“Performance Evaluation Of Pradhan Mantri Gram Sadak Yojana In Marathwada Region.”

- Introduction.
- Rural Road Connectivity.
- Poor Village Connectivity.
- Impact of Roads on Human Development.
- Impact of PMGSY Road on Economy of Marathwada.
- Progress of the PMGSY.
- Financial Performance at the State Level.
- Physical Performance of PMGSY at the State Level.
- Financial Performance at the District Level.
- Physical Performance at the District Level.
• Expenditure per Kilometer of Road Constructed at State Level.
• Expenditure per Kilometer of Road Constructed at District Level.
• Quality Control under PMGSY.
• Constraints In The Implementation Of The Programme.
• Assessment of PMGSY.
**Introduction:**

The role of Rural Roads is very important in India where majority of the population resides in rural areas and the main source of their earning is based on agriculture products. Rural roads provide the access to basic amenities and means of transporting agricultural products to nearest market centers. The Rural Roads can be classified as Other District Roads and Village Roads. Other District Road are those roads which connects the rural areas to market centers, Block, taluka or main roads while Village Road are those roads which connects villages and group of villages and each other or to the market place or with the nearest road of higher category. The development of any country depends on the infrastructural facilities available therein. Good road network facilities plays major role. The developed countries have good road infrastructure not because of the fact that they are wealthy; instead they become developed because of good road infrastructure. Realizing this fact an ambitious and biggest ever infrastructure development project in India named as Pradhan Mantri Gram Sadak Yojna under ministry of Rural Development was conceptualized and launched in 2000.¹ The
objective was to provide basic access by way of all-weather roads to the all habitations having population 250 or above in desert and tribal areas and 500 or above for the rest of habitations. PMGSY scheme is becoming very popular among rural areas because of the specifications and quality aspect adopted for construction of roads. Although it is a Rural Road Connectivity Project but it has well designed working system, clear guidelines and stream lined efficient monitoring and execution strategy.

Roads are the backbone of any economy. They provide the necessary linkages that bring together the various sectors of an economy, bridging the physical distance between demand and supply in different markets. As a result; better roads have invariably been linked with higher economic development. Similarly, railways enable mass travel of people to places as well as the transportation of goods—both perishable and non-perishable—over long distances. Both these help people to break barriers of their own physical limitations and physical reach. Under Pradhan Mantri Gram Sadak Yojana construction and repairing of rural roads are taken up to ensure rural connectivity. It
is expected under the scheme that an expanded and renovated rural road network will lead to an increase in rural employment opportunities, better access to regulated and fair market, better access to health, education and other public services so as to accelerate the pace of economic growth in rural areas to enhance the welfare and well-being of the vulnerable sections of rural population.

**Rural Road Connectivity:**

The rural roads in India form a substantial portion of the vast Indian road network. Most of the rural roads were initially sand-roads. Because the agricultural produce and the finished products of small-scale industries in rural areas are to be moved from the producing centers to the marketing centers, the road connectivity is essential for rural population. For the development of these rural roads, Pradhan Mantri Gram Sadak Yojana was launched to provide connectivity to unconnected rural habitations as part of a poverty eradication measure. For its implementation, the Government of India is setting uniform technical and management standards and facilitating policy development and planning at State level in order to
ensure sustainable management of the rural roads network. The scheme is to be implemented in phases wherein the number of roads under each phase would be governed by the population of habitations. It is expected that about 3.75 lakh km of new road construction and 3.72 lakh km of up-gradation would be undertaken as part of the scheme. The construction cost is fully borne by the Government of India as a centrally sponsored scheme, while the State Governments are responsible for providing maintenance funds.

