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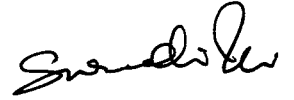
Government of India
Ministry of Rural Development
Department of Rural Development
Rural Connectivity (RC) Division

Krishi Bhawan, New Delhi-110001

Dated the 15th January, 2020

Subject: Proceedings of National Workshop on PMGSY held on 17-18 December, 2019.

The undersigned is directed to forward herewith the proceedings of National Workshop held on 17-18 December, 2019 at New Delhi for information.



(Dr. Surabhi Rai)
Director (RC)

To,

1. The Additional Chief Secretaries/ Principle Secretaries/ Secretaries, RD Department of All the States.
2. The CEOs of all the SRRDAs.
3. All Directors, NRIDA.

Proceedings of National Workshop on PMGSY held on 17-18 Dec, 2019.

1. A two day National workshop was organised by NRIDA on 17th & 18th December, 2019 covering several topics on Monitoring, Planning, Designing, New and Green Technology, Contract Management, Maintenance Management etc. The brief of discussions/ recommendations are as below:-
2. The workshop was inaugurated by Hon'ble Minister of Rural Development Shri Narendra Singh Tomar as Chief Guest and Hon'ble Minister of State, Rural Development Sadhvi Niranjana Jyoti as special Guest of Honour, among other dignitaries, Shri Amarjeet Sinha, Secretary, MoRD, Smt. Alka Upadhyaya, AS (RD) & DG, NRIDA, Shri J.K. Mohapatra, Former Secretary, MoRD and Shri Kamran Rizvi, AS(RD). The workshop was inaugurated by lighting the lamp.
3. Smt. Alka Upadhyaya, As (RD) and DG, NRIDA, in her welcome address, briefed the participants on the objectives of this workshop. The objective of the workshop is to interact, deliberate, discuss with all stakeholders including state's participants, PTAs, STAs, officials, experts on various aspects of PMGSY scheme to cover technical, administrative, quality Assurance mechanism, exploring convergence possibilities with other schemes like MGNREGA, SHGs etc. At this stage when PMGSY-I/PMGSY-II is on the verge of completion and more than 6,07,000 km of roads are constructed, PMGSY-III is launched, there is need to revisit all aspects of PMGSY scheme especially design, planning, economy of construction, new and green technology, training and capacity building. Such workshop is going to give a platform for a dialogue and discussion to arrive at cogent solution to several issues and bring in an overall improvement in project delivery. AS (RD) and DG, NRIDA also presented a brief overview of performance by States with regard to progress, achievement of targets, quality issues, maintenance monitoring, public feedback system etc. In her address, emphasize was given on upkeep and maintenance of roads. States need to focus on maintenance budget planning, monitoring system etc. NRIDA is helping them by developing eMARG system for the same.
4. During the workshop, PMGSY-III was formally launched by the Hon'ble Minister of Rural Development. Also, eMARG an e-governance, enterprise web based software, a solution for monitoring of maintenance of rural roads was also launched by Hon'ble Minister of State for Rural Development. Hon'ble Minister of Rural Development emphasised for strict quality control and quality works of highest standards as per norms of PMGSY. He also emphasised for proper maintenance of rural roads, emphasising on preventive maintenance, 5 year Defect Liability Period (DLP), allocation of funds by State to ensure that PMGSY roads are in good condition during and after its design life period of 10 years.
5. The first session was chaired by Shri Amarjeet Sinha, Secretary, Rural Development. Various issues were discussed during the session and following discussions/ recommendations are made.

