



**Rural Area Development
Plan Formulation and
Implementation (RADPFI)
Guidelines, 2021
(Revised)**



Rural Area Development Plan Formulation
and
Implementation (RADPFI) Guidelines, 2021



Panchayati Raj
Ministry of Panchayati Raj
Government of India

गिरिराज सिंह
GIRIRAJ SINGH



ग्रामीण विकास तथा पंचायती राज मंत्री
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संदेश

पंचायती राज प्रणाली ने पिछले कुछ वर्षों में देश में उल्लेखनीय विकास देखा है और विशेष रूप से, पंचायतों के कामकाज में पारदर्शिता लाने के लिए प्रौद्योगिकी को एक उपकरण के रूप में अपनाया है। भारतीय संविधान के 73वें संशोधन ने पंचायतों को एक संवैधानिक दर्जा दिया और त्रिस्तरीय एकरूप संरचना की शुरुआत की। संविधान का अनुच्छेद 243(छ) पंचायतों को आर्थिक विकास और सामाजिक न्याय के लिए योजनाएं तैयार करने और उन्हें लागू करने के लिए अधिदेशित करता है। पंचायतों को केंद्र और राज्य सरकारों की ऐसी सभी योजनाओं को अपने-अपने अधिकार क्षेत्र में अभिसरण करके और एकीकृत करके इन उद्देश्यों को प्राप्त करना है।

यद्यपि, शहरी क्षेत्रों में स्थानिक योजना को सक्रिय रूप से अपनाया गया है, पर भारत के ग्रामीण क्षेत्र बड़े पैमाने पर स्थानिक योजना के दायरे से बाहर हो गए हैं। ग्रामीण क्षेत्रों में, विशेष रूप से यदि गांव राष्ट्रीय या राज्य राजमार्गों पर स्थित हैं या महानगरीय क्षेत्रों और शहरों की योजना क्षेत्र की सीमा में स्थित हैं, तो नियोजित स्थानिक विकास की अनुपस्थिति का क्षेत्रीय विकास पर एक बड़ा प्रभाव पड़ता है। "रूरल एरिया डेवलपमेंट प्लान फॉर्मूलेशन एण्ड इम्प्लीमेंटेशन (आर.ए.डी.पी.एफ.आई.) गाइडलाइन, 2017" ने ग्रामीण स्थानिक योजनाओं को, समग्र विकास के साथ एकीकृत करते हुए, तैयार करने की आवश्यकता पर बल दिया है। सर्वेक्षण तकनीकों, भू-स्थानिक सूचनाओं के संग्रह और उपयोग में हुए तीव्र तकनीकी विकास को देखते हुए, 2017 के दिशानिर्देशों को तत्काल संशोधित करने की आवश्यकता पंचायती राज मंत्रालय द्वारा महसूस की गई थी।

मुझे यह जानकर खुशी हो रही है कि पंचायती राज मंत्रालय के द्वारा संशोधित आर.ए.डी.पी.एफ.आई. गाइडलाइन, 2021 तैयार की गई है जिसका उद्देश्य गांवों के समग्र एकीकृत विकास के लिए नियोजित स्थानिक विकास को प्रोत्साहित करना है। मुझे आशा है कि ये संशोधित आर.ए.डी.पी.एफ.आई. गाइडलाइन ग्रामीण परिवर्तन के लिए एक आधार के रूप में काम करेगी और ग्रामीण क्षेत्रों में प्रभावी भूमि उपयोग योजना को सक्षम करेगी। आर.ए.डी.पी.एफ.आई. गाइडलाइन का निर्माण मंत्रालय के प्रयासों जैसे कि स्वामित्व योजना और स्थानिक योजना पहल को भी पूरित करेगा और भू-स्थानिक सूचना के बेहतर उपयोग को सुविधाजनक बनाएगा।

हालांकि, पंचायती राज प्रणाली ने हमारे देश में स्थानीय शासन में एक महत्वपूर्ण भूमिका निभाई है, पर अब भूमि संसाधन की वैज्ञानिक और व्यवस्थित योजना को प्रेरित करने का उचित समय आ गया है जो बदले में आर्थिक विकास को बढ़ावा देगा और जीवन को आसान बनाने में योगदान देगा। जैसे कि देश 'आजादी का अमृत महोत्सव' मना रहा है, पंचायती राज मंत्रालय नीति आधारित नवाचार लाकर ग्रामीण क्षेत्रों में परिवर्तनकारी बदलाव लाने के लिए प्रतिबद्ध है और इन दिशानिर्देशों को जारी करना 'ग्राम स्वराज' के दृष्टिकोण को प्राप्त करने की दिशा में एक महत्वपूर्ण कदम है।


(गिरिराज सिंह)

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पंचायती राज मंत्रालय
भारत सरकार



KAPIL MORESHWAR PATIL
MINISTER OF STATE
MINISTRY OF PANCHAYATI RAJ
GOVERNMENT OF INDIA



Message

Traditionally, transparency, efficiency and accountability are considered as pillars of local governance; however, technology has now evolved as another pillar of governance in India. The monumental role of technology in transformational programmes of Government such as, Digital India, PM-Jan Aarogya Yojana, BharatNet etc. is very well documented. However, the rapid changes in the future technologies across the world, must be supplemented by localized policy and regulatory interventions. The Ministry of Panchayati Raj has been actively working towards promoting adoption of frontier technologies such Drones, Geo Spatial technology etc., in service delivery as well as functioning of Panchayats. Keeping this in view, the Ministry of Panchayati Raj has revised the Rural Area Development Plan Formulation and Implementation (RADPFI) Guidelines, 2017.

Although, many spatial development initiatives have been implemented in India especially in urban areas, there has been no comprehensive exercise for rural spatial planning of panchayats/villages. Till recently, the spatial planning exercise was undertaken only if the rural areas fall within, or are part of a planning area/region notified by the State Government as part of urban settlements. The formulation of these guidelines would open-up new avenues of employment and contribute to the national efforts towards economic development of villages. The Revised RADPFI guidelines, 2021 developed by the Ministry of Panchayati Raj, emphasizes the need for the preparation of rural spatial plans, integrated with the overall development, and linking it to Gram Panchayat Development Plan, Clusters and District levels.

