Chapter VII

Summary, Conclusions and Suggestions
This chapter intends to recapitulate the discussions made in the different chapters talked about earlier. The present chapter is divided into two sections. The first section deals with the summary and the conclusions that have been drawn on the basis of large number of observations that have come to light during the course of the study. The second section suggests some suitable measures and suggestions on the basis of the findings to achieve the objective which emerged out of the study.

7.1 SUMMARY AND CONCLUSIONS:

Ultimate purpose of all development activity is to improve livelihood opportunities to all people for a better life, bring about a more equitable distribution of income and wealth, achieve a greater degree of income security, expand and improve facilities for education, health, nutrition, housing and social welfare and above all to safeguard the environment. After Independence, the Central and the State Governments have been focused in the plans and various programmes with primary objectives of all around development to be achieved through attainment of better standard of living, greater equity and social justice and respect for human rights. Accordingly, huge investments have been made in various sectors of the economy for the overall socio economic development.

The high incidence of rural poverty makes the task of rural development particularly important. It is true that rural development is multifaceted, multisectoral and multi-processual in character. There are also general imbalances and problems connected with the development of areas, which are disadvantaged due to geographical and ecological factors.

In fact, the task of planning rural areas is very complicated and ought to be appreciated against the backdrop of general environmental conditions prevailing therein. For example, high population pressure on land, primitive agricultural technology, inadequate necessary infrastructure for development, lack of social facilities, very small number of new industrial enterprises, stagnation of traditional cottage industries, poor development of non-farm occupations above all institutional and social barriers to change etc. are general pre-dominant characteristics of rural areas.
Majority of rural people have limited access to social services and these are reflected in low rates of literacy, high incidences of infant and child morbidity and mortality, poor health and nutrition, status, poor environmental sanitation and hygiene, limited access to portable water and poor housing. The central approach to any development process has to be one enabling the poor and other disadvantaged people to improve their situation, both social and economic. The mainstay of rural economy is agriculture, half of the national income originates in that sector alone. That is why, in the context of rural development strategies, agriculture development has been given the topmost priority. It is treated as in layman's language as interchangeable with rural development itself. In fact, it has been accepted that development in agriculture is a prior condition for overall rural development, particularly in the context of a country, like India. A rise in output in this field facilitates indirectly the growth of the non-agricultural sectors by creating a rapidly expanding market for industrial products—both consumer goods and capital goods.

In the developing countries like India, the tertiary sector is less developed and more so in rural areas. The scope for developing the service sector is unlimited and this is especially true of rural marketing. The underdeveloped rural market is bound to mitigate the pace of rural development in particular and of economy in general. On the other hand, development of rural market will accelerate the rate of growth of the rural economy. In fact, road transport has close linkage with the economic development and social integration of the country. It is the dominant mode of transport for the movement of passengers and freight in India. It is ideally suited for short, medium, and long distance traffic. The long distance traffic as served by National Highways and State Highways, inter-district and intra-district traffic by major district roads, feeder traffic connecting rural centres of production to market outlets by other district roads and local traffic by village roads and urban roads. It has extra advantage in terms of easy accessibility, flexibility of operation adaptability to individual need, door to door service and reliability. It is the main means of transport in hilly and remote areas. In other words, it is one of the basic infrastructure of economic development of backward areas. Road network is a crucial ingredient of any development strategy. To promote socio-economic development of a country it is
essential to have adequate infrastructural facilities. Roads establish rural-rural, urban-urban and urban-rural connectivity by encouraging the flow of goods and services and mobility of people between regions.

Since 1940s, the Government of India and the State Governments framed several policies and plans for the development of rural roads in India and set the targets and accordingly funds were allocated under Five year plans.

India has a rural road network of about 2.7 million km developed with an investment of almost Rs 35,000 crore, estimated to have a replacement value of about Rs 180,000 crore. This constitutes over 80 per cent of the total road network, however, about a million km length of the road does not meet the technical standards required. According to government statistics, by year 2000, India had connectivity to almost all villages with populations of over 1500, 86 per cent with 1000 to 1500 inhabitants, and 43 per cent of villages with less than 1000 population. Successive plans aimed at achieving higher road densities and managed to over achieve it. Even though, the total length of rural roads targeted at the end of the Lucknow Plan appeared to be large, it must be noted that almost 100,000 km of the roads were constructed under different employment generation schemes and poverty alleviation programmes such as Food for Work, National Rural Employment Programme and Jawahar Rojgar Yojana. The roads were of indifferent quality constructed by unskilled labour. The objective of these programmes was provision of sustenance support to the rural people. The technical standards of asset quality were not insisted upon and construction was often restricted to earthen tracks with no provision even for category. Generally speaking, there are clearly understood demarcations of responsibility in terms of governmental offices expected to deal with each category. However, while the activity mapping with respect to NHs and SHs is clear cut, with respect to MDRs, ODRs, and VRs, these distinctions are blurred. In many states, though PRIs are assigned responsibilities with respect to ODRs and VRs, a plethora of agencies and line departments undertake formation and repairs of roads. These include the state government’s PWD wing, the Agricultural Produce Marketing Committees (APMCs), parallel bodies created by multilateral agencies, Forest department, Development authorities and so on. There are several general funds
that are used for roads, apart from special schemes tied to specific road projects. Thus roads are repaired using Sampoorna Grameen Rozgar Yojana.

The hill state Himachal Pradesh, by and large remained backward and isolated from the mainstream of the national life in the past during British regime because the rulers did not pay attention to this area as it was useful to their political economy and also on account of the very nature of the remote and inaccessible terrain of this hill State. The peculiar geographical situation, climatic conditions and negligible attempts of development prior to political independence were largely responsible for the backwardness of Himachal Pradesh. The predominantly agrarian State having agro-climatic conditions and geographical features along with its people started making determined efforts to improve its economic conditions. It opened up its economy and moved to the centre stage of national and international business. Efforts were made to formally link the existing Research and Development institutions. In fact that nearly 93 per cent of the total population of Himachal Pradesh lives in the villages it would be worthwhile to focus attention on how to meet the socio-economic needs of these rural people. The most important problem of Himachal Pradesh, how to improve the economic and social conditions of landless labourers, small and marginal farmers, artisans and other weaker sections of society. The need for development of the rural road network is imperative for balanced growth and development of the State. However, only in the last decade, the Government began to focus on the rural road development through specially the Pradhan Mantri Gram Sadak Yojana launched in 2000. Apart from this, the Bharat Nirman introduced in 2003 had rural road construction is an important component which has been blended with PMGSY programme. PMGSY is centrally sponsored programme aimed at providing connectivity to target habitations through construction of all weather roads. This programme is a special central intervention as part of a poverty reduction strategy. Vision of PMGSY to provide road connectivity in rural areas for sustainable and inclusive growth of rural India. PMGSY originally is sought to provide all-season road access for every community with a population greater than 1,000 by 2003, and all villages with population greater than 500 by the end of the Tenth Five Year Plan in 2007.
Substantial empirical studies on different aspects of rural development have been conducted in India and abroad. However, a few of these have covered rural development in relation to rural roads connectivity. Squire and Tak (1975) in "Economic Analysis of Projects", expressed that institutional interest in social aspects first appeared indirectly in the 1970s in the form of concern with the distributional consequences of investments and gradually these affected the socially deprived groups. According to them, the method for calculating real 'social' benefits of road investment projects is as per the criteria developed by the World Bank. Devres (1980) has stated in the scholarly work that in terms of distributional aspects, the investments on the poorest are overwhelmingly negative. Partly this is because income distribution and poverty alleviation were felt to be seldom considered as criteria in the selection of projects. Hine (1982) in his paper argues that development in agriculture and growth in its productivity has led to development of roads for commercial use of crops. Howe and Richards (1984) in their study revealed that since the end of the 1970s, emphasis has been drawn upon construction of roads with wide range of coverage in the rural areas in the developing countries which has resulted to access to education, health and other welfare facilities as the rural population could access to the areas of better services due to the facility of roads. However, they advocated that there is a need to comprehensively focus upon covering all rural areas with the facility of roads for the equitable growth and development of these areas in comparison to the urban. Thomas (1984) has tried to highlight in his study that Indian road planning is exceptional due to the fact that it has always been based on a mixture of socio-economic criteria that sought to achieve economic growth with equity. The scholar is of the view that this blend of socio-economic equity has started as early as 1943 under the Nagpur Plan and has been a continuous feature till date. However, it has been felt that the benefits have not been identified due to it and the actual achievements have differed significantly from the plans which is a matter of serious concern for the researchers. Ahmed and Hossain (1990) in their study asserted that development of rural infrastructure, with roads explicitly identified as being the central component, has to play a key role in any development strategy for Bangladesh. Fujimura and Weiss (2000) in their report found that failure of road
connectivity in the rural areas is one of the major constraints in the process of development. Paul and Kakli (2003) have made an attempt to study rural development initiatives of different agencies in their paper. They suggested that any strategy for environmentally and sustainable rural development, needs public awareness for which, Panchayats and NGOs play a key role. They stress for active participation of these agencies to help in active participation of the citizens which can contribute to the sustainable rural development. A Performance Audit of Comptroller and Auditor General (C&AG 2006) finds that PMGSY has provided road connectivity which has led to better transport systems during all seasons. The Draft Vision Document for Rural Roads prepared by Ministry of Rural Development (MoRD-2006) reveals that construction of roads and high rate of roads connectivity to the villagers is directly related with poverty alleviation. The document has given the reference of Living Standard Survey in Vietnam in 2002 which has shown that population living within 2 km of all-weather roads has lower poverty rates.

A major research effort started in the mid-'70s on rural employment and poverty, triggered by the question of why rural poverty was increasing in an age of high-growth. It first identified important problems related to incentive systems favouring the non-agricultural sector (import substitution and industrialization, for instance), to decreasing terms of trade between raw materials and manufactured goods, thus creating a double penalty on the rural poor; and further noted how rural non-agricultural activities were mainly undertaken as a survivalist strategy.