- (a) As discussed by Shri Kamran Rizvi, AS (RD), convergence of PMGSY with MGNREGA, the possibilities are that roads built by MGNREGA be of same design/ specifications as of PMGSY roads, the convergence of technical documents be explored and final recommendations shall be made by a committee. Another possibility of convergence is to plant trees under MGNREGA scheme on the side of PMGSY roads and suitable provision in PMGSY sanction/ execution process be made.
- (b) Smt. Nita Kejrewal, JS (NLRM) discussed on convergence possibilities with SHGs in maintenance activities of roads, focussing on off carriage way maintenance of roads by SHGs. The NRIDA bid document needs to be sync, to provide provisions for MoUs with SHGs.
- (c) Shri. U.K. Guruvittal, CRRRI discussed on construction & maintenance of shoulders of roads. He presented, the best practices and suitable material & construction methodology to keep shoulders intact during service life. NRIDA to issue specific guidelines in this regard & conduct training courses on the same.
- (d) Shri Umakant Umrao, COO MPRRDA, enumerated in quite a detail, the Contract Management Process as followed by MP, from issue of tender notice till award of work, through e-tendering process. He elaborated, how effective is the system, wherein from opening of bid to award of work, every process is transparent, all stakeholders' including contractor's are informed about the Status of Tech. evaluation, financial evaluation etc. Tender notice is published till award of work, it is less than 45 days. The process flow in the form of PPTs is uploaded on NRIDA website for other States to follow & reduce their time, taken in award of work.
- (e) Tamil Nadu made presentation on SHG especially in waste plastic road construction. The role of SHG shall be explored by all States.
- (f) Karnataka made presentation in implementation methodology for New Technology and suggested some good practices like assessment of feasibility of type of Technology to be selected based on actual ground condition before work is proposed for a particular Technology. This is necessitated as ground condition dictates, type of technology to be used for success of its implementation. It is recommended that DPR shall elaborately include this expect before adoption of a particular technology. Also it is recommended that in bid document, there shall be some responsibility of technology provider also, as well as, commitment of contractor to ensure timely payment to technology provider. Also, it was mentioned that, some provisions shall be made to encourage new technology but in case of failure/ non performance, executives may not be blamed for failure. The presenter further suggested as below':

“Though the format for the performance evaluation reports considers all necessary tests and results required to assess the performance of the road, final inference by STA, unfortunately has not been made part of the performance evaluation report. As a result, the performance evaluation report falls short of giving out evaluation remark. State recommends that, concluding part of the performance evaluation report can include options as below-

“The Technology is better than/ at par with not better than the conventional method in terms of quality/ durability/ workability (ease of execution)”.

6. Session: Planning of rural roads for increased traffic including Safety on rural roads.

This session devoted discussions on design, planning of rural roads with increase traffic, and scientific evidence based method of selection of roads to be upgraded in PMGSY-III. The session speakers emphasized the need of economy in design and construction for rural roads subjected to higher traffic. Also road safety is important aspect for sanction of roads in PMGSY-III. During the discussion, it is recommended that road safety aspects are thoroughly scrutinized by PTAs/STAs and there can be AI based technology interventions to ensure that road safety is adequately addressed at planning and design stage. Very engaging session was held by Shri Harsh Nisar, highlighting how trace map generation, utility value calculation will help in selecting roads for upgradation in PMGSY-III. The generation of trace map and list of candidate roads ranking as per facilities mapping and habitation being served, is an inhouse NRIDA developed software which identifies roads as per their importance and is based on traffic simulation. This has made possible, the selection of roads in PMGSY-III, as an evidence based solution ensuing selection of roads based on their utility value as system calculated. The whole process of selection of roads using GIS mapped habitation and facilities is a leap forwarded in leveraging several technologies and is IT enabled.

7. Session: Thrust on Maintenance, International Experience in maintenance and community participation and mechanization in maintenance, eMARG and Quality improvement.

(a) This session gave focus on maintenance monitoring and management as rightly pointed out by the Hon'ble Minister of Rural Development in his inaugural speech and stressed upon by Secretary Rural Development, AS (RD) & DG, NRIDA.