**Poor Village Connectivity:**

The poor connectivity of smaller habitations makes the conditions of the poor worse, and their ability to come out of poverty traps even more difficult. Poor connectivity impacts on contact with other areas, reach of government and its services, efficiency of the delivery mechanism and servicing by private service providers for health, small marketing services and so on. The already less-developed and low-economic equilibrium habitations are further sidelined and removed from mainline action.
Village connectivity reduces time of travel and reduces physical burden of travel from village to specific services and facilities, such as health centers, sometimes at critical times; local markets; schools not located in the village or at a walkable distance etc., especially for girls, and for middle schools; Availability of proper roads makes access to the village possible all year round, especially during the four-month long monsoon period, thus, enabling quicker and easier access during these months. Increase presence and efficiency of government service providers and programmes. All government service delivery personnel have a bias towards connected areas as against unconnected areas, and physical connectivity removes this bias, hence enabling better and more effective administration. Bring greater contact with resources into the village. Many more numbers of service providers of similar facilities, thereby providing a choice to the people. For example, in a well-connected village more repair units, or more people purchasing re-usable materials such as utensils and agriculture implements, or more people providing health care would approach. Enables public/private transport to either come to the village or enables villagers to access public/private transport from other stops more
easily. Increases economic opportunities, such as Labour from the village, including women, can now more easily go to external work sites, on a daily basis. The choice offered by alternate work places, in the longer run, has an impact on wages.  

The emphasis on re-building roads and ensuring universal rural connectivity—if work goes according to the plans of state and the *Bharat Nirman*—is bound to lead to a major qualitative upgradation in the state’s road network. However, the question that needs to be asked is, whether the agencies involved have the requisite capacity to undertake this huge task—state and district highways roads, rural roads, as well as upgrading and maintaining these roads. With the strategy of involving the private sector in roads and their maintenance for a period of time, and funds under *Bharat Nirman*, there seems to be some strategic and financial platform available for a push in roads, though what is now needed is a higher scaling of these efforts. At the current speed, it may even take a decade to achieve the targets and then the issue of maintenance would still remain. Further, the selection criteria for roads, especially rural roads must now look towards
indicators of backwardness especially in health and education to select priority habitations and districts.

**Impact of Roads on Human Development:**

Data from different districts of the Marathwada show that proportion of *kucha* road in the total road length in the district has a significant and negative impact on achievement of various vaccination programmes. A higher proportion of *kuchcha roads* restricts movement of people in the area and deters them from availing such services even if they are available. In the case of education, we look at female literacy, and relate it to the extent of *kucha* roads in the districts. We find that the length of *kucha roads* in the various districts; normalized by the area of the district, has a significant and negative impact on the literacy rates among females. Data analysis shows that village roads have a positive and significant impact on agricultural productivity. This is in conjunction with economic reasoning. Village roads are more likely to have an impact on agricultural productivity, than other roads. These results also conform to intuition.
The advantages of roads towards basic economic progress and development of an area are fairly obvious. These forms of physical connectivity also contribute substantially towards human development. Human development is about building peoples’ capabilities and expanding their choices. Through such infrastructure, people are able to access resources, be it a school or a college for education, a dispensary or a health center or a super-specialty hospital to save life and limb and in emergencies, gain access to more markets for trade, access to facilities, and to provisioning and products. Proper roads and connectivity not only make it possible to access many forms of other infrastructure and services, but also help in accessing them with greater ease, speed and convenience. Furthermore, roads bring along with them many economic activities and attendant services that boost the local economy.6

**Impact of PMGSY Road on Economy of Marathwada:**
Most of the villages were cut off from the rest of the world during the monsoon season as the rivulet overflowed and made it impossible for the *cutcha* road crossed. The children of the villages
who were unable to access their schools that were located in the big villages or cities during the monsoons felt one of the debilitating impacts of this. The construction of roads has enabled the children to access their schools all the year round. The advantages of being connected by roads are being savored by the rural people who are now able to access the outside world throughout the year, without having to take a circuitous route to nearby a small town to meet their daily needs. Earlier, when the road was bad, it had fallen into disuse and another route was being used by the people to access the outside world. The traders owning kirana shops in the village have never had it so good. When the roads were bad, it used to be a huge effort to frequent the nearby towns to procure the commodities being sold by them. They also faced difficulty in transporting the grains that they received from the villagers, who prefer to barter their grains to purchase various wares and commodities from the shops. After the road was built, the competition among their suppliers made sure that the commodities were delivered at their doorsteps without any extra cost. Similarly, transporting the grains collected through barter to be sold in the nearby town ceased to be a major effort unlike it
earlier used to be. Though the roads did not contribute much in improving their margins or turnover, but the sheer ease with which they can go about their business now has immensely contributed in improving their quality of life.