Braun, et. al. (1991) have focused on the socio-economic changes associated with general public works programmes that include investment in roads, in which characteristically emergency relief and employment creation have been the major objectives. World Bank's (1996) report evaluates the impact of rural road investment in Morocco which finds that there has been substantial improvement in primary school enrolment, attendance by girls and ensures quality of education. Sharma and Maskay (1999) have stated in their scholarly work that the construction of road is carried out in the agricultural slack season through labour intensive techniques generating off farm employment. Thus, it is
a source of employment generation. Levy (1999) has revealed in the study that rural transport has two main social impacts including better and more usage of education and health facilities and gains to women through increased school enrolment and better use of time. As a result of these benefits, it is recommended that future project designs ought to include estimation of these social benefits. Fan et al. (1999) find that the total productivity effect on poverty, 75 per cent arises from the direct impact of roads in increasing income, while the remaining 25 per cent arises from lower food prices and increased wages. Hence, it is a welcome initiative for poverty alleviation according to them. Bhagyalakshmi (2001) has pointed out in her work that new strategies need to be evolved to accelerate growth and help development of rural areas resulting to give access to the health, education, employment generation and development with special emphasis on women. Escobal and Ponce (2003) have made an attempt to study rehabilitation and maintenance of roads in Peru in their write-up and revealed that rehabilitation and improvement of rural roads in Peru have improved some measures resulting to access and attendance to schools and child health centers but they have no significant impact on others particularly on agricultural production, income and poverty alleviation. Khandker et al., (2006) in their study concluded that road improvement in Bangladesh has led to lower input and transportation costs, higher production, higher wages and higher output prices and has resulted to boost-up the economy. The exclusive study titled, “Social Assessment of Pradhan Mantri Gram Sadak Yojana (PMGSY)” conducted by FAITH Healthcare Private Limited (2008) assesses the social concerns in five PMGSY project states and has developed Social Management Frameworks (SMFs) including Resettlement Policy Framework, Tribal Development Framework, Screening And Consultation Framework and Information Package for Dissemination. The report focuses that during finalization of alignment, no provision has been made to mitigate the loss of vulnerable groups such as small and marginal farmers, women headed households, scheduled community, households below poverty line and physically challenged persons. Further, there is no formal grievance redressal mechanism in place and absence of Nodal Social Officer at NRRDA. There is no budget head to mitigate losses suffered by the community members and that the likelihood of being employed in high return
jobs and in self-employment increases with a decrease in distance to growth pole and the negative effect of isolation is magnified in regions with greater agricultural potential. In contrast, low return nonfarm jobs, paying equal to or less than median agricultural wage of a village, are driven by local demand and are distributed much more evenly across geographical space. Finally, the report concludes that access to smaller rural towns with population of about 5,000 exerts little influence on nonfarm activities except for non-trade able services work. Dillen (2008) has stated in the study that even if one restricts the benefits to those in the commercial domain, the road is almost surely social. Bell (2009) has stated in his article that more emphasis is needed to be drawn upon taking such development initiatives in the State to cover all regions. Yadav (2009) in the study concluded that there is an inverse relationship between roads connectivity and poverty level and stated that better roads connectivity will lead to lower poverty level and vice-versa. Warr (2010) has expressed in the study that 13 percent of decline is attributable to the conversion of dry- into all-weather roads. Geographically farther afield, this proves the degree of success of the initiatives taken for constructing roads and consequently steps towards poverty alleviation.

There have been certain studies that dealt with the implementation of development schemes and involvement of local organisations. Sethi (2003) has studied the process of technology adoption. He observed that this cannot be taken as a simplistic process like that of giving a pill to common man to revitalize him and pull him up above the poverty line. He revealed that it is to be seen as an interactive process of education regarding the available alternatives. The author finally concluded that the rural communities should be empowered to take decisions for their development. Carnemark et. al.,(1976)have concluded in their study that despite the long standing involvement of the World Bank in rural roads in SSA(Sub-Saharan Africa), no clear policy framework for rural roads has emerged as a consistent guide to governments, bank staff and other donors. Sustainability problems related to planning, funding and most importantly maintenance are still remaining to be addressed according to them. Relf (1986) has revealed the difficulties of transferring responsibility for rural road maintenance to local organizations by stating that although District Road Improvement and Maintenance Program (DRIMP) has been implemented yet, the
inability to hand over maintenance to districts has been due to their lack of organizational, technical and managerial resources. Hence, it has been suggested to emphasize upon development of skills at local levels for seeking services for the maintenance of roads. In an exclusive study on socio-economic effects of different projects in the process of development, Cook and Cook (1990) have stated that most of the programmes and projects in Kenya have given generally disappointing results particularly with reference to people living in poverty. Therefore, it has been suggested that more dynamic and practical projects based upon the need of the poor people should be implemented in the rural areas so as to provide benefit to the larger strata of population thereby socio-economic development. Jalan and Ravallion, (1998) have stated in their study that road density has been found to be one of the most significant determinants of household-level prospects of escaping poverty in rural China. Sikdar (2000) has tried to highlight in the study that Indian road planning is exceptional as it has always been based on a mixture of socio-economic criteria that sought to achieve economic growth with equity. This started as early as 1943 under the Nagpur Plan and has been a continuous feature until the present, however, individual benefits are not identified and actual achievements have differed significantly from plans. Lebo and Schelling’s (2001) research recommends that financing has to be provided by the World Bank to improve the networks in poor regions where the state governments have led to innovations in the way of road improvement in a justified manner in the rural areas in India. Bhagyalakshmi (2001) has pointed out in her work that new strategies need to be evolved to accelerate growth and help development of rural areas resulting to give access to the health, education, employment generation and development with special emphasis on women. Sahu & Santosh (2013) in their research article reveal that the entire project PMGSY has predicted adverse significant impacts occurring during roads construction. The impacts are designated to be significant, short-term, and reversible but manageable and most of them can be minimized through engineering solutions easily incorporated into project design. However, it is stated to ensure that Environmental and Social Management Framework (ESMF) and monitoring plans need to be well implemented.
During the course of civilisation it was realised gradually that the human beings are most valuable and precious resources of the society who will pay a pivotal role in nation's development. The quality of a state depends upon the efficiency and quality of its human resources. Thus numerous kinds of efforts were taken into consideration for the overall development of human being which includes his physical, social economic and psychological development. Frequent programmes on development of specially 'Rural poor' have been taken by the government and non-government organization on the basis of 'Right to Development'.

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. Himachal Pradesh lies across the main steams of Indian commerce, both east to west and north to south. For this region, the major development in transport has so far been confined to providing through road only. It is, however, a fact that a large part of this region is still inaccessible. Further the needs of hilly areas having unique physical settings, are not the same as those of the plains, in any direction whatsoever. The most important problem of India in general and Himachal in particular is that of improving the economic and social conditions of rural people who live below poverty line. They include landless labourers, small marginal farmers, artisans and other weaker sections of the society. Therefore, the present study is an attempt to provide an integrated study of rural roads (under scheme PMGSY) with reference to Himachal Pradesh. The development of Rural Roads would therefore impact large majority of the people and is critical for the overall development of the state. In the present study, an attempt has been made to measure development meaningfully in terms of levels of living, quality of life and general welfare of the people of a particular area.

The suggestions and recommendations that are made on the basis of empirical research are also of some help to the Government of the India and specially the State. The PIU (Programme Implementation Units) the implementation authorities can obtain benefit from this study. The study will encourage the villagers and Gram Panchayats to observe the things in
appropriate angle. Further, this study is an attribute to the cumulative existing literature in the respective field which will certainly prove to be of help in providing a path and serve as a guide to the researchers.

Transport, the backbone of a dynamic economy, has been constantly eluding the planners and researchers, whole approach has been academic rather than practical all these years. Transport arteries provide the medium through which economic vitality of any region may flow smoothly. Rural road connectivity is a key component of rural development, since it promotes access to economic and social services thereby generating increased agricultural income and productive employment opportunities in rural India.

As a part of its poverty reduction strategy and to bring about rapid sustainable development and socioeconomic transformation in rural India, and to synergise the various schemes being implemented across the districts of the country, Pradhan Mantri Gram Sadak Yojana (PMGSY) was launched by the Government of India to provide rural road connectivity to hither to unconnected rural habitations. It has been felt proper and appropriate to conduct an empirical study of the roads constructed under PMGSY in Himachal Pradesh. The present study has been conducted with a view to throw light on the development of rural roads under PMGSY and its impact of on the living standard of villagers are being developed as visualised by the Government of India. Rural Development covers wide variables making it difficult to study each and every aspect of Ministry of Rural Development. Hence the scope of study has been focused towards few parameters such as awareness and implementation of the scheme as well as quality and maintenance of the all weather roads. Its impact on farm and off-farm employment, easy accessibility to medical/veterinary centres, increase in education and income level, elevation in status in society and over all change in pace of life. The universe of the study undertaken is the state of Himachal Pradesh.

The study has been carried out in Districts of Himachal Pradesh namely Bilaspur, Mandi and Shimla. The districts have been so selected so as to have a full coverage of the various topological characteristics of the state of Himachal Pradesh. The districts were selected by taking state average of eligible
habitations under rural roads as stratifying parameter – district above state average, district equal to average and another below state average i.e. district Bilaspur has 71 per cent connected villages. District Mandi has road connectivity 56.68 percent whereas district Shimla connectivity status is 41.35 per cent which is below the State average (56.09).