(b) The international experience shared by the speaker in maintenance management solution and noted that generally contractors are not interested in maintenance of roads, especially rural roads being in remote areas. Solution to this is community contracting with targeted employment creation, mobilizing poor households living along the road sides into functionally effective community Self Help Groups (SHGs). Madhya Pradesh State officials presented the success of SHGs involvement in maintenance of off carriageway. The model adopted by MPRRDA is worth emulating by other states. The strategy could be to enter into MoUs with SHGs for shoulder maintenance and some provisions in SBD of NRIDA may be made to make it practical to adopt this model.

(c) MPRRDA also presented, success story of web based enterprise solution, eMARG for maintenance management during the pre- 5 years DLP as well as post 5 years DLP. The presenter, presented how eMARG has successfully implemented in MP, which has resulted into an effective system of maintenance management of roads, budget allocation, evidence based, geotagged photos to ensure that before release of payment to contractors, the road condition is evaluated in a holistic way complying with the operations manual of NRIDA as well as maintenance guidelines issued by NRIDA. The present SBD of NRIDA is based upon Performance Based Maintenance

Contract (PBMC) for maintenance management and payments. The solution eMARG supports the same.

(d) DG, NRIDA also shared her experience with successful model of eMARG and desired that National eMARG is to be implemented by all states by Feb. 2020. The necessary training has already been imparted to states and NRIDA is in full readiness to implement nationwide-eMARG. DG asked NRIDA to examine current provisions of SBD to get full advantage of eMARG and may synchronize with eMARG requirements. Similarly DG desired that SBD of NRIDA be made conducive to the working of SHGs for off carriageway maintenance of roads.

2nd Day (18th Dec. 2019):-

New Technology, Quality Assurance system - Revisited

1. The session on new technology covered various aspects on new technology like, ICBP, waste plastic, cell filled concrete, recycling etc. On use of cell filled concrete, good technical solution was given by Dr. K. Sudhakar Reddy, his recommendations are as per PPTs uploaded on NRIDA website. Similarly technology on cement stabilizers, recycling and waste plastic is uploaded on website for guidance.
2. The next session was on Quality Assurance System and speakers gave some good recommendations. DG, NRIDA noted such recommendations and in workshop itself, summarized action to be taken as below, which includes session on New Technology also.
3. DG, NRIDA emphasized the need to popularize new technology with contractors, for this, PTAs/STAs to conduct atleast one technology conference every year with maximum participation by contractors and executives. Format for such annual conference is to be evolved by NRIDA in consultation with all stakeholders. DG also noted that state to give proper attention to upkeep of old roads under pre 5 years/ post 5 years period to improve the overall image of PMGSY programme and to exercise effective control in quality of roads both in new construction and under maintenance.
4. DG noted that as per discussions, it is evolved that SQMs be trained periodically. NRIDA to prepare a training calendar for the same and implement.
5. During discussions, it is pointed out that the present formats of NQM/SQM reports are too bulky and therefore needs to be streamlined. DG directed that a committee is to be formed by NRIDA to evolve a better format, using AI based technology and shall be comprehensive but not bulky, which shall be filled by NQM/SQM personally.
6. Other suggestions which require action by NRIDA are as below:-
 - (a) Bridge inspection format is little different than given in OMMAS. Needs to synchronize.
 - (b) During Q&A session, it come to notice that aggregates grading of WBM/GSB layer after completion and then digging by NQM/SQM, gets slightly modified due to crushing and excavating the WBM/GSB layer, a study is required to co-relate actual grading in such scenario.

- (c) The rate analysis in SOR for new technology items like cell filled concrete be added for estimating and DPR preparation purpose.
- (d) It is suggested/ emphasized by speakers that NQMs, during their visit shall try to engage PIU staff/ contractors in training of best practices and quality construction in addition to their laid down duties to improve upon overall quality assurance system.
- (e) On the suggestion, that at present, generally it is observed that contractors are not aware of new technology implementation. The awareness on availability of equipments, machineries like chip spreader etc and similar such machines be increased among contractor's and executives by holding regular meetings and demonstration by PTAs/STAs and shall be arranged by NRIDA. Sometimes, DPRs are ill prepared and not realistic, contractors are untrained etc. Also there is need to recognize good design, good practices, good contractors etc, who shall be given due recognition at national level. DG, NRIDA recognized the need of such measures and has announced that there will be **Annual Conference cum Exhibition on Rural Roads/ Low Volume Roads, which can be named as "Indian Rural Roads Conference"**. The format is to be evolved and first such conference be held sometime in Aug, 2020.