Sand mining is one of the major sources of livelihoods of the non-agriculture labourers residing in the village. Earlier, when the road was bad, the mining contractors never accessed the banks of river for sand mining. There was no need for them to ply their trucks and trolleys on this road as they could access other mining sites with greater ease. But, once the road was built, the mining contractors found it an attractive proposition to mine the sands from river and transport it through the village. The same non-agricultural labourers, who had to travel to distant mining sites, now, had an option to procure work within their village instead of wasting their time and energy in travelling to distant places. This did not improve the daily wages that they earned. Nor did it increase the number of days for which they could procure mining work in a year. But the immense ease with which they can access the mining site being separated from their loved ones as the time
for commuting to their work place and back was too high earlier, has immensely improved their quality of life.

Progress of the PMGSY:

Rural connectivity is a key component of rural development in India. Pradhan Mantri Gram Sadak Yojana aims at providing connectivity by means of properly laid all-weather surfaced roads to all unconnected habitations. Till the date of launching of PMGSY, the roads covered only 60 per cent of villages/habitations in the country. As per information provided by the concerned State level Implementing Authorities, Himachal Pradesh has the highest percentage of unconnected habitations i.e. about 67 per cent. Uttar Pradesh follows with 50 per cent of its habitations yet to be provided with road connectivity. Maharashtra has only 13 per cent of habitations lacking road connectivity. This programme is expected to provide road connectivity to 1.6 lakh unconnected habitations. All habitations with a population of 1000 persons are to be covered by the end of 2003 and all unconnected habitations with a population of 500 or more persons in the rural areas by the end of 10th Plan period at an estimated cost of Rs. 60,000 crore. Further, in respect of the hill
States and the desert areas, the objective is to connect habitations with a population of 250 persons and above. This programme is being implemented in all the States and six Union Territories. This is separately earmarked for this programme. Project proposals for Rs. 7533.3 crore have been cleared up to 2003-2004. About 56,200 Kms of roads have been taken up for this programme benefiting 37,235 habitations. Till December 2002, 14,572 road projects had been completed and an expenditure of Rs. 3321.6 crore had been incurred. Separate guidelines have been issued for implementation of all rural road projects under PMGSY.\(^8\)

The physical performance of some of the States evaluated under a study reportedly satisfactory. Among the ten States covered, Tamil Nadu was found to be the best performing State as its achievements, both in terms of cumulative number of road projects completed and cumulative length of roads constructed, the cumulative targets, were well above 92 per cent. Rajasthan and Maharashtra followed Tamil Nadu with good performance, though not very closely. Rajasthan’s achievement was above at least 85 per cent in terms of cumulative number of road projects completed and cumulative kilometers of
roads constructed vis-à-vis the targets. Similarly, Maharashtra’s achievement in both the parameters under review was around 82 per cent. Himachal Pradesh’s performance was observed to be the lowest, amongst all the States covered, both in terms of road projects completed (33.60 per cent) and kilometers of road length constructed (28.77 per cent) vis-à-vis the cumulative targets. Madhya Pradesh’s performance in terms of rural connectivity completed was 36 per cent and length of roads constructed around 33 per cent. The State of Karnataka and Uttar Pradesh had performed only moderately well as percentage of achievement of both the States in respect of the parameters under review was around 60 per cent.

**Financial Performance at the State Level:**

The evaluation of physical performance of selected States shows that excepting West Bengal and Madhya Pradesh, all the remaining selected States have reportedly utilized at least 60 percent or more of the cumulative allocations. Amongst the selected States, the highest utilization of 90.46 per cent of the cumulative allocations is reported by Tamil Nadu, followed by 82.28 per cent utilization by Karnataka and 80.85 percent utilization by Rajasthan. The percentage of
utilization of cumulative funds by Maharashtra, Himachal Pradesh and Uttar Pradesh is in the range of 61 to 63 per cent, which may be considered as moderate performance. The lowest utilization of allocations at 33.89 percentages has been reported from West Bengal.