Block level planning must demarcate its specific areas of concern and responsibilities in the overall frame of district and state plans. From each District two blocks and from each block three villages were selected for the purpose of survey. A multistage sampling scheme was used for the selection of districts, blocks, roads, habitations and beneficiaries. Further, 540 beneficiaries of habitations connected with rural roads under PMGSY scheme, have been selected, 180 each from the Bilaspur, Mandi and Shimla districts of Himachal Pradesh. The roads have been selected in such a way that these are more than 3 km. in length and are covered under both phases I & II of their construction. Beneficiaries for the present study have been selected on the basis of judgement sampling to study the level of benefit after implementation of PMGSY/completion of rural road under the scheme. Eighteen completed roads spread across the various Blocks in three districts were selected for the study. In order to evaluate the physical and financial performance a specific period from 2000-01 to 2011-12 has been taken.

The present study aims to evaluate the performance of completed all weather roads Under PMGSY and gathering the feedback from PMGSY beneficiaries with regard to their awareness, problems faced, potential and actual benefits, level of satisfaction etc. There aspects have not been earlier explored by large number of researchers at the national and the international level. The endeavours made so far by numerous eminent researchers encompass one or the other aspects on the subject. Important points have materialised from the appraisal of related studies that have been conducted in different parts of the world. Much of the studies have been based on the primary data collected by means of questionnaire or by administration of schedules to the respondents. Interview as a research tool, too has been commonly used in the process of extracting information from the respondents. Further, majority of these studies
have been conducted in states other than the State of Himachal Pradesh. Yet the implementation aspects of PMGSY and its effect on the development of human resource have so far been dealt with scantly.

The main objectives of the study is to strengthen the policies, systems, and processes of the national program under PMGSY for the expansion and maintenance of all-season rural access roads, resulting in enhanced road connectivity and better economic opportunities and social services for beneficiary communities.

The objectives have been accomplished by making use of primary data to a large extent along with some secondary data. The present study has been for the most part a primary probe based on the sample survey of the benefited habitants of different villages of sample districts with the help of the questionnaire.

The present study be well thought out as one among the many bricks that will be vital to bridge the space between research requirements and research efforts made so far. Although not all effects will occur everywhere, the foregoing discussion makes it clear that a socioeconomic impact assessment of rural roads needs to cover an exceptionally large array of issues, and that a commensurately large set of variables needs to be collected. The impact assessment of PMGSY is done with certain pre-fixed yard sticks as performance indicators, i.e. Agriculture & allied activities, Employment generation, Industry, Health & hygiene, Mobility, Socio-economic status, Change in Pace of life, Growth of income, producer surplus, farm-gate price, growth of agricultural production, increase in literacy, increase in students’ school attendance, increase in teacher attendance in schools, decrease in child mortality, increase in life expectancy, changes in vehicle ownership and other consumer durables.

The study has also been initiated as per the Gram Panchayat and implementing authorities to better understand the impact of rural road investments on poverty reduction. This enables the study to capture both direct and indirect impacts, allowed it to focus on the role of road transport services and accessibility within the broader socioeconomic-cultural context of a village,
and permitted it to understand the process and factors that influence impacts of rural roads on poverty.

In order to evaluate the performance of PMGSY in the state of Himachal Pradesh, district wise concentration of the all-weather roads, year wise and district wise details of PMGSY roads, amount of investment, length of roads, habitations benefited, etc. the secondary sources have been used. Primary data has been used to study the beneficiaries' perception regarding impact of all-weather roads on life of villagers and to examine the implementation of the scheme. The background of the beneficiaries, the purpose of the scheme and impact on rural development (social-economic, and infrastructure development of rural areas) are important aspects covered in the questionnaires.

From demographic perspective, age helps in classification so as to indicate the structure of the existing population. The benefited habitants covered in the sample belong to different age groups. Pertaining to the age group, three groups have been formed as follows up to 30 years, 30-50 years, and beyond 50 years. A perusal of table showed that half of the respondents (50.7) were between the age group of 30 to 50 years, followed by above 50 years (25), below 30 years (24.3). For the first group, i.e. upto 30 years, the road is an important means of travelling to and from the good educational or training institutions which are seldom presents in the villages. This helps in their upliftment and leads to the benefit of the whole village area. Further, age group of 30 to 50 years is considered to be the age in which an individual can work his best, for his family and the society. He is responsible for the income for the family whether it be agricultural or non-agricultural. Therefore, the availability of resources to earn can be made possible with the help of roads and transport. Also for him to take care of his family, he not only has to earn but also has to spend quality time with family and go out for some recreation. This facility can also be availed with the help of good transport services. After the age of fifty, a person requires relaxation and his interaction with the family increases; slowly he becomes the head of the family. That is when he needs transport to enjoy with family and travel to meet his family members.
Gender has been one of the important socio-economic attribute in the nations. It is evident that among the total number of respondents, 65.2 per cent of the benefited habitants are male whereas 34.8 per cent are female. With the transportation facilities, there is better participation of male as well as female workers in agricultural and other productive activities. In accordance with the Merriam Webster's Dictionary, marriage is the state of being united to a person of opposite sex as husband or wife in a consensual and contractual relationship recognised by law. While analysing the marital status, 87 per cent are found married, whereas 13 per cent of the respondents are unmarried. It depicts that majority of the beneficiaries have been found to be leading a family life. Their views are very important to assess the inputs and outputs of the scheme PMGSY as well as outcome of the programme.

The segmental division of society in the rural setting can be understood by the dimensions and activities of various units of the social structure. A society basing itself primarily on ascriptions as the guiding principle of social stratification will have to take note of the fact of birth or origin as the major determinant of status. A good percentage of the population belongs to the vulnerable groups like scheduled castes, scheduled tribes, other backward classes, etc. They will need special attention to bring them to the national mainstream. Rural accessibility is one of the means to uplift these vulnerable groups. The data of category indicated that maximum no of respondents belongs to general category (59.3), this was followed by Schedule Caste (36.9), Schedule Tribe (2.4) and others (1.5).

Amongst the different traits of a population, education is possibly the most vital characteristic as it gives people a sense of independent judgement. It brings about enlightenment and helps prevention of exploitation at the hands of others. The study has been done on varying academically qualified people so as to provide benefits to all in different perspectives. For the illiterate, it's a means to travel to places to learn new things or to gain education for the ones who are willing. And for the ones who have cleared matric level examination, it's a means to do further studies. They get a chance to get exposure in the town and cities and can also find job opportunities in private sector. The classification of
respondents with respect to Education Qualification clearly enunciated that the majority of respondents were Matric, whereas 29.1 and 20.7 percent were below 10th standard and illiterate. It further shows that about 14.2 percent were qualified 10+2 or graduate.

Family size of the benefited habitants play important role in the usage of facilities provided directly or indirectly through all-weather roads constructed under PMGSY. The family size is classified into three different groups as ‘up to 4 members, 4 to 8 members and above 8 members’ in household. It is clear from the Table that 286 respondents have 4-8 members in their families. 128 respondents (23.7) have above 8 members whereas 126 respondents (23.3) have up to 4 members in their families.

Awareness brings alertness in people. The alert people are in better position to understand the ways to get the benefits to which they are entitled from PMGSY scheme. Lack of awareness about the benefit of the schemes is one of the major causes of wrong alignment of road. The reason for the space between the provisions of PMGSY scheme related to its implementation at grass root level as given on the paper and as is actually implemented is the low level of awareness or total ignorance about the rural development schemes among the villagers.

In order to examine the awareness of the benefited habitants towards PMGSY schemes, they have been asked to rate their opinion in respect of the level of knowledge and understanding of the scheme. There was no information regarding the scheme among the villagers before the implementation of the scheme. 34.8 per cent benefited habitants received information about the all weather road constructed in the village from the display board fixed at the starting point of roads followed by 20.9 per cent, 19.3 per cent, 13.3 per cent and 11.7 percent through Gram Sabha Gram Panchayat Member, Implementing Agencies and other sources (i.e. friends and relatives) respectively. On the other hand, alert people have been found more participative during the time of initial survey and execution of the work.

According to PMGSY manuals, the programme has to be implemented through a framework of consultation with public representatives ranging from
the Panchayat level up to Parliament. In Himachal Pradesh, Panchayati Raj Act, 1994 gives greater importance to the Gram Sabha. A minimum of four general meetings on the first Sundays of January, April, July and October have been made mandatory and the family has been made the unit for determining the quorum of Gram Sabha meetings. Even then, a significant number of respondents have no knowledge about whether PMGSY project was discussed at Gram Sabha or not.

The Citizen Information boards along with logo of PMGSY should be erected at the site of road works. The signboards should contain requisite information i.e. name of road, length, estimated cost, date of commencement and completion of construction, name of the executive contractor etc. The information on boards are displayed in local language at prominent locations in the benefited habitations indicating the volume of materials used in each layer of the pavement.

The ‘Transect-Walk’ is a survey of the land with the village community, where the road would come up. It is a unique feature initialised by the World Bank and conducted for the first time under PMGSY Project. It has brought transparency and better cooperation by the community especially where land acquisition is involved. Elected representatives of the village, along with members of some of the affected households, walked the entire stretch of the route, so that their concerns along the path could be incorporated. Majority beneficiaries of all sample blocks except Ghumarwin confirmed that before initiating the construction of rural roads, survey has been conducted regarding the need of villagers as well as for land acquisition. Whereas majority of them are not aware about the survey conducted regarding issues related to environment. So it is advisable for rural road construction that during the transect –walk, a study along with technical feasibility of core link roads, it is mandatory to assess demand absorptive capacity rehabilitation issues as well as adverse impacts of such road links.

The scheme should consider the views, options, need and experiences of those who are going to be affected by the road connectivity. Rural roads are constructed by upgrading the existing earth tracks. Sometimes these tracks are narrow and need improvement to meet the engineering standards. This involves
acquisition of adjoining land which often slows down the process. It has been found that there is low awareness of the programme among the rural population and those who are the beneficiaries. Unless the people are aware of the programme and are also the participants in the implementation, the program would not succeed.