I believe that these guidelines would bring a paradigm shift in spatial planning and initiate a series of regulatory changes in State Panchayati Raj Acts as well as Town and Country Planning Acts of States/UTs. To ensure effective utilization of these guidelines, it is important to have a cohesion between the regulatory framework of rural and urban development planning in States. Thus, it is crucial for Panchayati Raj Institutions to work collaboratively with Town and Country Planning Departments of States and build institutional mechanisms in this regard.

During the pandemic, we have also witnessed achievement of remarkable feats in vaccine delivery, disease control, etc., which were only possible due to the collective actions taken by Centre, States and Panchayati Raj Institutions. I hope that this collaborative spirit is continued in adoption of the revised RADPFI Guidelines, 2021 and further in making India '**Atmanirbhar**' in the coming years.

(Kapil Moreshwar Patil)

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MINISTRY OF PANCHAYATI RAJ

FOREWORD

The Spatial approach to rural planning is particularly important for rural areas which are usually in the varied geographic locations. Planning for the villages located in the vicinity of the urban centres, along the major road corridors, in the backward/ inaccessible areas, hilly areas, vulnerable/ disaster prone/ hazardous areas, agro-climatic zones, etc., is necessary, as various permissible and non-permissible land-use activities need to be decided. Land-use planning of the rural areas through systematic and iterative procedure can create an enabling environment for planned rural development. This in turn will help in the sustainable development of rural land resources to meet the demands of the rural population.

In this light, the Ministry of Panchayati Raj has revised the Rural Area Development Plan Formulation and Implementation (RADPFI) Guidelines, 2017. The revised RADPFI Guidelines, 2021 provides the framework for the spatial planning and development of rural areas. It will give direction to the process of development in various sectors such as physical and social infrastructure, economic activities, road and transport connectivity, land values and anticipated economic activities and aids towards a workable solution for conversion of agricultural to non-agricultural purpose for planned development. The preparation of spatial plans (Land Use Plan) for rural areas also needs to follow the process as per statutory provisions. These revised RADPFI guidelines bring out the typology of villages, which brings out an ease in using the norms and land use standards covering the entire range from Hilly village areas to coastal village areas.

It is hoped that these revised guidelines would be referred to by the State Town and Country Planning Departments, State Rural Development and Panchayati Raj Departments and a host of other offices located at the district/block level which are responsible for the planned infrastructure development, both physical and social in the villages. Monitoring of the Spatial Plan and Evaluation (for every 3-5 years) must be initiated through participatory planning process and led by the Gram Panchayat Members allocated for a group of wards within the Gram Panchayat areas.

I would like to congratulate the Committee under the Chairmanship of Dr. Meenkashisundaram, Former Secretary, Ministry of Rural Development and the Committee members consisting of Prof. N Sridharan, Director, School of Planning and Architecture, Bhopal; representatives of NITI Aayog; Ministry of Rural Development and Ministry of Housing and Urban Affairs, for their contribution and committed effort in revising the RADPFI Guidelines, 2017. I also compliment Shri K. S. Sethi, Joint Secretary, MoPR, for leading the Ministry's sustained efforts in spatial planning. I am sure these revised RADPFI guidelines would develop an enabling environment for better synchronization between different tiers of Panchayats and Town & Country Planning Department for preparation of inclusive, need based and comprehensive Gram Panchayat Spatial Development plans at Village, Gram Panchayat, Block and District levels for rural areas of the country.

Date: 24th November, 2021


24.11.21
(Sunil Kumar)

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Preface

The 73rd Constitutional Amendment envisaged Panchayati Raj System as a means of promoting greater community participation and involvement in development efforts in accordance with the needs for ensuring basic facilities to the villages to fulfil the aspirations of the rural citizens. The country's planning process emphasizes on removal of regional imbalances through participatory planning processes at the grassroots level. Community participation strengthens the democratic process of governance and provides opportunities to citizens to simultaneously provide feedback thereby improving the quality of governance. The revised Rural Area Development Plan Formulation and Implementation Guidelines (RADPFI) guidelines developed by the Ministry of Panchayati Raj lays the foundation for inducing spatial approach to Gram Panchayat Development Plans.

Broadly, the revised RADPFI Guidelines include innovative approaches, such as Village Planning Scheme (VPS) on the lines of Town Planning Schemes in urban areas (which is needed in villages to stop the haphazard land development in built up areas through a participatory process); provision of linking Gram Panchayat Development Programme (GPDP) with Spatial Land Use Planning; categorization of villages according to agro-climatic regions, metropolitan area villages, peri-urban villages, coastal villages, etc.

The revised guidelines emphasize the preparation of Rural Master Plan, and a scientific approach to decision making regarding the land use plan for various categories of villages is suggested. It suggests use of modern technology for Spatial Data inputs for land use planning, which are dynamic that uses satellite imageries, rather than the static data which hardly captures the rapid land use transformation that happens in peri-urban villages and census towns. It has also incorporated the Bureau of Indian Standards guidelines on Disaster and Resilience, and suggestions laid down by National Institute of Disaster Management guidelines. After evaluating the legislations/rules across different states, the report incorporates the best practices which can be utilized across the country for rural development.

I would strongly suggest that all the State Panchayati Raj Departments, Town and Country Planning Departments and other State Departments use the RADPFI guidelines as a ready reckoner for developing localised spatial planning and development framework.


Dr. Chandra Shekhar Kumar
Additional Secretary

खुशवंत सिंह सेठी
संयुक्त सचिव
K.S. SETHI
Joint Secretary



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Acknowledgement

The Ministry of Panchayati Raj has been constantly striving to bring policy led innovations to enable and empower the Panchayati Raj System of the Country. The Revised RADPFI Guidelines is yet another effort of the Ministry to encourage adoption of spatial planning at the grassroots level of the country. The Revised RADPFI Guidelines adds new areas such as use of spatial plan in various states, use of digital tools and cluster approach in the planning process itself. For spatial planning in rural area, the Revised RADPFI Guidelines came out with Village Planning Scheme (VPS) on the lines of Town Planning Scheme (TPS) widely used in urban areas for participatory spatial planning.

We humbly express our gratitude to Shri Giriraj Singh, Hon'ble Minister of Panchayati Raj & Rural Development and Shri Kapil Moreshwar Patil, Hon'ble Minister of State for Panchayati Raj, for their guidance and encouragement for the preparation of Revised Rural Area Development Plan Formulation & Implementation Guidelines of Ministry of Panchayati Raj.