**Physical Performance of PMGSY at the State Level:**

The physical performance of some of the States evaluated under study was reportedly very good. Among the ten States covered, Tamil Nadu was found to be the best performing State as its achievements, both in terms of cumulative number of road projects completed and cumulative length of roads constructed vis-a-vis the cumulative targets, were well above 92 per cent. Rajasthan and Maharashtra followed Tamil Nadu with good performance, though not very closely. Rajasthan’s achievement was above at least 85 per cent in terms of cumulative number of road projects completed and cumulative kilometers of roads constructed vis-à-vis the targets. Similarly, Maharashtra’s achievement in both the parameters under review was around 82 per cent. Himachal Pradesh’s performance was observed to be the lowest, amongst all the States covered, both in terms of road projects completed (33.60 per cent) and kilometers of road length
constructed (28.77 per cent) vis-à-vis the cumulative targets. Madhya Pradesh’s performance in terms of rural connectivity completed was 36 per cent and length of roads constructed around 33 per cent. The State of Karnataka and Uttar Pradesh had performed only moderately well as percentage of achievement of both the States in respect of the parameters under review.

Financial Performance at the District Level:

The utilization at District level in all the selected States has been higher than what has been reported at the State level. Amongst the selected Districts, Vellore in Tamil Nadu has reported highest utilization of allocations, as it had been able to utilize 98.88 per cent of cumulative allocations as against 90.46 per cent utilization at the State level. Vellore is followed by Bangalore, the selected District in Karnataka, as it reportedly utilized 94.79 per cent of the cumulative allocations as against utilization of only 82.28 per cent at the State level. Bilaspur, in Himachal Pradesh, reported utilization as high as 88 per cent as against the State level utilization of 62.50 per cent. Ujjain, in Madhya Pradesh, had been able to utilize only 59.47 per cent of the allocated funds as against a still lower utilization of 45.64
per cent at the State level. Further, Jalpaiguri, in West Bengal, had been able to incur expenditure around 38 per cent, which was higher than the 34 per cent of expenditure out of the sanctioned funds at the State level.

**Physical Performance at the District Level:**

As regards the physical performance at district level, some of the selected Districts have recorded satisfying performance whereas others have shown a rather dismal performance as compared to that of the State. In case of Tamil Nadu, the performance of selected District and the State are almost the same, as both the State and the District are at the top amongst all the selected States and selected Districts, both in terms of cumulative number of road projects completed as well as the cumulative length of roads constructed vis-a-vis the targets. The achievement in Vellore, Tamil Nadu in terms of number of road projects completed is around 96 per cent and in terms of length of roads constructed is about 98 per cent. But in case of Karnataka, the selected districts have done far better when compared with State’s performance. Bangalore has reportedly completed 78 per cent of the cumulative targets of road projects up to
December 2003 and 85 per cent in terms of targeted road length. However, in case of Rajasthan exemplary performance as recorded at the State level is not reflected in the performance of the selected Districts, as not even 50 per cent of the cumulative targeted road length had been completed in Tonk and SriGanganagar. Even Bilaspur, the selected District in Himachal Pradesh, has been able to achieve only about one-third of the cumulative targets in respect of road projects and road length in kilometers, a performance that is slightly better than the performance at State level.

**Expenditure per Kilometer of Road Constructed at State Level:**

Ratio of cumulative expenditure incurred to cumulative length of road projects completed, in respect of ten States evaluated under the study, shows that Himachal Pradesh reported the highest expenditure of Rs. 27.98 per kilometer of rural road constructed, followed by Uttar Pradesh which reported Rs. 24.12 lakh per kilometer of rural road constructed and Madhya Pradesh which reported Rs. 23.05 lakh per kilometer of rural connectivity provided. Maharashtra reported the lowest expenditure of Rs. 7.0 lakh per
kilometer of rural road constructed followed by Rajasthan, which spent Rs. 7.92 lakh per kilometer of rural connectivity provided and Karnataka, which incurred Rs. 9.53 lakh per kilometer of rural road projects completed.