The success of development programmes depends upon the will of the political and administrative elite to decentralize real power at grassroots level. The significance of villagers' involvement in the formulation and implementation of development programmes need serious and sustained consideration for all concerned to change the rural scene in India. During finalisation of alignment, provision should be made to mitigate the loss of vulnerable groups such as small and marginal farmers, women headed household below poverty line and physically challenged persons. Thus, it can be concluded that there is no awareness of the scheme among the people before the implementation of the scheme, so as to have some knowledge about the benefits from it. These roads are not constructed with the involvement of all habitants which clearly indicates that either influence of few influential habitants of the villages or suitability of the implementing agencies for the construction of road. In fact, grass roots level planning ensures participation of those who are the final targets of development planning.

An all-weather road is one which is negotiable during all weathers. This implies that the road bed is drained effectively by adequate cross-drainage structures such as culverts, minor bridges and causeways. According to the manual of PMGSY, the maintenance of these roads is the contractor's responsibility for a period of five years after the completion of the road. Thereafter, the State government takes over. The responsibility for supervising the construction and maintenance of roads in HP rests with the HP Public Works Department (HP-PWD). Majority of the villagers have no idea about the maintenance of PMGSY roads. Thus, it may be difficult for the villagers to approach an appropriate authority for any type of repairs required especially during rainy season which may cause serious accidents on such roads. No asset lasts long without due maintenance and rural roads are no exemption.
A monitoring and evaluation system was developed and put in place from the launching of the scheme. A three tier mechanism has been put in place to ensure the quality of rural roads and the special attention is paid to carrying out monitoring and evaluation. Under the program, contractors are required to maintain the roads built for five years after completion of investment. Although the five-year provision in the contracts is helpful, it is seen to be just a stop-gap measure when viewed against the roads' economic lifetime.

This programme is mainly concerned with creation of rural infrastructure. Panchayat representatives opined that these roads are not helpful in creating rural infrastructure as per the expectations of rural masses or on an average no new social infrastructure is developed in the village after connecting with road. No doubt, rural roads are helpful to creating infrastructure for supporting agricultural activities i.e. to carry various inputs like fertilizers, improved agricultural tools etc. and output to market places, provide access to health facilities (number of visits, by age and gender), improve quality of health facilities, qualifications of staff, availability of medical supplies and also facilitates students to approach institutes for higher studies in the nearest towns. This has resulted in increased school enrolment and school attendance in the State. More emphasis should be given to infrastructure building i.e. proper roads, schools, health centers etc. are one of the basic requirements for development. So, more attention should be paid for the development of these facilities for the development of these areas.

Pradhan Mantri Gram Sadak Yojana was largest infrastructure based programme of India, aimed at developing to the fullest extent villages and human resources of the rural area through comprehensive efforts of people and active participation of the Government. Benefited habitants want to participate in rural development schemes. Shockingly, most of the beneficiaries have not in any way participated in the construction of rural roads under PMGSY. It is also observed that villagers don't know about the implementation procedure of PMGSY and who has idea about the scheme, they perceived that the execution of PMGSY is complicated to moderate extent.
Only half of the beneficiaries have been connected with rural road within a radius of less than 1 km. Thus, it is clear from the present survey that appropriate efforts are not being taken by the implementing agencies to minimise the distance of road to all inhabited population. However, these roads have shortened the previous accessibility to road to a great extent which is ultimately reducing the cost of transportation of their produce and encouraging them to grow more commercial crops. Thus these roads are not only connecting the rural masses with the town or big cities but are capable of stopping the migration of rural masses to urban places for search of employment. Therefore, the implementing agencies are required to take into consideration these facts to make this scheme a big success.

A vast increase in road transport services is essential for integrating the large rural sector of the economy with the urban and industrial sectors and for opening up isolated and undeveloped regions. In case of rural roads, the challenge was more prominent because of the fact that the works are located in far flung interior areas. The responsibility for supervising the construction and maintenance of roads in HP rests with the HP Public Works Department. It is observed that majority of the respondents are of the opinion that government functionaries are supporting the implementation of PMGSY to high extent whereas 14.7 per cent respondents of different block denied adequate support of government functionaries in the Implementation of PMGSY. This may be due to overlapping of responsibilities and the fragmentation of funds between agencies for maintenance and development of roads is a source of inefficiency and confusion. Improved access facilitates productivity enhancements and better participation of female workers in agricultural and other productive activities. 5.7 percent of the respondents from all age groups shows no adequate support of government functionaries in the implementation of PMGSY. The opinion of the respondents of different caste regarding appropriate support of government functionaries in the implementation of PMGSY road is similar. Poor road access has put nevertheless constraints for villagers in terms of access to social infrastructures such as education and health facilities.
All-weather roads are usually proposed along the existing tracks. A need for providing links to market, educational institutions, post office, banks, health centres, industries and also to the high value fruit and vegetable crops producing areas is therefore vital. Special attention is required in correcting geometrical deficiencies of old roads while preparing the detailed project report. The Gram Panchayat representatives have been highly satisfied regarding alignment of all-weather road. It is mainly the growth of road sector that can help the farmers to move their agriculture produce to market centres on tractors or supply of essential inputs, movement of factors to and from the villages, marketing of produce and diversification of crops is not possible without essential infrastructure i.e. road and telecommunication facilities. It is evident that connecting road from village to main road has significantly contributed in improving access to market and other economic and social service facilities. However it is concluded that the selection strategy was found to be okay. The ultimate objective of all-weather roads according to the manual of scheme is to promote a good level of service to the road user and good environment to the non-road user living in the neighbourhood areas.

Rural connectivity is a must in India and the extent of proper rural connectivity is judged by the satisfaction level of the road users. The satisfaction that beneficiaries derive from PMGSY scheme not only needs to take care of technical aspects or quality of all weather roads but also take into account local people’s views, options, needs and experiences. 22.2 per cent of the sample officials have reported Tribal population has not been considered for alignment of PMGSY road. The benefited habitants considered for the purpose of the study have been in vicinity of being highly satisfied with alignment of roads that is according to the practical needs of the society. 3.6 per cent beneficiaries have not been more satisfied regarding the alignment of road. It means provision of roads might not be initiated from the grass root level of the villages. It also requires the role and voice of young women and men, and fully involving them in planning and implementation strategies to develop their regions. Actually, demand for road construction from local area is also important as it would gain benefit from the road construction. This would also help in the negotiation process regarding the construction of the roads. The views associated with caste-wise is analysed
that the construction of the roads is consistent with development trend of the areas. The respondents of different educational qualifications backgrounds opined that construction of the roads must ensure the contribution in socio-economic development of the areas'

Rural roads are used as an entry point for poverty alleviation since lack of access is accepted universally as a fundamental factor in continuation of poverty. That is why, in the Pradhan Mantri Gram Sadak Yojana, all weather road connectivity is considered as an important factor for poverty reduction and it seems to be the common factor for the whole country rather than in particular areas. It is true that all weather roads connectivity to unconnected habitations has improved their standard of living, but whether these have made any significant difference in reduction of poverty is a question that is difficult to answer. The study discloses that on the basis of gender-wise responses, the poverty is reduced more than to some extent and gender impact, being a crucial factor in rural access, should be given appropriate attention. 7.9% of the female respondents has perceived to very high extent reduction of poverty after connected with roads followed by 22.3% who have been satisfied to high extent. Nearly one third of the female have revealed to moderate extent reduction in poverty. The number of female viewed to some extent has been 21.9%. In the Planning phase as well as in implementation of Pradhan Mantri Gram Sadak Yojana, involvement of women in decision making is important for anticipated positive effects on women/men and children. It has been found that inter-village rural roads can strengthen the interaction between villages and markets and for longer distance movement, trollies and trucks can be used. It is clear that after the construction of road, economic benefits achieved were clearly different for different socio-economic groups.

The major challenge before the State is to deploy its human resources effectively for economic development, employment generation and wellbeing of its people. Rural industrialisation is one of the effective ways to solve the rural unemployment at rapid rate. The study shows that benefited habitants have been in the vicinity of being near high extent regarding the idea of rural industrialisation being realised at Bilaspur. The rural areas seem to lack innate
local forces that could generate ideas about rural development from below and sustain the development with the help of local resources. It is possible with the support of Government schemes to encourage small scale industries. It is absolutely necessary to assess the potential of development of industries which exist in the rural areas and specific requirement of these areas. To sum up, the idea of rural industrialisation can only be realised through rural road connectivity. The Government schemes may be helpful to generate new ideas for industries and gainful employment in the rural sector, to create an efficient and self-supporting social facility apparatus to improve the living conditions of the rural helpless poor. The majority respondents are opined that connected habitations use the all-weather roads to seek employment opportunities within and outside the villages. It means that working force is gradually shifting from primary to secondary and tertiary sectors. Near about one half proportion of respondents from district Mandi have been in very high spirits relating to usefulness of rural roads.

The benefited habitants of all sample districts have been pleased with new employment opportunities being created after connected with rural roads except 1.3 per cent of them viewed that there is no creation of new employment opportunities. 38.2 per cent agriculturists, 38.5 percent labourers, 44 percent petty businessmen, 39.3 percent others (professionals, employees and students) are of the opinion that after connecting villages with main road under PMGSY has generated new employment opportunities to moderate extent. 42.2 percent of the female respondents consider the impact on the increase in employment opportunities with rural roads to moderate extent. In fact the transport burden for many domestic tasks like time spent on fuel wood collection etc. tends to fall disproportionately on women, and social rules and customs often limit their access to available means of transport. These factors act as constraints to improving monetary and non-monetary dimensions of well-being. Rural transport interventions are meant to alleviate each of these constraints. Many women mentioned that they have taken up small jobs (such as anganwadi worker, daily wage labourer etc) in the post road phase. Some of them do domestic help in nearby towns and commute through the taxies pooled by them. It is concluded that improved access also facilitates productivity enhancements.
and better participation of workers in agricultural and other productive activities. The rural roads have provided an economic safety net by facilitating alternative job opportunities in nearby areas and greater exposure with the urban areas have helped villagers.