We feel immense pleasure in expressing our heartfelt regards to Shri Sunil Kumar, Secretary, Ministry of Panchayati Raj for his vision, guidance and active support during the whole process. We would also extend our gratitude to Dr. Chandra Sekhar Kumar, Additional Secretary, Ministry of Panchayati Raj for his continuous support and encouragement in this endeavour of the Ministry.

I would like to convey our gratitude to Dr. Meenakshisundaram, Former Secretary, Ministry of Rural Development, for his active and significant contribution as the Chairman of the Inter-Ministerial Committee to review the Revised RADPFI Guidelines. We are grateful to Shri Alok Prem Nagar, Joint Secretary, Ministry of Panchayati Raj; Ms Rekha Yadav, Joint Secretary, Ministry of Panchayati Raj, Dr. Bijaya Kumar Behera, Economic Advisor, Ministry of Panchayati Raj, for their valuable inputs and able support in preparation of the Plan.

I take this opportunity to extend our special appreciation to Prof. N Sridharan, Director, School of Planning and Architecture, Bhopal and his team for their immense efforts towards ensuring expedient formulation of revised RADPFI guidelines; Shri Avinash Mishra, Adviser (Water Resources & Land Resources, Panchayati Raj), NITI Aayog; Shri R Srinivas, Town and Country Planner, Town and Country Planning Organisation, Ministry of Housing & Urban Development and Dr. Biswajit Banerjee, Joint Secretary (SAGY/ Rurban/ IC/ Monitoring), Ministry of Rural Development, for their active cooperation and contributions in preparation of these Guidelines.

We would like to express our gratitude to Dr. Deepika Shetty, Director, Manipal School of Architecture and Planning Karnataka; Prof. V Devdas, IIT Roorkee, Uttarakhand; and Prof. Amit Gotecha, CEPT University, Ahmedabad, Gujarat for their contribution.

We would like to thank the team from Ministry of Panchayati Raj Shri Vijay Kumar, Deputy Secretary, Shri N P Toppo, Under Secretary, MoPR; Shri Sudhansu Kumar Mahapatra, from Panchayat Informatics Division NIC, Shri Ajay Kumar, Section Officer- MoPR; Shri Sushant Sudhir, Consultant, MoPR, and Shri S Mohit Rao, Consultant, MoPR for their contribution in finalising the document. We would like to acknowledge the contribution of Shri Nandan Singh Negi, and Shri Sunil Kumar, MoPR, in finalising the document.


K.S. Sethi
Joint Secretary,
Minister of Panchayati Raj

EXECUTIVE SUMMARY

The Rural Area Development Plan Formulation and Implementation (RADPFI) in 2016 by the Ministry of Panchayati Raj, Government of India were mainly focused on emerging issues that came up due to increasing urbanization, especially in peri-urban areas and how to tackle them. Though it covered many aspects of 73rd Constitutional Amendment Act including changes in the Land Use Planning in Schedule XI, there are many new developments that have come up post 2016. Some of these are:- SHYMA PRASAD MUKHERJEE RURBAN MISSION, SVAMITVA, emerging Census Towns (which are Villages but having all the urban characteristics), new tools in analyzing rural development such as Gram Manchitra, etc.

These new developments necessitate the Ministry of Panchayati Raj, Government of India to come out with Revisions in the RADPFI, 2016. Broadly, the revisions include innovative areas which are:- a) Village Planning Scheme (VPS) on the lines of Town Planning Schemes in urban areas (which are more required in villages to stop the haphazard land development in built up areas through participatory process); b) provision of linking Gram Panchayat Development Programme (GPDP) with Spatial Land Use Planning; c) categorization of villages according to agro-climatic regions, metropolitan area villages, peri-urban villages, coastal villages, Hill areas, and came out with Land Use Planning, that is different from land cover analysis, and, d) land and fiscal pooling for infrastructure provision. The revised guidelines emphasize the preparation of Rural Master Plan, and what kind of land use plan can come up for various categories of villages suggested. It brings out Spatial Data Infrastructure for land use planning, which are more dynamic using the satellite imageries, than the static data which

hardly captures the quick land use transformation that happens in peri-urban villages and census towns. It has incorporated the Bureau of Indian Standards guidelines on Disaster and Resilience, and suggestions by National Institute of Disaster Management guidelines. After scanning the various legislations/rules across various states, the report incorporates the best practices which can be incorporated across India for rural development. This includes Amendments in Schedule XI to incorporate:

Land use Planning, village secretariat, peri-urban and highway corridor villages regulations, etc. Based on the selected states, an institutional set up has been suggested, including using Spatial Budgeting along with Gram Panchayat Development Programme (GPDP) from ward to village and cluster level. We hope the Revised Guidelines (2021) will provide an in-depth way of formulating and implementing Gram Panchayat Master Land Use Planning, that incorporates socio-economic, institutional and environmental aspects for easy implementation by States in various villages.

The team members and back support experts thank the Ministry of Panchayati Raj, Government of India for giving us an opportunity to formulate these important revisions in the RADPFI guidelines in 2021. We also thank the various institutions, NRSC, NIC, Ministry of Rural Development, that went into details of case study villages and going through the reports and giving suggestions. We believe that land use planning will be successful through the participatory process by the people at Gram Panchayat level, and we are sure that the states across India will support this process as per the 73rd Constitutional Amendment Act.

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Date: 10.03.2021

OFFICE MEMORANDUM

Subject: Constitution of Committee to suggest updation in RADPFI Guidelines, 2017.


Ministry of Panchayati Raj proposes to update the Rural Area Development Plan Formulation and Implementation (RADPFI) Guidelines, 2017 as several developments have taken place since 2017. Therefore, a Committee, as indicated here under, is constituted to suggest necessary updation in the Guidelines:

1.	Dr. N. Sridharan, Director, School of Planning & Architecture, Bhopal, Madhya Pradesh	Chairman
2.	Dr. Deepika Shetty, Director, Manipal School of Architecture and Planning, Karnataka	Member
3.	Dr. V. Devdas, Professor, IIT Roorkee, Uttarakhand	Member
4.	Prof. Amit Gotcha, CEPT University, Ahmedabad, Gujarat	Member

2. Terms of Reference of the Committee will be as under:

- (i) To suggest necessary updation in the RADPFI Guidelines, 2017
(ii) Committee will submit their Report by 26.03.2021.