Session: Challenges and Solution in Hill Roads

This session, speakers discussed on issues concerning design, planning and execution of roads in hilly region. The challenges in hill roads are numerous and therefore there shall be specific solution to such issues for construction and upkeep of such roads. Speakers emphasised the need for proper design and planning of roads especially the side drains, CD's etc. There has been a suggestion that protection works/ Breast walls along with the roads in hills be increased from present limit of 300 mtr per km to 500 mtr per km to ensure stability of slopes. It is also discussed that cutting of formation width for construction of roads disturb the drainage pattern of hills leading, to water accumulation and failure of slopes, this aspect needs to be examined in detail while preparing DPRs. To ensure, a proper technical solution, it is recommended that in preparation of such DPRs, geotechnical and hydrology experts be included and their report/ assessment shall be a part of DPR.

Session: Capacity Building and role of RCTRC.

This session covered various aspects on capacity building, role of RCTRC, how RCTRC can help in training, skilling and generating revenue for self sustenance. The good work done by states of Madhya Pradesh and Chhattisgarh has been presented to the audience and recommended to be replicated by all other RCTRCs. Session moderator discussed that PMGSY scheme is giving platform to technocrats, academia, research scholars, contractors to converge on one platform for knowledge sharing, dissemination and adoption of good practices. RCTRCs can lay a bigger role in capacity building, training and skill development by aligning with skill mission of Govt. of India and shall run certificate courses to widen its reach and exceptionality. It is recommended that each RCTRC to identify areas of specialization and shall develop as centre of excellence in that area to guide others. More and more RCTRCs in states aided by World Bank shall be opened, a feasibility and implementation strategies is to be worked out by NRIDA to encourage and popularize certificate courses by RCTRCs,

there shall be provision in bid document for employment of RCTRCs trained technical staff, such as lab technicians, supervisors by contractor's. RCTRC to evolve system of RCIs assessment and shall popularize it.

Concluding Session

In the concluding session, DG, NRIDA directed following interventions, in addition to above, to address issues as discussed in two days conference. The brief of such interventions are as below:-

- (i) SBD to be harmonized suitably for eMARG and inclusion of SHGs in off-carriageway maintenance.
- (ii) There shall be adequate funding by states for Pre 5 years, periodic renewal, emergency repairs and post 5 years maintenance period, which shall be monitored in eMARG.
- (iii) In DPR, there shall be AI based, evaluation for road safety to ensure adequate provision and compliances.
- (iv) Now the waste plastic and cold emulsion technology shall be included/ considered as main stream technology, to encourage its widespread use.
- (v) Committee to revamp Quality Assurance to be constituted, which shall give its recommendations by April, 2020.
- (vi) The environment friendly and sustainable green technology, there shall be adequate research to replace stone aggregates by suitable material.
- (vii) In next two to three months, the Operations Manual on Maintenance with new guidelines be evolved to streamline states maintenance policy and synchronized with PMGSY guidelines.
- (viii) To encourage and document use of New Technology, each PTAs/STAs shall ensure atleast a research/technical paper, once in a year.
- (ix) There shall be a system to reward public to bring out defective road/ patches in roads under pre-5 years DLP. This shall be made possible through Meri Sadak App.
- (x) For effective DPRs, system shall be evolved, to ensure that DPRs are thoroughly scrutinized by CE himself.
- (xi) For Traffic survey, to be realistic, STAs to evolve in detail and bring out use of technology to avoid human interventions.
- (xii) Research be more focussed on New Technology.