The quality of population is intimately connected with education. Education plays a vital role in the betterment of socio-economic conditions, cultural life of the people, and in empowering a person to better face challenges of life. It is analysed that 44.1 percent (10+2& above) and 42.3 percent (Matric) respondents opined that it is helpful in creating new employment opportunities to moderate extent. The personal observation reveals that there is need of skill development programmes or more exposure to village people, so that they can up-date their skills. Major proportion of sample officials has reported for construction of all weather road the local labour employed from SC category and the local women to moderate extent while the ST category to high extent is given highest consideration.

It is concluded that providing connectivity to the villages with the main road has generated income sources to the rural populace. As the perception of beneficiaries regarding increase in income level after all-weather road lies between to high extent to not at all. It further reveals that only all-weather road connectivity is not enough unless poor people understand and know how they can capture the opportunity and gain benefit from the provision and that some other actions are needed to be done. Out of the total sample, 43.5 percent respondents of Shimla (38.7), Mandi (42.6) and Bilaspur (49.4) opined regarding impact of connectivity with road on increase in Income Level to moderate extent. More than half of the labourers has opined that providing all weather road connectivity to villages with main road has generated new sources of income to moderate extent. It is analysed that 44.6 per cent of both illiterate and below 10th std respondents has reported increase in income level to moderate extent. 62.5 per cent respondents of ST category opined regarding increase in new sources of income with road connectivity to moderate extent. Overall, One-third respondents of different age groups have expressed their view point that income level has increased with all-weather road connectivity, to a large extent. It is
concluded that in the connected villages, agriculture based small scale industrial units like rice and flour mills, oil and pulse mills etc. may act as centres of input distribution. Similarly, poultry and dairy products can also be encouraged. Rural road connectivity has improved livelihood activities in the isolated villages. The traders are finding it easy to access the nearby markets for purchase of grains and other products. The observation further reveals that enhanced habitation connectivity has increased access to new income resources.

Massive expansion in road connectivity has reduced the distance between rural and urban areas. Accessibility, in relation to the distance from a transportation artery and in relation to the time and cost of travel between two places get shortened with all-weather roads. Nearly half proportion of sample respondents of different educational background have supported that all weather road facilitates as if there is no school in the village itself, those children who already attend one elsewhere, travelling to and fro, save their time and those who did not attend school earlier may do so now. Majority respondents (51) from 4 to 8 members family to high extent whereas 32.8 percent of above 8 members family have shown construction of all-weather road facilitated movement in day/night to moderate extent. The road transportation in Himachal Pradesh has key importance to meet the need for quick movement of material and short life agricultural and horticultural products. It is true that better roads are needed for better life and rural road has provided visible benefits immediately that is why rural communities view roads favourably. All benefited habitants of different categories embrace the project in terms of easy accessibility and road connectivity has increased efficiency in decision making with respect to any rural development programme. It has been found that the rural road has led to an increase in frequency of visits. This is also reflected through rapid changes from traditional to modern ways of life to enjoy and new relations have established with the other villages and this in turn has given birth to new change in socio-economic setup. The quality of population is intimately connected with education. Education plays a vital role in the betterment of socio-economic conditions, cultural life of the people, and in empowering a person to better face the challenges of life. As wide differences between quality of education of rural areas and the urban centers persist, generally the villages of
remote and unconnected regions have been deprived of better educational facilities simply due to lack of accessibility. Positive scenario is reflected by 540 benefited habitants with difference in opinion regarding PMGSY project that has opened the gateway to higher education for the majority of children deprived of the same. As supported by majority of the respondents, Gram Panchayat representatives opined that all-weather roads have impact on the improved attendance of students in the school i.e. they are more regular due to all weather roads. A major chunk of the respondents are agreed to a very high extent that the roads providing a link to the nearby town have led to more children continuing on to high school. Benefited habitants above 50 years expressed their viewpoint that education level of children has improved with all-weather road connectivity, to moderate extent. It shows that substantial increase in education level has brought attitudinal change in the minds of people towards education. Further, these roads are proving very helpful for the improving female child education especially in the far off rural areas. Although on an average no new social infrastructure is developed in the village after connecting with road as reported by the Gram Panchayat representatives. In brief, education contributes to such an effort by improving the well-being of people in two ways, directly as a source of personal satisfaction and indirectly as an important method to increase income and occupational status.

Health is important for human welfare. Health, like education, is desirable in itself. Sickness or ill-health imposes a burden on other members of the family and also on society. Absenteeism from work, on account of ill-health, can result in a loss of production and productivity. Thus, to emerge as a wealthy nation, a healthy society is desirable. Beneficiaries of district Mandi (43.2%) and district Bilaspur (44.9%) opined regarding the decreasing health problems with all weather road connectivity to very high extent. It is concluded that the impact of new road links on the social life of rural population is reflected in the form of better medical care as the educated person is aware and can approach the best medical facilities. Moreover, education can affect income and health, both of that in turn affect quality of life. These are the strong social benefits from rural roads that need to be taken into account. Majority respondents i.e.59 percent Labourers and 50.7 percent Petty Business men are of the opinion that
connectivity of villages to the main road has increased easy accessibility to medical/veterinary centres to very high extent and play a significant role with easy accessibility in case of emergencies. 43 per cent benefited habitants above the age of 50 years have expressed their viewpoint that the patients can be now taken to the hospital and even the doctors are showing their willingness to visit the villages, which earlier due to poor connectivity was not possible. Gender-wise responses of benefited habitants are satisfied that rural roads enable the inhabitants to reach health clinics more easily. The study did not show a significant impact on access to education, whether in terms of greater attendance, smaller drop-out rates, or regularity of teachers. The impacts were more positive in the case of access to health services, where travel times to health centres and practitioners showed a substantial decrease. Construction of rural roads brings multifaceted benefits to the rural areas and benefited habitants feel an elevated status in society. Out of the total sample, 18 percent were having positive attitude to moderate extent regarding improved status due to village connected with main road. Majority respondents (51.9) of age group below 30 years expressed their viewpoint that all weather road connectivity has improved their status in the society to high extent. It is concluded that with the construction of roads under PMGSY, there may not have been an improvement only in the accessibility to facilities like marketing, health, education and entertainment, but may have also increased the awareness of rural people which goes a long way in changing the traditional social structure and resulting in the improvement of the status of the villagers. Rural communities have an important community asset in the form of the road. People try to get their daughters married in a village where access was not difficult and time consuming. Moreover, some of the marriage proposals emanating from these villages, which were rejected due to inaccessibility, have now been accepted as the place is easily approachable. Benefited habitants of different educational background viewed that improved infrastructure of roads and transport services has been providing the villagers with better opportunities for improving their standards of living and roads influence the process of growth through changes in socio-economic attitudes of people by facilitating the dispersal of knowledge and reduction in poverty. Growth in road sector has improved the socio-economic
conditions of the village population in Himachal Pradesh and benefited people of rural areas with lower transportation costs, lower prices, expanded extension services, and greater free time because of substitution of goods (i.e. kerosene/gas for firewood resulting in less time spent in collecting the firewood). It is simultaneously transporting urban spirits into rural areas. It is only the all weather road connectivity that can facilitate the farmers and consumers for transportation of goods immediately. It is clear that after the construction of road, economic benefits achieved were clearly different for different socioeconomic groups. Thus it can be concluded that the new roads affect not just the decisions of what to produce and consume, but also those having to do with human capital formation. There is potentially powerful indirect effect that as the level of income increased, the parents' willingness to invest in their child's schooling also grew that led to enhancement of the children's human capital.

In other words, it has been found that connected habitations with all weather roads have been developed to high extent socially as well as economically. It concludes that the responses of all the respondents are not equally distributed over this issue. Although all thing do not change at the same rate and the direction in which they change vary from place to place in many ways. However, it can be said that rural roads are helpful in creating infrastructure for supporting agricultural activities i.e. to carry various inputs like fertilizer, improved agricultural tools etc. and output to market places. It has also been revealed by the respondents during field survey that rural people are now shifting from traditional crops to commercial crops due to availability of roads and are able to bring their perishable goods to market place. It has been found during the survey that people in the rural areas are growing off season vegetables and are involved in dairy business due to connectivity of such places by roads.

Pradhan Mantri Gram Sadak Yojana was largest infrastructure based programme of India, aimed at developing to the fullest villages and human resources of the rural area through comprehensive efforts of people and active participation of the Government. The state of Himachal Pradesh has a
predominantly hilly terrain. It is a big challenge for the state to increase the connectivity of habitations, to expand and to maintain the existing network. Looking at the bigger picture, almost all the beneficiaries informed that there has been significant positive change in access to school facilities. Majority beneficiaries in all sample blocks are of the opinion that accessibility has improved to very high extent after the road have come into being. Whereas, the overall 10.9 per cent of the total respondents had felt that accessibility to hospitals has increased to moderate extent. This may be due to lack of public transportation facilities. In fact, it is only with the ready means of transportation that accessibility to post offices, banks and recreation facilities can be increased. Majority of respondents of all sample districts have shown its usage to high extent for the transportation of agriculture produce and a major chunk of respondents of all districts strongly agree that all weather roads are useful for movement of perishable goods due to accessibility without delay. It is concluded that with use of the modern technical inputs, the impact on agriculture, if measured on a scale of success can be rated to greater extent. Hence, the construction of the all-weather roads has greatly benefited the farmers.