**Expenditure per Kilometer of Road Constructed at District Level:**

Expenditure pattern per kilometer of road constructed at District level shows that like States, the expenditure also varies amongst Districts but the cost at District level is actually less than what has emerged at State level. The cost per kilometer of rural road constructed has emerged as Rs. 10.27 lakh in Vellore (Tamil Nadu) vis-à-vis Rs. 10.52 lakh at State level, Rs. 9.17 lakh in Bangalore (Karnataka) vis-a-vis Rs. 9.53 lakh at State level. However, in case of Himachal Pradesh, the trend is reversed. In this case, the expenditure at District level has emerged to be more what has been reported at State level. The cost per kilometer of rural road connectivity provided in Bilaspur (Himachal Pradesh) has computed at Rs. 32.68 lakh as against Rs. 27.98 lakh at the State level.
**Quality Control under PMGSY:**

A three-tier Quality Control mechanism has been envisaged under PMGSY. The District/Zila Parishad/Panchayat level officials exercise first tier of Quality Control. The State Quality Monitors (SQM), appointed by the State Government inspects the work during the work in progress as a second tier of Quality Control. National Quality Monitors (NQM) function as the third tier of Quality Control. The sole intention of exercising Quality Control so vigorously is to ensure adherence to all technical specifications relating to construction of rural roads as given in the related guidelines. Information collected from the selected States shows that all States have instituted effective three-tier Quality Control system, as prescribed in the PMGSY’s guidelines. However, it has observed that the first and third tier quality control channels are effective in all the regions under study but the second of Quality Monitors, which are to be provided to the concerned State Governments are not effectively working in some of the district. In Rajasthan, the National Quality Monitor reports have rated the completed road works as very good but the three works out of eight has been rated as average, which shows that the State level monitors had not exercised effective quality
control at their level. Another aspect of Quality Control is the maintenance of laboratories at work sites for the periodical tests of raw materials used at different stages of road construction by the contractors. A Similar laboratory has also established at the level of DPIU. Field teams of PEO have observed that the field-testing laboratories were functioning in Thane, the selected District in Maharashtra reported functioning of requisite laboratory at the State level. It had been further observed that the Quality Control Register was also being maintained. The quality of roads constructed has generally been rated as very good. However, it has been observed that roads in rainy seasons were blocked by huge quantity of water at the slope provided in the roads for the passage of water. A small bridge is required to be built to avoid the blockage.

- **Constraints In The Implementation Of The Programme:**

  The following constraints or problems are observed and noticed at the time of field visit or discussion made with implementing authorities or contractors.
Reasons for Shortfall In Implementation:

Under evaluation, took one year’s time to complete the procedural formalities, as the rural road project proposals in order to get implemented, have to pass through a number of channels with the result that no rural road works could be undertaken during the first year of programmes implementation. The project proposals for the scheme are initiated at the District level as per the District Rural Road Plan (DRRP) and Core Networks prepared for the scheme. The project proposals have to be prepared in consultation with the MPs and MLAs of these areas. Proposals have to pass from Core Networks to the District Panchayat, then to Programme Implementing Units (PIU), then further to State level agencies for vetting the proposals and to ensure that the proposals are in accordance with the guidelines programme, then to implementation unit at the State level for preparation for Detailed Project Reports (DPR), then to the State level Technical Agency (STA) for checking scheduled rates, and Indian Road Congress specifications, then finally to the State level Standing Committee, usually under the chairmanship of Chief Secretary for final approval of the State level, consolidation of proposals and preparation of State abstracts. After the State
Government’s recommendations the proposals moved to the Empowered Committee of Central Government, headed by the Secretary, Department of Rural Development, for scrutiny and clearance of the proposal wherein State representatives are also invited and then finally to the Union Minister for Rural Development for final clearance of the proposals.14

**Time Consuming Process:**

The contractors took time in getting adjusted with the new pattern of working like frequent testing, interference of Supervisory Consultants, Quality Monitors and the Inspectors of National Quality Monitors (NQM). This, instead of speeding up the progress has actually caused the tardy progress. The concept of implementation as introduced under PMGSY was new to contractors who took time in getting tuned to comprehensive system of checks and quality controls. The General Manager was hopeful that there would not be delays in future as the system had been stabilized and understood well by all concerned. Further, there are cases in Marathwada region where contractors have been penalized for delay in executing rural road projects.
**Timely Availability of Land not Ensured in Some Cases:**