5. This issues with the approval of Secretary, Ministry of Panchayati Raj.



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To

1. Dr. N.Sridharan, Director, School of Planning & Architecture, Bhopal, Madhya Pradesh
2. Dr. Deepika Shetty, Director, Manipal School of Architecture and Planning, Karnataka
3. Dr. V. Devdas, Professor, IIT Roorkee, Uttarakhand
4. Prof. Amit Gotcha, CEPT University, Ahmedabad, Gujarat

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INTRODUCTION

From 2001 onwards, Census of India has been brought out changes in the Rural Areas extensively, especially on the villages that are transforming itself with urban characteristics. However, spatial planning has not been captured by the 73rd Constitutional Amendment Act (with special reference to Schedule XI), or by the Town and Country Planning Acts of various State Governments. It is vital for the provision of serviced land and laying down of infrastructure further to development the villages. Through the Master Plan (spatial land use plan) has been successfully implemented across India in more than 2000 cities/towns. Similar to cities/towns, it is important to have spatial Master Plans for the Gram Panchayats and link the same with the Gram Panchayat Development Programme (GPDP). India had more than 6,49, 481 villages with a population of 83% of the total India's population in 2011. In fact, more than 5000 population size settlements in rural areas in 2011 had 49.5% of population. 8.7% of the rural population were accommodated in One percentage of the total settlements in 2011. In fact, the Census of India 2011 enumerated a total of 3,894 Census towns, which are villages but had all the characteristics of urban area. Researchers projected this Census Towns will grow up to 17.93 million with an additional 2231 Census Towns in 2021 (Roy & Pradhan: 2018). Moreover, it is more than 28 years have been completed of the implementation of 73rd Constitutional Amendment Act related to Panchayati Raj. Many of its contents and context needs to be revised based on the current reality and reposition the Panchayats, especially in relation to spatial development of Gram Panchayats.

1.2 The 73rd Constitutional Amendment and RADPFI

The Constitution (73rd Amendment) Act, 1992 relating to Panchayats containing articles 243 to

243-O and the Constitution (74th Amendment) Act, 1992 relating to Municipalities (articles 243P to 243ZG) imparted some basic features of democratic decentralization of the governance especially the Panchayati Raj Institutions all over the country. The 73rd CAA mentions about the responsibility of Gram Panchayats, to prepare the social, economic and resource plans for rural areas, but not the spatial plans (See Appendix 1.1 for 73rd CAA – Schedule 11) and the role of Spatial District Plans, which were initiated historically in India during the pre and pre-independence period. (See Appendix 1.2 for Major Policy Aspects of Panchayats in India). The 11th schedule of 73rd CAA lists the functions of Gram Panchayat, which does not include preparation of spatial plans for Gram Panchayats as one of the functions of Panchayats. Therefore, the rural areas are devoid of planned spatial development. The absence of planned spatial development in rural areas, especially in peri-urban areas, metropolitan area boundaries, Census Towns, and in major highway corridors, has major impact on regional development as well as within the Metropolitan areas as well. The unplanned and without any Master Plan of rural areas at an adverse impact on the spatial planning and leads to lack of infrastructure and unsustainability of the region itself. Lack of access to infrastructure (social, economic and physical infrastructure) without spatial planning leads to high cost of urbanization at a later stage. As evident from Appendix 1.1 and 1.2 that the spatial planning, particularly land use planning, do not emerge explicitly in the 73rd and 74th CAA. The Revised Rural Area Development Plan Formulation and Implementation Guidelines (RADPFI) guidelines emphasizes the need for the preparation of rural spatial plans, integrated with the overall development, and linking it to GPDP, cluster and District level. The Revised RADPFI guidelines aims to provide direction for the preparation of spatial plans for Gram

Panchayat and also mentions the required alterations and additions in the existing statutory provisions of planning. The Revised RADPFI adds new areas such as use of spatial plan in various states, use of digital tools and also cluster approach in the planning process itself. One of the salient feature of the Revised RADPFI is to address the issue of the Land Laws that came up in 2013, that restricted the land development in rural as well as urban areas. For spatial planning in rural area, the Revised RADPFI came out with Village Planning Scheme (VPS) on the lines of Town Planning Scheme (TPS) widely used in urban areas for participatory spatial planning. The land pooling is done by the people themselves for the infrastructure provision and spatially planned development of the area. The Government Institution provides the necessary infrastructure on its part with minimum cost. This was not used earlier in the 73rd or 74th CAA.

The main features of the 73rd Amendment are - (i) a three-tier system of Panchayati Raj (ii) Panchayat elections to be held regularly every five years; (iii) reservation of seats for the Scheduled Castes and Scheduled Tribes and for women (not less than one-third of seats), (iv) constitution of State Finance Commissions; (v) Constitution of District Planning Committee to prepare development plans for the district as a whole; (vi) establishment of State Election Commissions; and (vii) establishment of Gram Sabhas (See Appendix 1.3: 73rd Amendment Act in Selected States of India and their good and their lacuna in spatial planning). The Revised RADPFI guidelines highlights the importance of preparation of spatial plans for rural area and suggests the addition of clause for spatial planning for rural areas in statutory provisions, considering the RURBAN Mission, SVAMITVA, etc. As stated in the previous paragraph this Revised guideline goes to the extent of various land use standards for different typology of

villages, Village Planning Scheme, and the latest norms for Disaster and Resilience. Further, the State Legislatures have power, to confer on the Panchayats such powers and authority as may be necessary to enable them to function as institutions of self-government (Article 243G). They may be entrusted with the responsibility of (a) preparing plans for economic development and social justice, (b) implementation of schemes for economic development and social justice, and (c) in regard to matters listed in the Eleventh Schedule (inserted by the 73rd Amendment). The list contains 29 items, including, land improvement, minor irrigation, animal husbandry, fisheries, education, women and child development etc. The 11th Schedule thus distributes powers between the State Legislature and the Panchayat just as the 7th Schedule distribute powers between the Union and the State Legislature. Therefore, spatial planning in rural areas needs to be entrusted to the Gram Panchayats.

Preparation of spatial plans for rural areas holds immense significance and hence the document tries to provide the direction for the same along with the legislative framework, institutional framework and transfer of funds to rural local bodies as per 15th Finance Commission recommendations.

The 73rd CAA, envisaged a three-tier government, devolution of funds, along with functions delegated to both urban and rural local bodies. These were implemented by the state governments with required modifications through the Municipal and Panchayat Acts. The provisions for setting up a District Planning Committee (Article 243ZD) and consolidation of village and City plans in District Plan, has been mentioned in the Manual for Integrated District Planning, prepared by Ministry of Panchayati Raj in 2008, elucidates “District Planning as participative and multidimensional process and

hence gives guidelines for preparation of any District Plan which is inclusive of both urban and rural requirements, and perceives the District as a Region.”