There is a need to implement the scheme in such a way that rural accessibility planning can effectively be implemented and greater emphasis is laid on the mechanisms by which vehicle services can be delivered more cheaply and efficiently. It has been noticed that as the bus services have started, the saving in time of travel as well as the reduction in the cost of travel have benefited the villagers enormously. Majority respondents irrespective of their districts have been found highly satisfied. However, a big chunk of the beneficiaries have shown their satisfaction to moderate extent. Surprisingly, no respondent has shown absolute dissatisfaction as well as low degree of satisfaction. This leads to conclude that there exists significant relationship between satisfaction of beneficiaries of different districts. This shows that respondent of every block is satisfied with connectivity of their villages with road. Thus, it can be concluded that these roads have been equally favoured by all households irrespective of their family size. The study showed significant reduction in travel times. Reliability of transport services was markedly
improved. All things do not change at the same rate and the directions in which they change vary from place to place in many ways.

In the view of foregoing, it can be stated that the success of the process of development depends on simultaneous operation of all the working parts of which it is composed. It is only with proper dialogue between individual and MoRD through proper intermediate agencies that the wild gulf in plan formulation at the central level and its execution at the State to lower levels can be eliminated and the National policy can turn into an instrument for implementation of development programmes in the rural areas. The main idea of the study undertaken is to utilize the results provided of the present state of implementation of PMGSY in the rural areas of Himachal Pradesh and the main emphasis is on optimum utilization of local resources both men and material. Infrastructure investment contributes to economic growth and to raising the quality of life. They contribute to economic growth by reducing the cost of production by making possible the diversification of the economy, and by making other factors of production more productive. On account of hilly topography, the habitation in Himachal Pradesh are scattered and as a result to take the road into habitation becomes often problematic because of obligatory points coming in the alignment and the length of the road that is actually required to provide accessibility to the habitations. Primarily, the selection depends on local information existing foot tracks and accessibility control and obligatory points. But often technically appropriate alignments cannot be adopted as to part with such terrain is a tricky game in respect of selection of alignments. An unconnected habitation means its location is at a distance of at least 500 meters or more (1.5 km of path distance in case of hills) from an all-weather road or a connected habitation. The study shows that only half of the benefited habitants reside within one kilometre from all-weather roads. It is clear from the present survey that appropriate efforts are not being taken by the implementing agencies to minimise the distance of road to all inhabited population. However, these roads have shortened the previous accessibility to road to a great extent which ultimately is reducing the cost of transportation of their produce and encouraging them to grow more commercial crops. Thus these roads are not only connecting the rural masses with the town or big cities but are capable of
stopping the migration of rural masses to urban places in search of employment. Therefore, the implementing agencies are required to take into consideration these facts to make this scheme a big success. Overwhelming majority of the benefited habitants of all sample blocks has responded negatively towards the safety measures on the roads constructed under PMGSY. Not more than 1.2 per cent beneficiaries of Sadar Mandi and Sadar Bilaspur correspondingly have revealed existence of streetlights and road signs on the road sides. It is concluded that maximum all weather roads are constructed without the following features - divider, side walls, footpath, zebra crossing, speed stoppers, street lighting and road signs. Incorporating safety measures and design standards in the rural roads can enhance road safety to a greater extent. Ramps must be provided where field paths and cattle crossings intersect the road. Traffic signage, incorporating warning and regulatory signs, can enhance road safety, especially near habitations, school zones, sharp curves, narrow bridges, junctions, submersible bridges and causeways. All samples of benefited habitants responded that there is lack of safety barriers and 70.6 per cent replied that the all-weather roads are not safe to travel. 98.4 per cent benefited habitants viewed that there is lack of visibility in the opposite direction. Significant number (85.6) of the beneficiaries opined regarding the unused construction material still left by the road. It is also necessary to sensitize the communities and users of rural roads to road safety concerns and the role they can play in reducing the accident burden. Help of Gram Sabha may be sought for awareness campaigns for road safety. The majority benefited habitants responded that there were no potholes and no bad patches on the roads. They were not flooding during normal rains, there was no accumulation of gravel on the road and surface of the road is smooth.

In Himachal Pradesh, the Public Works Department was nominated as nodal department for PMGSY, while SRRDA was appointed as an implementing agency. At the district level, the programme is planned, co-ordinated and implemented through the executive agency known as Programme Implementation Unit (PIU). Overall, It has been found that the PIU has to handle other projects ranging from 6 to 12 running under the State schemes.
simultaneously. That may be one of the causes for slow pace of work of PMGSY projects.

In respect of the hill states, the objective is of providing All Weather road connectivity to habitations with population of 250 persons and above. The study shows that 66.7 per cent respondents have opined that department had provided connectivity with population of more than 250 persons to high extent. Programme Implementation units have been in the vicinity of being near highly satisfied regarding the achievement of objectives of PMGSY.

Majority of implementing authorities agree that for proper implementation of the scheme, there is need to enhance the financial powers at different levels and the burden of responsibilities and the fragmentation of funds between agencies for maintenance and development of roads is the main reason of inefficiency and confusion.

The most important part of an organisation is the human resource working with them. It is the ability of people that determines the performance of a scheme. Moreover, a trained employee is an asset of any institution. Primary responsibility for the organisation of training programmes is with the State Technical Agencies. The training requirements are assessed by the Principal Technical Agencies and they help the State Technical Agencies in building up their capacity for imparting training to the field staff. It is clear from the analysis that by paying more attention to training of engineers at all levels before joining PIU, better designed roads can be constructed. In fact, the implementation of scheme is effected by the organisational setup, training, capacity building and administration. It is concluded that upgradation of PIU skills and efficiency is a prior requirement for efficient implementation of PMGSY. In has been observed that there is need of policy to providing stability of tenure in the department for PIU and senior administrative officers so that there was continuity in the programme.

PMGSY is being implemented in accordance with the programme guidelines. 63.6 per cent respondents opined that average project implementation period of district Shimla has been more than three years. This may be due its topography. It is reported the average time taken for completion
of PMGSY projects in district Mandi is two years, showing that it all depends on the location of the project.

Various reasons for delay are like no provision of land acquisition and lengthy process of obtaining forest clearance. Himachal Pradesh has a significant percentage of their geographical area under forest cover and therefore need more flexible planning and design of sub-projects to avoid, minimize and manage adverse environmental impacts. On the other side, the Government has a policy of development of only those projects where land is willingly available. 38.9 percent of the implementing authorities of the sample reported that delay in project is not due to PMGSY guidelines whereas 50 percent of respondents opined the delay in project due to frequent revision in schedule of rates. Other reasons for delay in implementation of PMGSY projects found through observations are the non-availability of qualified engineers, administrative delay including late award of projects and inadequate capacity of the PIUs due to the smaller work load handled by them earlier. At Nodal department or the SRRDA’s level, lack of capacity by way of man power is a constraint. Prolonged rainy reason, lack of contracting capacity as well as non-availability of basic road making equipments such as road roller, crushing plants, dumper and trucks and non-availability of land or the land falling under forest areas are also some of the reasons for delay.

The rural roads constructed under PMGSY must meet the technical specifications of the Indian Roads Congress (IRC) as given in Rural Roads Manual. For matters not covered by the Rural Roads Manual, Provisions of Hills Roads Manual may apply. Implementation process differs from state to state, i.e. in Himachal Pradesh as per PMGSY guidelines roads were prioritised every year on the basis of CNCPL and the population of unconnected habitations. All of the sample districts adopted the structures given in standard biding document and followed PMGSY guidelines as reported by the district authorities.

Around half of the proportion of the benefited habitants has perceived that the execution of PMGSY is complicated to moderate extent. The programme has an inbuilt mechanism implemented through a framework of consultation
with public representatives from the Panchayats' levels to the Parliament. The members of parliament are being consulted at both the Core Network finalisation and annual proposal stages. In Himachal Pradesh, the MPs and MLAs are taking active part in the process of selection of programmes, prioritising roads to be taken up, and the final approval of schemes, but no participation in transect walk during execution of programme. Majority PIUs (90.9) of District Shimla and all the sample respondents of district Mandi and Bilaspur have responded positively towards the role played by the PRIs in selection of roads under PMGSY. However, a significant number of respondents of Shimla (9.1) have been found to be distinctly standing out against the role played by PRI in selection of roads. This may be due to influence of internal factors within the village group on the basis of political forces.

The World Bank mission visited Himachal Pradesh during November 11-17, 2013, to support the Government of Himachal Pradesh in implementation of the Himachal Pradesh State Roads Project (HPSRP). The achievement of Project Development Objective is rated moderately satisfactory and implementation progress rating has been retained as moderately satisfactory.

Since 1940s, the government of India and the state government had drawn several policies, programmes and conceived various schemes for the development of rural roads in India. The policies were framed and the targets set under the long term development plans and accordingly funds were allocated in various rural development programmes or schemes under the five year plans.

The Government of Himachal Pradesh approaches to make investment to enhance rural connectivity as well as the quality of the arterial network. The state is receiving grants from the Government of India through the centrally sponsored Prime Minister's Rural Road Program (PMGSY) that addresses the village connectivity issue. It is a 100 per cent centrally-funded program but the responsibility of implementation lay with the Government of Himachal Pradesh. The implementation of Government scheme Pradhan Mantri Gram Sadak Yojana is effected by the organisational setup, finance facilities, training and capacity building and administration. The Ministry of Rural Development is responsible for policy, planning, direction, coordination, release of central share of funds and
monitoring of the programme. The programme is being coordinated at Central level by the National Rural Development Agency (NRRDA) through Ministry of Rural Development, Government of India. At State level the programme is executed through agency known as State Rural Road Development Agency (SRRDA). In Himachal Pradesh, the Programme Implementation Unit, i.e. HPPWD was the basic unit for planning, execution and accounting of rural roads under PMGSY. Ministry of Rural Development allocates funds for capital works on Rural Roads however funding for maintenance rests with the State Finance Department. Out of the allocated funds to the state, 80 per cent was meant for providing rural connectivity and the rest of the 20 per cent was to be used for the up gradation of roads. The state government was to inform the yearly distribution of the district-wise allocation to the NRRDA. Majority of the sources are allocated for capital works and only non-plan grants and maintenance related works are funding through the own revenues of the State. From the year 2005 onwards the Twelfth finance commission has awarded additional grants for maintenance in the form of non-plan grants . The books of accounts have been maintained by the PIUs on the Performa prescribed under the accounts manual prepared by NRRDA. The agency has opened a separate bank account with PNB at Head Office level and all the transactions have been routed through this account. During the financial year 2004-05 the agency has introduced bank authorisation system via which authorizations have been allotted to various PIUs as per their requirement. All the payments made by the PIUs have been accounted through the main account maintained at Head Office Level.