Roads works are sometimes held up because at the time of preparation of District road proposals, actual availability of land is not investigated. With the fragmentation of agricultural lands, many families have been left with small holdings with the result that holders of small holdings are not allowing construction of roads on their lands. This situation has particularly been reported from the study area. There are certain problems in making available the land for the road construction under PMGSY, which need to be settled at Panchayat level before execution of road projects is undertaken. Land acquisition has been reported as the most important problem in implementation of PMGSY in Marathwada.

**Local Panchayats not taken into Confidence:**

Many a time Gram Panchayats are not taken into confidence, which results in disputes subsequently and causes delay in timely implementation of the road projects for the unconnected habitations. According to the norms, the MPs and MLAs are empowered for selection and construction of roads at their own behest. Although the schemes have to be approved by the Zila Parishad, their members are
neither consulted nor given any importance by the MPs and MLAs in the selection process. This problem has been noticed.

**Delays on Account of Monsoons:**

Reports of delay in completing the rural road projects due to monsoons in and due to adverse climatic conditions have been brought to the notice of the field work.

**Scarcity of Skilled Labourers and Materials at Some Places:**

It has been reported that the contactors do not use local labour with the result that employment opportunities for the locals are minimized. Similarly, some other States has pleaded for the use local available material for the construction of rural roads under the programme, as also provided in the guidelines.

- **Assessment of PMGSY:**

PMGSY has succeeded in providing connectivity to some of the most deserving habitations although the pace of implementation in most of the selected States is rather slow. Selection of these road.
works seem to be justified, unless one gives a high weightage to the opportunity cost in terms of road works forgone in other Districts. All the implementing States have designated an implementing agency as the nodal agency. All the implementing States have more or less adhered to the PMGSY guidelines as far as selection of habitations, project proposals and clearance are concerned. Quality of PMGSY roads has been found to be generally good. PMGSY roads provide connectivity to important places such as School/College, Market Centre, and Block Office etc. It has improved the accessibility of beneficiary villagers and resulted in higher income in the form of better price for agricultural produce, new employment avenues etc. The cost of providing connectivity for some of the habitations in States like Himachal Pradesh is very high due to difficult terrain.\textsuperscript{15} But for PMGSY, no road would have been taken up in these sparsely populated habitations However, what is important is that not only both the phases of PMGSY are efficiently completed within prescribed time targets by overcoming the constraints faced from time to time but the learning experiences of the past are also always kept in view. Further, by the end of Eleventh Five Year Plan, all unconnected villages/habitations will be actually connected through the
construction of all-weather surfaced roads so that vast chunk of India’s population living in rural areas also enjoys the fruits of development.

The Prime Minister’s Rural Road Program or Pradhan Mantri Gram Sadak Yojana (PMGSY) has played a strategic role in improvement of many under developed, disadvantaged rural pockets in many states. The central concept of the scheme points out that Road Connectivity is not the goal - it is the means to ensure that public services of health, education, employment, income etc. are available to all citizens. In other words, the PMGSY roads are meant to improve the quality of life of people living in rural, remote areas. There have been a few concerns about potentially negative impacts caused by the construction of the PMGSY roads. Resettlement and rehabilitation of project affected persons is a vital part of PMGSY projects. For construction of new roads, acquisition of land is a basic requirement. The land may be Government-owned or privately owned by persons who may belong to the vulnerable category. Acquisition of private land or damage to houses, other useful assets (trees, stores, and cattle-shed etc.) can sometimes lead
to various problems owing to loss of livelihood, hassles of displacement etc. In addition to these, there are other hazards faced by people which are side-effects of construction work like blocking use of space with heavy machinery or accumulation of debris on agricultural land and grazing land, obstruction of village paths to schools, health centers, safety of animals etc. Further, a large part of the vulnerable population may be non-titleholders, who do not have any legal rights for compensation and who should not be left out of the process. It is necessary to address all these issues in totality, from the start of projects until the very end.