Subsequently, United Nation's Development Programme also documented 'Decentralised District Development Plans' (2008) and advocated participatory planning approach. Its Chapter 6 emphasized on Village Planning, and, convergence of various sectors both at vertical and horizontal levels. However, even this was short of addressing the spatial planning too. Therefore, realizing the significance of the planned development in villages, Ministry of Panchayati Raj vide OM No.N-11019/16/2016-Planning dated 29th February, 2016 constituted an Inter-Ministerial Working Group for formulation of Rural Area Development and Plan Formulation and Implementation (RADPFI) Guidelines under the chairmanship of Secretary, Ministry of Panchayati Raj with representatives of Ministries of Urban Development, Rural Development, Environment, Forests & Climate Change, Industrial Policy and Promotion and Departments of Agriculture, Cooperation & Farmer Welfare, Land Resources and other organizations like Town and Country Planning Organization, School of Planning and Architecture, New Delhi, CEPT University, Centre for Good Governance, Administrative Staff College of India, National Remote Sensing Centre and National Informatics Centre. Further, vide Ministry of Panchayati Raj OM No.11019/16/2016- Planning dated 21st April, 2016 a separate Guidelines Development Committee was constituted to draft the RADPFI Guidelines under the chairmanship of Director

General, National Institute of Rural Development and Panchayati Raj. Considering the developments in the rural areas, especially the emergence of RURBAN MISSION, Census Towns, Svamitva, etc, MoPR found that there is a need to revise the guidelines to capture the latest technology and programmes. Initially, in the year 2020, MoPR initiated to analyze the current reality in rural development scenario, through 15 leading educational institutions across India (See the list of Institutions involved in Appendix – 1.4). Each of these institutions (See the MoPR web site for a separate Report that contains the details of spatial village studies by each selected institution) selected two villages and did an in-depth analysis of these villages, in terms of spatial planning (presence or absence), socio-economic and environmental aspects and came out with innovative ideas. Based on these studies, MoPR came out with this Revisions with a four members Committee members in February 2021.

1.3 RADPFI Guidelines and its Revisions

Spatial plans are prepared for cities and towns popularly known as Master Plans and Development Plans and notified under the respective State Town and Country Planning Acts and Urban Development Acts. These Acts in their title include Country Planning, but in actual terms, there is neither provision of preparing Master/Development Plans for village nor much attention has been given by the State Governments to prepare the same. Many of the States not even mention about the rural spatial planning in the respective Town and Country Planning Act.

Box: 1: TAKING FORWARD URDPFI GUIDELINES, 2014

The URDPFI Guidelines, 2014 mentions:

“While the planning and developmental norms for the city are available, there are no such norms for peri-urban areas. As the regional and metropolitan area planning intends to bring such area in planning framework it is only logical that development norms for peri-urban area is also developed because of its heavy bias towards urban character. In the absence of this, such settlements will keep developing unscientifically. These areas develop faster than rural settlements and have considerable urban form, yet it cannot have zoning regulation of larger cities.” (URDPFI Guidelines, 2014, pg.138)

Therefore, it is imperative to formulate the RADPFI Guidelines for the guidance of State Government.

Box: 2: TAKING FORWARD REGIONAL LAND USE PLAN, 2018

DEPARTMENT OF LAND RECORDS, MINISTRY OF PANCHAYATI RAJ, 2018

As a Technical Support from the GIZ (German Technical Organisation), of Germany Government, assisted the MoPR, to prepare a Coimbatore Regional Plan and Ganjam District Regional Plan based on Land Use Plan. This was submitted by the GIZ, Germany technical collaboration along with School of Planning and Architecture, Bhopal for four Districts: Coimbatore, Erode, Tiruppur and Nilgiris in Tamil Nadu, and Ganjam Districts in Odisha. This was based on village to taluka and District Level at sub-regional level and for the integrated Regional Plan from village to Regional level. Subsequently Tamil Nadu Government is taking up the detailed Master Plan for these sub-regions and bringing in amendments to integrated villages to District level. This is the first non-State capital city regional plan in the country.

The areal extent of rural areas and the average rural population per village are stated in the Appendix – 1.5, State-wise as well as for the entire nation indicates the vast stretch of the land area in rural areas. Almost 94% of the total area of India, comprises rural areas. In India, rural areas cover 94% of land and 69% of population while urban area holds 6% of land and 31% of population. There has been no serious attempt to prepare Spatial Plans for rural areas and considering the vast rural population of the country who have been deprived of the access to basic facilities, the guidelines assumes much significance with overall objective of inclusive development of rural areas.

The guideline encourages the planned development in the neglected part of the country which as shows in Appendix 1.6, accounts for 3,101,505 Sq.Km. approximately. The idea of

Planning in rural areas often receives cynical perspectives because of the socio-economic constraints that exist in villages, lack of technical knowledge, lower levels of educational attainment. However, with the new Digital Literacy vision of the government and the anticipated socioeconomic development, the rural planning may be contemplated as the next possibility. Moreover, the provision of basic infrastructural facilities requires norms and standards to make available the required services. Such norms and standards are prescribed by the RADPFI guidelines to facilitate the development in rural areas.

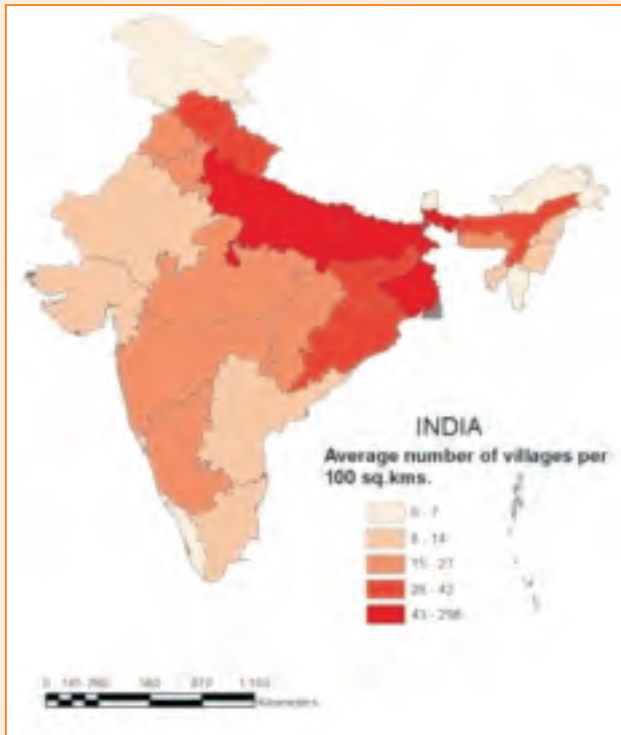
Figure 1.1 shows the concentration of villages per 100 sq.km or rural settlements density, which shows that Indo Gangetic plain has higher number of villages per 100 sq.km. This data can be related to the average rural population

per sq.km of rural area, and importance of rural areas can thus be realized.

