,
- identify potential local contractors in close proximity to the roads,
- assist in awarding routine maintenance contracts,
- distribute appropriate hand tools to labour gangs,
- monitor and supervise the implementation of works by contractors and labour gangs,
- measure and issue payment certificates for completed works,
- maintain physical progress and cost records of all maintenance works, including labour inputs, tools, materials, and other costs,
- continuously monitor the effect of on-going works as compared to the condition of the road network, and when required submit requests for revisions to work plans,
- monitor the effect of intensive rainfalls or other extreme wear and tear to the road network, and submit request for emergency maintenance measures as and when required,

- monitor and evaluate the effectiveness of work methods, system and procedures, and if necessary propose changes which further improve the efficiency of the system,
- liaise with local authorities and villagers on administrative matters relating to the maintenance works (e.g. safety, use of borrow pits, maintaining road furniture, stockpiling materials, etc.),
- liaise with local authorities and the road users on the proper operation of the roads (speed and weight limitations, reporting, importance of emergency maintenance, etc.)
- other administrative or technical work as directed by the Assistant Engineer.

Reporting:

The Junior Engineer reports to the Assistant Engineer.

Annex 16

Inventory and Condition Surveys

Introduction

Road inventory provides details of the geometric features, alignment, plan, type of pavement and berms, location and type of culverts, bridges, side drains. It may also contain information pertaining to population of habitations served, healthcare and educational facilities, market, block headquarter, etc. Experienced Junior Engineers with some basic training and exposure can easily take charge of such surveys.

The format developed by the ILO under the World Bank project is given here:

Road Condition Inventory and Maintenance Planning				Road:	Village A to Village B		
				Div.		Page:	of
				Last major intervention: month/year			
				Chainage			
				0+000	2	3	4	5	6	7	8	9	1+000
Road Inventory data and condition assessment	Cross section type												
	Carriageway width	m											
	Embankment height	m											
		Type	Cond.	Description									
	Subgrade		G/F/P										
	Subbase												
	Base course	WBM	G										
	Surfacing	PC	G										
	Side drain Left (depth)	m	0.3										
	Side drain Right (depth)	m	0.3										
Proposed maintenance interventions		Unit	Qty										
Left side	Bush clearing (width)	m	700			2.0							
	Clear side drains (depth)	m	500			0.30							
	Clear mitre drains (depth)	m	150			0.30							
	Shoulder repair	m	600										
	Side slope repair	m											
Carriageway	Debris removal												
	Pothole patching	m2	9										
	Base course repair	m2											
	Crack sealing	m	400										
	Resealing	m2	16										
	Thin asphalt overlay	m2											
	Rejuvenation / fog spray	m2											
	Light grading	m2											
	Camber reshaping	m2											
Right side	Bush clearing	m	500			2.5							
	Clear side drains (depth)	m											
	Clear mitre drains (depth)	m											
	Shoulder repair	m	600										
	Side slope repair	m											
Structures, road furniture, other	Culvert/headwall repair	m											
	Repair retaining wall												
	Minor bridge repair												
	Repair of road signs	no											
	Replacement of road signs	no											
	Road marking repair	m											
	Road marking renewal	m											
Surveyed by:		Date:		Checked by:								Date:	

The states may like to adopt the same. The format provides separate sections for inventory and necessary works on the carriageway (pavement) and both sides of the carriageway as also other works such as drainage structures, road signs and other traffic control devices and other items.

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