Even as some districts have undergone a spectacular change due to the PMGSY, many other are lagging behind. Some of the districts have failed to put in place its quality control systems and national level checks have found more than 50 per cent of its completed works to be unsatisfactory. Similar stumbling blocks are surfacing in Marathwada as well. MRRDA has invited tenders under the PMGSY twice, but local contractors have shown little interest in pursuing the projects due to the low profit margin.
In the past, rural road programmes were faced with two major speed breakers—paucity of funds and poor quality of construction. The PMGSY addresses both. The project, which has an estimated cost of Rs 1,32,000 crore, is being funded by the Centre from the Rs. 1.50 cess it collects on the sale of every liter of diesel. Fifty per cent of the cess is allocated to the PMGSY. An estimated Rs 15,782.5 crore has been provided to the scheme since the cess was imposed in 2000. It is being implemented through the State Rural Roads Development Agencies (SSRDA) set up in each state. With 40 per cent of the target still unfulfilled, the rural roads project has a long way to go. But the national average hides the figures from individual states, some of which have completed 90 per cent of the roads they were supposed to build so far. Besides, the process of identifying the roads and disbursing funds got smoothened only after 2002-03. The quality conundrum too has been taken care of. Unlike roads built by the PWD, the roads of the PMGSY network are subjected to quality checks by several agencies at the local, state and national levels. The blueprints of these roads are vetted by technical institutes like regional engineering colleges and the IITs. The three-tier quality control system shows that up to March 2005, 89 per cent of the
completed roads and 71 per cent of the works in progress were satisfactory. In case a road is found unsatisfactory, the contractor is blacklisted and action taken against him. All PMGSY roads are covered by a five-year maintenance contract with the same contractor.

This initiative of Government of India provides an unique opportunity for faster socio-economic development by way of providing single all-weather connectivity to target habitations in a time-bound manner. Performance based monitoring, based on the physical outcomes, in terms of kilometer age of the roads completed and habitation the performance quarterly.

- **Improving Contracting Capacity**
  
  With an increase in volume of work the contractors are required to upgrade and enhance their capacity. This possible by deployment of more machinery, engineering a managerial staff, as well as, training of personnel a workmen. In the bidding document of PMGSY there is provision to invite tenders under the two envelopes system and the contractor is required to have certain execution experience, financial capacity and the experience of have
executed works of similar nature. The ‘available bid capacity would increase only when the contractor is executing works at a faster pace so that his capacity becomes free take up further works. There is also a need to involve bigger construction agency with a larger package size.

- **Use of Appropriate Technology:**
  The Rural Roads under PMGSY are envisaged to be carried out using intermediate technology. That is to say that if a work can be done economically and effectively employing labor, use of machinery should be avoided. However, for certain activities in road construction such as carriage of material, compaction, bituminous mix etc. use of machinery cannot be avoided. Adoption of locally available machinery, such as tractor with a few attachments and or modification is being encouraged.

- **Social and Environmental Concerns**
  Though the programme is expected to improve the economic and social welfare of people, care is also been taken so that the position does not become worse than what it was before the programme
was undertaken as far as social and environmental issues are concerned. Impact on environment studies and guidelines has been issued so that least quantum of land is utilized (to avoid displacement of people and use of agricultural land), pollution to soil, air and water is reduced, the water bodies are not disturbed and the hill slopes are protected.

- **Use of New Technology and Materials:**

The increase in construction activities are bound to increase the requirement of road construction material. Particularly in the hill areas a lot of waste is expected to be generated by way of cutting of hills. Pilot projects are being undertaken to encourage use of low quality materials as well as increasing the structural capacity of the locally available soil by using soil stabilization techniques. Soil stabilization is expected to result in lower structural thickness of the pavement steps taken to meet the challenge, reducing the requirement of stone aggregates. Such measures would not only optimize the cost but also reduce the time of construction.
• References:


11. Summary of A Quick Concurrent Evaluation of PMGSY -2005 by PEO.


17. India - Pradhan Mantri Gram Sadak Yojana (PMGSY) - Social Assessment of World Bank Funded Second Rural Road Project.