Figure 1.2 shows that over all the average population per village was around 33 sq.km. and

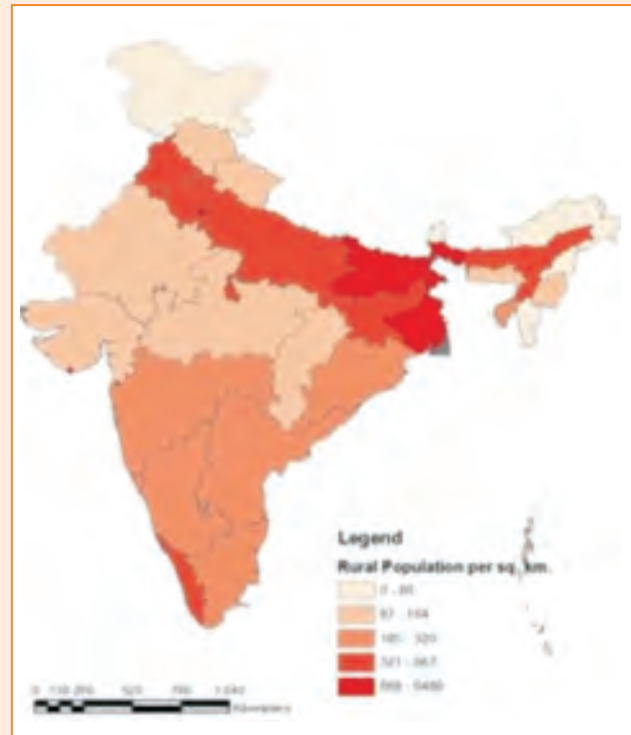
erstwhile Jammu and Kashmir dominated the scene, mainly because of land availability, and in plain area Kerala had higher average quantity of land area as per the Census of India 2011.

Figure 1.1: Density of Rural Settlements, 2011



Source: Census of India, 2011

Figure 1.2: Rural Population Density, 2011



Source: Census of India, 2011

Figure 1.1 and Figure 1.2 gives a fair idea of density of rural settlements and rural population. The Indo Gangetic plains holds higher density of rural settlements as well as rural population. Kerala holds an exception in case of density of rural settlements because of its large size of the villages. The country's average works out to 1300 rural population per village, where Kerala has 12,808 rural population per village.

Ministry of Urban Development has brought out Urban and Regional Development Plan Formulation and Implementation Guidelines in 2014. The Guidelines basically have been prepared for the guidance of the Urban Local Bodies and Urban Development Authorities to

prepare Master Plans/Development Plans for cities and towns. The URDPFI Guidelines 2014, have incorporated the regional connotation in terms of prescribing norms and standards for spatial planning in urban areas; however, it becomes imperative to consider village level planning duly considering the spatial approach. Moreover, the spreading of the metropolitan regions, emergence of peri-urban areas, and Census Towns, it is necessary to come out with guidelines for spatial planning to regulate the planning process. The Ministry of Home Affairs and Bureau of Indian Standards have come out with a detailed plan for Disaster Resilience and Climate Change by the Ministry of Environment. These are needed to be

incorporated in the old RADPFI guidelines. Though, the rural areas have very different characteristics based on their nature there is a need for separate guidelines for the planning in rural areas.

One of the responsibilities of Gram Panchayats in the 73rd CAA is to prepare plans for economic development and social justice for Gram Panchayat. However, no such plans are being prepared at the village level with spatial connotation and incorporation, and without which it is very well-known fact that majority of villages in the country are bereft of access to basic facilities. It is evident that some of the States such as Andhra Pradesh, Bihar, Kerala and other States have come out with Rules and Regulations to bring out spatial plan as per the RURBAN MISSION approach. This also justifies the need to prepare Revised Guidelines for Rural Area Development Plan Formulation and Implementation (RADPFI). In India, the economy itself have been transforming from the agricultural sector to tertiary sector. In the rural area too, there is a sectoral shift from agriculture to tertiary sector, especially in villages having more than 10,000 population size, and also in those villages near National and State Highways, as stated earlier. Rural areas are highly flexible, and cater for a wide range of activities relating to agriculture, as well as rural industries, tourism, basic raw material extraction and mining. At the same time, interior rural land may also contain land with significant environmental values, provides habitat to various species. They are also center for primary activities like dairying, farming, poultry, pisciculture and mining. Hence, a new revisions are required to incorporate both the extreme cases of Villages.

1.4 Aim and Objectives

a) Aim

The Revised RADPFI accepted the aim and

objectives of the earlier guidelines (2016). The aim stated earlier was: “to have planned spatial development for overall integrated development of villages”. The Revised RADPFI (2021) brought in typology and norms and standards to improve up on the aims and objectives in terms of methodology only. The Revised RADPFI brings out the variations between Land Cover to Land Use Plan as per the Master Plan standards for the next 20 years.

b) Objectives

- To suggest revised methodological framework for preparing Gram Panchayat level Development Plan.
- To arrive at a spatial standards for Gram Panchayat development, especially for Abadi areas.
- To prescribe norms and standards for providing infrastructure facilities and amenities at the village level and its integration with spatial district plan.
- To examine the provision of existing statutory framework and suggest suitable amendments so as to ensure preparation of Rural/Village level Development Plan.
- To recommend institutional framework for operationalizing the guidelines and provide a road map for planned development of Gram Panchayat.