Himachal is the leader in road development among the hill states. Rural roads have the maximum share in the total road network in Himachal Pradesh. The rural roads connectivity under PMGSY has not shown significant variations during the years 2001 to 2013. The reasons that explain variations in the year-wise connectivity given to a number of habitations in Himachal Pradesh seem that due to hilly terrain of the state, time required for cutting and formation of road is quite longer than other areas. Also, due to the difficult weather conditions, the working season is reduced normally to 7 months in a year.
Over all physical progress is measured as out of total target road lengths, 74.75 per cent road works in Himachal Pradesh have been completed. However, it was district Chamba whose performance was observed to be lowest amongst all the districts of Himachal Pradesh in terms of number of road works to be completed. It is desirable that the State strives for uniformity and equitability in performance amongst all its Districts.

The source of finance is the backbone for the creation of infrastructural facilities and economic growth in industrial as well as in agricultural sector. In the present study, an attempt has been made to measure the financial performance in terms of percentage of expenditure over allocation. It may be observed that amongst all districts, the highest utilisation at 85.64 per cent is reported from district Una. The lowest percentage of utilisation of allocations at 45.10 per cent has been reported from district Chamba. The overall percentage of utilization of funds in HP is in the range of 60 to 70 per cent, which may be considered as a moderate performance. On the basis of the trend of works completed per cent, it has been found that the state has managed to increase the ability to utilize the allocated funds and has shown a positive capacity to absorb increased fund allocation.

The physical performance of some of the selected constituencies was very good. Shimla has been found to be the best performing constituency in terms of completing the length of roads and the highest funds have been allocated to Shimla under PMGSY. It is observed in the study that funds are allocated either on the basis of number of unconnected habitations or capacity of the implementing agency to utilize the funds allocated for the road sector. Hence, there is need of special care of the constituencies which at present do not match even the State average. Thus, the constituencies, where there is lower connectivity should be merit greater investment in comparison to other areas on priority basis. It also reveals that road investments made through the program have been substantial over time and there has been wide variation in the percentage of funds utilised out of the sanctioned amounts among the constituencies of Himachal Pradesh. A look at the average utilisation figures
within the constituencies of Himachal Pradesh also shows widespread differences in the percentage utilisation of funds allocated.

In a nutshell, with the existing socio-economic framework the spectacular problem is that population is growing both quantitatively, in number, and qualitatively, in awareness and rising aspirations, but the economy has not grown commensurately, nor has the pace of social change in India been much to accommodate the poor. So there is need of timely efforts for augmentation of administrative authorities and financial capabilities of agencies and people involvement, provision for greater opportunities for planning and programme implementation at local level in order to accelerate the pace of rural development. To absorb the increased investments for creating efficient road infrastructure, it was required that the capacity of the implementing machinery as well as contracting industry should also increase in pace with the quantum of investment. The capacity of the road infrastructure agencies has enhanced in the last decade, however, the pace of increase could not commensurate with the pace of investment resulting in time and cost overruns of the road projects in the country.

7.2 SUGGESTIONS

The Pradhan Mantri Gram Sadak Yojana is a kind of rural development programme, aimed at developing villages and human resources of the rural areas to the fullest through collective efforts of the people and active help of the Central and State Governments. In the light of the broad conclusion emerging out of the present study, a modest attempt has been made to present some solutions to the problems. The suggested recommendations are based on the discussions carried out with the villagers, local functionaries, expert observations, etc. with a view to enhancing the positive impact, which might help to improve the basic rural infrastructures like village roads that help in opening up several opportunities for the wellbeing of the villagers. It is strongly advocated that the peoples' involvement in the formulation and implementation of development programme is highly significant, and so needs serious consideration to transform the rural scene in India.
Road networks need to be managed in proper and the better way and not just maintained in as it is conditions. An action plan is directly needed in order to prepare a national strategy for the rural roads closely connected with main road policies and programme.

Balanced development of all the villages of 12 districts of Himachal Pradesh is necessary and of great importance to avoid any clash such as that of regional feelings.

There is an 'implementation gap' which needs to be overcome. In order to bridge this gap, emphasis would be on the information given to the individual families being an integral part of socially and economically viable projects. Unless individual beneficiaries are made to enter productive participation in a well-conceived project, the goal would not be achieved.

There is low awareness of PMGSY among the rural population and those who are the beneficiaries of this scheme. Unless the people are aware of the programme and also participate in the implementation of this scheme, it would not succeed. It is only the villagers to whom the assets (roads) belong and who can look at their immediate needs and problems. They will have to propose solutions and these proposals will be a strong reflection of the possible opportunities.

Proper pre-feasibility study must be undertaken for improvement and maintenance of the rural road network. Initially, there is need to constitute a pilot phase, enlist the support of the local population so that the risk for disagreement related with road priorities, land acquisition, forest clearance etc. can be mitigated. The PIU should hold consultation with the local community through the mechanism of the Gram Panchayats in order to determine the most suitable alignment sort of issues of land.

PMGSY does not provide funds for acquisition of land; thus the compensation provisions for acquisition of land for rural roads under PMGSY need to be revised. It is pointless to impose a scheme on an unwilling and reluctant beneficiary and compel him to donate land. One of
the way out to motivate a person to keep his morale always high and it should be ensured that he is convinced of the usefulness of the scheme for himself as well as community.

- With the collective efforts of the community, land issues can be resolved. For example, if the land of a villager either belongs to the weaker section or who has no other alternative for livelihood, in that case compensation for land can be provided by contributions from people of the same village.

- The process for taking forest or wild life clearances and permission to cut trees from the concerned department at centre or state level should be initiated at an early stage of the project cycle.

- Under PMGSY, the issue of displacement has not been addressed. For the proper alignment of roads, there are places where on certain patches people do not shift their houses. The Government should introduce rehabilitation policy.

- It is urgent to concentrate on capacity building of the local resources i.e. labour, material and personnel. There is need to adopt a policy for reliance on domestic contractors, taking steps to build up its capacity through managerial and technical training and development of labour-based contracting capabilities. The Rural roads programme can be a suitable means to develop the local construction industry.

- It has been observed that due to lack of skilled local labor, the contractor brings his own labour from outside the village to get the work done and the benefit does not reach the intended target (people). Although the employment generation is not the focus of the rural road programme, but local labourers should be given preference in the construction of rural roads. It is necessary that Government introduces schemes and more investment in terms of technical and financial support.

- Even though labour-based methods have proven economically and technically viable, there have not been widely adopted yet. The preference should be given to the techniques for the rural road construction which are conducive to its population, free environment and
do not cause damage to its inherited invaluable gift. With the capacity enhancement of local people, it is possible that labour based construction methods may be adopted to create employment. It has been viewed that the most of the construction materials such as cement, steel, bitumen, machinery, personnel to handle machinery etc. are not locally available.

- In order to encourage involvement of local people, assessment criteria of the bidding capacity of contractors may be relaxed so that petty contractors can also participate in PMGSY work or a joint venture may be allowed in PMGSY projects, if contractors are not big enough to take projects individually.

- One of the ways out is the formation of community level eligible contractors which has been found to be effective when combined with support from Public Works Department.

- Besides passing the guidelines, the Government must see that it is honoured in the true spirit. It is suggested that the implementing authorities should be promoted in order to maximize the efficiency of people, to equip them through effective participation at all stages of the scheme i.e. initial information at the public platform and during surveys related to need based, alignment and environment. In other words, it is recommended that the enforcing authority be asked to see that the scheme is rigorously implemented in support whenever it is applicable.

- It is brought about from the study that most of the roads would have been served for better purpose if road will be increased from 500 meter to 2 km. It is required that before starting the construction work, the DPR may be discussed with the beneficiaries to look into their requirements.

- The organizational structure setup should be reasonably decentralized and rendered free from procedural rigidities. It would be appropriate to connect the cluster of villages having collective population of more than 250 by one roads. The study finds that in many cases the deserving habitation has been left out because they are scattered in a way which if connected through a road would fulfil the criteria, but not as a single unit.
For villages which could not be covered under the cluster project, the population norm should be relaxed to 100 or even lower than that.

- At the same time, the delegation of decision making arrangement is required. The Programme Implementation Units should be strengthened and it should be delegated with the appropriate power for both the administrative and financial side for approval of works as well as power of outsourcing some of their activities.

- The State Government should develop these Programme Implementation Units by posting the officers having experience only in roads and bridge works.

- The PIU should pay attention that the material, stones, bricks etc. used by contractors must be of standard quality and proper building of culverts, drainage and black-topping is ensured. The Provision related to the construction of safety walls to avoid the adverse impact on private properties, forests, irrigation channels and water resources.

- To ensure timely completion of the projects, the provision for penalty should be there in case time overruns.

- It has been found in some places that the appointed contractors sub contract the cross-drainage/ culvert construction, thereby compromising on the quality and durability of the whole structure.

- According to PMGSY manuals, the roads should not require maintenance for duration of five years from the day of construction or in case of repairs needed, responsibility lies with contractors. But it is not clear whom to contact for the repair. Networking of different project sites, NRRDA, SRRDA, PIU and PRI with the Headquarters with two-way communication system is required.