1.5 Scope and Application

This document provides the guidelines for the spatial planning and development of rural areas. It will give direction to the process of development in various sectors such as physical and social infrastructure, economic activities, road and transport connectivity, land values and anticipated economic activities and aids towards a workable solution for conversion of agricultural

to non-agricultural purpose for unplanned/ unauthorised development. The preparation of spatial plans (Land Use Plan) for rural areas also needs to follow the process as per statutory provisions. This revised RADPFI guidelines brings out the typology of villages, that brings out an ease in using the norms and land use standards, for example for Hilly village areas to coastal village areas. The illustration below lists the important areas where Revised RADPFI guidelines are to be referred to, for making spatial development plans for Gram Panchayat.

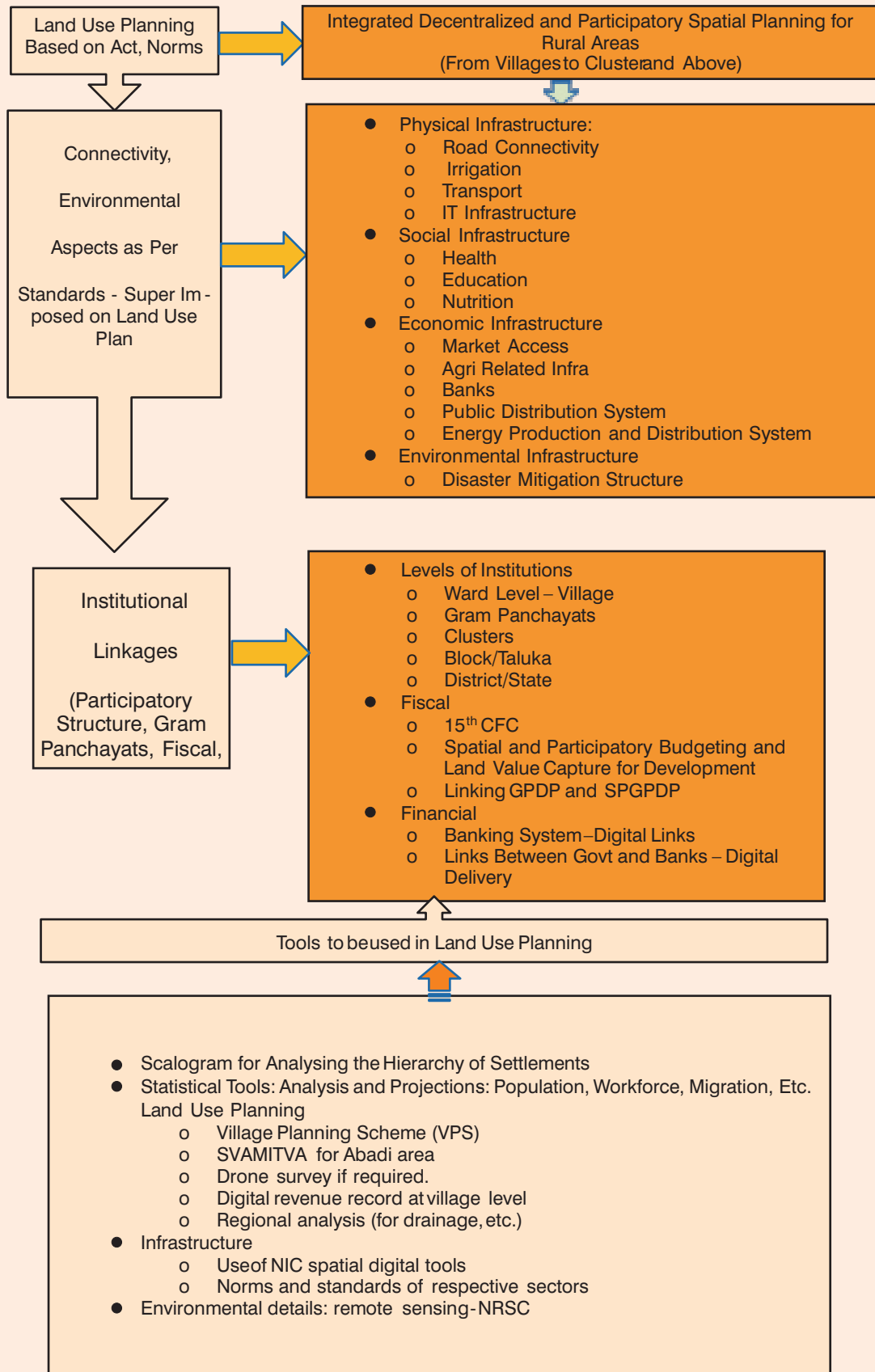
1.6 Application of Revised RADPFI

- Typology of Villages to prepare the spatial development plan based on population, agro climatic zone, disaster occurrence, urban and peri-urban areas, and villages in the radius of National and State Highway, etc.
- Dealing with different development Land use standards, for different rural areas, with varied characteristics.
- To facilitate the planned spatial development of rural areas.
- Planning for environmental benefit and disaster preparedness.
- To link spatial plans with 15th FC and SFC.
- To improve village e-governance through SDI
- Integration/Consolidation of village development with R U R B A N clusters/Block/ District plan, as per the 73rd and 74th CAA.

It is hoped that the Guidelines would be referred by the State Town and Country Planning Departments, State Rural Development and Panchayati Raj Departments and host of other offices located at the district/block level which are responsible for allocation of funds for the infrastructure development both physical and social in the villages. All departments in district will allocate budget according to Gram Panchayat Spatial Development Plan's proposals. It is expected that the budget will be as per the participatory, spatial budgeting and links to GPDP. Monitoring of the Spatial Plan and Evaluation (for every 3-5 years) will be initiated through participatory planning process and governed by the Gram Panchayat Members allocated for a group of wards within the Gram Panchayat areas.

The application of Revised RADPFI guidelines extend to the arena of not just plan preparation, but also in the field of academics. The documents can be referred by the Planning schools, as a part of course curriculum, where preparations of village plans are laid emphasis on. The NITI Aayog has interlinked the rural spatial development plan with that of urban¹⁹² plan and is coming out with outline for academic and planning profession itself. The revised guidelines will facilitate planned development in rural areas, if followed with effective governance structure. The past developments in the area of statutory framework for rural development and linkages between urban and rural planning are further discussed in forthcoming chapters.