- Due to the geological and climatic features, maintenance has great importance for the State. During the rainy season, vegetation and fungus create harm to the roads. There should be some provision to deal with it in order to serve the purpose of all season roads, as routine maintenance
along with periodic maintenance would decrease the asset deterioration and consequently bring down the replacement costs.

- The Mahatma Gandhi National Rural Employment Guarantee Scheme that provides employment for the creation of new assets. Under the umbrella of the scheme, maintenance activities can also be included. If this were the case, there would be double advantage of employment generation whilst at the same time maintaining the productive assets.

- Many routine maintenance functions can be carried out at the community level but there would need technical expertise, equipment and finance from outside.

- The voice of young men/women should be part of the project right from planning to implementation, so that they feel that the roads are the asset of their village and contribute for its maintenance.

- The problem of maintenance is compounded when it is unclear where the institutional responsibility for rural roads lies. Devolving a sense of responsibility for rural road maintenance among local communities supported by the technical expertise of the local authority yields direct employment benefits, builds ownership among local communities, and thus promotes sustainability.

- The training policy focusing on the need of training at the entry level, on the job site and periodic refresher courses and providing stability of tenure in the department for chief engineers, senior administrative officers and programme implementation units so that the continuity of the programme is maintained.

- Better synchronization between central and state level agencies for sharing resources and knowledge, enhancing cross-functional understanding of personnel among implementation agencies through training and development programme should be done.

- The State level training centres also need to be developed to organize special training programme or workshops of shorter duration for PIUs, Contractors and PRIs once in a year at State level to bridge the future skill
and knowledge gaps, which would surely make them capable of competing with the technological advancements.

- The engineering and technical institutions are to be encouraged and incentives are to be given for attracting students to the Rural Road Engineering profession. Private parties like contractors and consulting firms must also show full commitment towards this purpose.

- All self-centred narrow activities, personal gain at the cost of the weaker people must be drastically checked. Evaluation must be conducted at regular intervals. To generate awareness and transparency in this scheme, it is required to discuss its different aspects with people so that they can help authorities in case of violation of guidelines. This will help to highlight the weaker points in the plan of work.

- The success of development programme depends on the will of the political and administrative authorities to decentralize the real power at the grass root level. In order to accomplish the targets of PMGSY, the functionaries of the development administration should effectively play the role of an agent of change. For social transformation, the ideas, attitudes, values, orientations and predispositions of implementing authorities as well as of political leaders from the PRI to the Parliament should be changed. They are not expected rule, instead they are required to facilitate and escalate development. They have to be responsive to the needs and aspirations of the people and should involve the people in the process of decision making.

- Especially in hilly and Tribal areas of Himachal Pradesh, the transportation of material is difficult, per unit cost of road construction is high and population density is low. Even the connectivity levels in the state remains low in comparison to the national average. A separate strategy for the development of roads in these hilly areas is required under the Pradhan Mantri Gram Sadak Yojana (PMGSY) so that people of hill states get ample benefit from this scheme.
Before taking possession of the forest land, after obtaining duly permission under the Forest Conservation Act, the compensatory afforestation charges are required to be paid. These charges should be made admissible under PMGSY.

The road safety should receive increasing attention in planning, design and implementation process. All road projects will be viewed at each stage of planning, design, construction and further maintenance so as to identify issues related to road safety.

The Road Safety Audit should be made an integral part of the project planning, design, implementation, operation and maintenance and necessary actions should be taken for ensuring the highest level of road safety.

It is important to establish proper co-ordination between various stakeholders i.e. Centre, State, District, the PRIs and the organizations associated with road safety aspects. No compromise, whatsoever, should be made with regard to the essential road safety features.

The provisions related to the construction of safety walls, speed breakers, speed control barriers should be provided.

The road signs and pavement markings should be an integral part of road construction and up-gradation works. These signs and markings will also require regular maintenance to serve the intended purpose.

For the safety purpose, width of the road on turns in hilly areas should be increased and there must be provision for rumble strips on the rural roads, close to intersections with the main roads.

The provision for pucca pathways and restoration of the stairs should be done to provide access to residences, schools, health centres, panchayat offices, temples and to connect with other access roads.

The rural roads are generally single lane roads with low design speeds and with low volumes of traffic both motorised and non-motorised. There is need for awareness campaigns for road safety i.e. simple precautions to
be taken while moving along and crossing the roads. It is necessary to
sensitize agricultural tractor drivers, school children, community and
users of rural roads to road safety.

- The policy development for rural roads will be complete only after policy
  actions needed to improve the rural transport services are more clearly
defined as a part of the on-going programme. More attention should be
given to policies affecting the availability and cost of transport services at
the local level. These should also deal with the intermediate means of
transport (i.e., intermediate between head loading and motorized
transport) which are generally underdeveloped.

- There should be improved means of transport provided to the workers
  with the help of which they can commute daily from work place or can
easily access home in times of crisis.

- Most of the benefits of the improved rural mobility can accrue without
  year-round vehicular access, so long as services can be ensured during
critical periods. The optimum solution will in many instances involve spot
improvement of the existing tracks, designed to drain waterlogged areas
and provide a more durable running surface over poor soils and on steep
gradients.

- The Government steps are basically intended to relate rural access to
  rural development. The rural areas seem to lack innate local forces that
could generate ideas about rural development from below and sustain the
development effort with the help of local resources. The Government has,
therefore, to take lead, build, nurture, and protect the infrastructure, lay
down clear cut policies and objectives.

- In the areas where unemployment is more and the people have been
  forced to lead a sub-standard life, it would be more effective to prioritise
construction of rural roads and first preference should be given to
develop the remote areas.

- The State Government must strive to make the prevalent education
  system in tune with the requirements of economic development.
• After the construction of the road, the women segment has got a fresh lease of life as their awareness level has improved due to the urban contact. As the female work participation rate continues to lag behind that of males, it becomes the need of the hour to empower the women folk. But only social empowerment of women will carry little weight if it is not accompanied with empowerment on the economic front. Enhancing women’s earning has more intense effect on the well-being of the family in the view of the fact that every increase in the income of the women results in better health and nourishment of children. The development of rural roads and improvement in transport services would provide them with a feeling of secure environment for approaching markets, health centres and higher educational institutes, etc.

• With improved accessibility, various capacity-building products can be developed by Government along with a management and technical training in agricultural cooperatives, income generation and cash crop agriculture, transportation, irrigation, rural public works, rural electrification and its socio-economic consequences, technology, biotechnology, forestry training, environment protection, energy and renewable energy technologies, vocational training, rural\non-farm skills such as food storage, farm equipment needs, land reforms, food security, survival strategies after famine and other crises, agricultural credit and banking for the rural poor, and strengthening of rural workers’ organizations and NGOs in rural development.

• Government should support employment generation by facilitating Cottage Industries training Programme, particularly for poor women providing instruction in tailoring, processing fibres, knitting, weaving and bamboo production.

• Vocational training institutes or workshops should be set up for developing skill of indigenous workers in carpentry, mechanics, weaving, masonry and pottery. The programme has helped many trainees in setting up workshops of their own.
• An entrepreneurial education and business skills package is required to encourage young men and women to think about entrepreneurship and the role of business in economic and social development;

• The medical facilities need to be established to facilitate the launch of health campaigns and improvements in environmental sanitation.

• Development target and techniques should be centred on the vision that one sector should not be developed at the cost of the other sector.

• Himachal Pradesh has a significant percentage of its geographical area under forest cover and, therefore, need more robust planning and design for sub-projects to avoid, minimize and manage adverse environmental impacts. The environmental considerations form an integral part of the design and construction of the selected rural roads under PMGSY in accordance with an operational manual on environmental procedures prepared and reviewed at appraisal. Environmental issues addressed during the implementation of the project are mainly construction-related and limited to the roads sites; these include borrow area operation and redevelopment, controlling erosion and slope stabilization, as well as disposal of wastes and other construction material.

• Best practices adopted by various implementation agencies need to be disseminated like the Andhra Pradesh Real Estate Developers Association (APREDA) has taken a pioneering step of saving old trees from getting felled due to infrastructure projects. The association is adopting trees that are being uprooted due to infrastructure projects like the construction of roads and is helping in their translocation.

• The state forest authorities could save trees by adopting the process of translocation of green trees to other places. Translocation of trees is a scientific process by which fully grown trees can be manually uprooted and replanted elsewhere. In the technique through which the trees are translocated, their roots are first exposed and chemicals are applied over them. These are then uprooted manually and planted elsewhere. The chemicals applied on the exposed portions of the roots help them adjust
in a better way to the new soil. The trees take at least 10 years to reach full maturity and can survive for more than 100 years. Slow-growing varieties are hardy and have better survival rates and these offer better green cover along the roads. The Forest Corporation could auction these trees as many rich people are willing to buy fully grown trees of their houses as they do not want to wait for years to grow new trees.

The most effective institutional arrangement is likely to involve regional community organizations responsible for local planning and operation. The government’s role is to build up the capacity of the local communities for managing the road network. Government functions, Panchayat Raj bodies at district, block and village levels are expected to play an increasingly positive role in the construction and management of rural roads. The need for establishing close co-ordination between various rural organizations, local Governments, institutional arrangements and funds is necessary. However, the local organizations lack the managerial, financial and technical capacity to take over the responsibility. The capacity building products should be developed such as management and resource generation and tailoring the rural roads programme. In many instances it will be necessary to undertake measures to build up basic organizational and technical capabilities at the local level. In conclusion, design methodologies need a fresh look to ensure that the emphasis is placed on access and durability. Therefore, it has been suggested that more dynamic and practical projects based upon the need of the poor people should be implemented in the rural areas so as to provide benefit to the larger strata of population thereby leading to socio-economic development.
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