Figure 1.3 Scope for Revised RADPFI Guidelines



PLAN FORMULATION

2.1 Developing and implementing Revised RADPFI Guidelines

Many spatial development initiatives have been brought in India since 2015, as mentioned in the preceding chapter. Still there is no exclusive exercise for spatial planning of panchayats/villages, and spatial planning is undertaken only if they are part of a planning area/region notified by the state government. In those cases too, the spatial planning is carried out through Development Authority, or Special Development Zone such as SEZ or other development purposes. They too do not involve the Gram Panchayats in the development process. In most of the cases, panchayats/villages-level planning is undertaken through District Planning Committees (DPCs), as per the 74th CAA. However, in this too spatial planning is restricted and linked to budgeting from top to bottom. For the purpose of integrated planning some states like Kerala, Andhra Pradesh, Karnataka, Tripura, Sikkim, Rajasthan, Haryana, etc. have made provisions in their modified Panchayat Act to establish DPCs. Other States like Gujarat, Orissa, Madhya Pradesh, Maharashtra, etc., have enacted separate enabling legislation for the constitution of DPCs, instead of incorporating such provisions in the Panchayat Acts. In addition, some states have made provisions for panchayats/village planning in their Town & Country Planning Act. Though the 74th CAA envisages spatial and environmental planning for integration of the municipal and panchayat plans with district plans wide Article 243-ZD(3-a), how effectively it has been implemented is an area of further research. It is possible to amalgamate some of the best cases across India from various states, by analyzing the various features of the Act. It is essential that without the Amendment in the Act either at the

State or Central level, it is difficult to implement the Spatial Development at Gram Panchayat or at District level. Moreover it is important to make the Gram Panchayats to empower them and also make them co-producers of some of the infrastructure in the future. RURBAN MISSION, GPDP, and SVAMITVA are all in place now in addition to various development programmes and tools such as MANCHITRA of NIC that focusses on spatial development (See Appendix 2.1(a), (b) and (c)) for detailed information on RURBAN MISSION, SVAMITVA and MANCHITRA by NIC). Unless we take cognizance of these development in the guidelines it is difficult to implement the Gram Panchayat development to take the Gram Panchayat to the future. A list some select states indicating relevant Acts to deal with panchayats/village planning is presented in Table 2.1.

Many of the States on Panchayat Raj Act were amended to many aspects. Especially in Punjab and Haryana they captured the spatial changes that are brought in and around the metropolitan area, national and state highways, etc., and many states brought in Rules and Regulations in Building Bye Laws for the public spaces and even private buildings in rural areas. These were not updated in the earlier RADPFI guidelines. There were approaches to rural development over all in these Gram Panchayat Raj Acts of various states. Interestingly many state Acts also mentioned about green areas, water bodies, public spaces, solid waste management (if not by villages, the block level institution to take it up), sanitation, etc. We suggest a separate research needs to be taken up by MoPR to go into the details of the Acts and Rules and how best they can replicate as best models for Gram Panchayat levels.

Table 2.1 Selected State Acts for Planning - Panchayati Raj Act an the Town and Country Planning Act

S.No.	State	Panchayati Raj Acts	Town and Country Acts
1.	Karnataka	Karnataka Panchayati Raj Act- With various Amendments recentone in 2020 (Act 34)	Karnataka Town and Country Planning Act1961 amended in 2015
2.	Andhra Pradesh	--	AP Metropolitan Region & Urban Devel-opment Authorities Act, 2016 Panchayat Raj Act, 1994 Andhra Pradesh Gram Panchayat Land De-velopment (Layout and Building) Rules, 2002
3.	Kerala	ACT 13 OF 1994 The Kerala Panchayat Raj Act, 1994 (Act 13 of 1994 as amended by Acts7 of 1995, 7 of 1996, 8 of 1998, 11 of 1999, 13 of 1999, 13 of 2000 & 12 of 2001)	Kerala Town and Country Planning 2016Kerala Panchayat Raj Act 1994
4.	Jharkhand	The Jharkhand Panchayat Raj Act, 2001	Jharkhand Regional Development Authority Act-2001. Town Planning and Improvement Trust Act, 1954
5.	Bihar	Bihar Panchayati Raj Act 2006	Bihar Town and Country Planning Act-2012, amended in 2014
6.	Chhattisgarh	Chattisgarh Raj Act Panchayat2008	Chhattisgarh Nagar tatha Gram Nivesh Ad-hiniyam-1973
7.	West Bengal	West Bengal Panchayati Act 1973	West Bengal Town and Country (Planningand Development) Act, 1979, Amended in 1994
8.	Odisha	Odisha Grama Panchayat Act 1964	Orissa Town Planning & Improvement TrustAct, 1956
9.	Haryana	Haryana Panchayati Act 1994 & The Punjab Village Common Lands (Regulation) Rules, 1964 amended by Haryana in 1965. Rules.	Haryana Panchayati Raj Act 2007
10.	Punjab	Punjab Panchayati Act, 1994 and amended on 2018. & The Punjab Village Common Lands (Regulation) Rules, 19641, Building Bye Laws, and also Rules.	Punjab Regional and Town Planning andDevelopment Act, 1995

11.	Uttar Pradesh	UP Gram Panchayati Act 1947 and Amended in 1994. & RULES re- garding Building Bye Laws for Ru- ral areas	Regulation of Building Operation Act, 1958 – Regulated Area UP Urban Planning and Development Act, 1973 – Development Area UP Industrial Development Act, 1976 – Special Region Special Area Development Authority, 1985 – Special Development Area
12.	Uttarakhand	Uttarakhand Panchayati Raj Act 2016	Uttar Pradesh Special Area Development Authority Act, 1986 Housing and Urban Development Authority Act, 2013
13.	Himachal Pradesh	Himachal Pradesh Panchayat Raj Act, 1994 (The Rural Development Department came out with Devolution guidelines based on this Act for each Sector)	Himachal Pradesh Town and Country Planning Act, 1975
14.	Goa	The Goa Panchayati Act 1994	Goa, Daman and Diu Town and Country Planning Act, 1974
15.	Gujarat	Gujarat Panchayati Raj Act 1993 Modified up to 2017 (Chapter 2 of the Act provides the Panchayats to go for clusters)	Gujarat Town Planning & Urban Development Act, 1976
16.	Madhya Pradesh	The M.P. Panchayat Raj Gram Swaraj Adhiniyam, 1993 &. The M.P. Panchayat (Management of Government Lands) Rules, 1995	Madhya Pradesh Town and Country Planning Act, 1973
17.	Maharashtra	Maharashtra Village Panchayat Act 1959, Amended later many times till 2020.	Maharashtra Regional and Country Planning Act, 1966 & Amended several times

Earlier Appendix-1.3 presented the salient features of selected Panchayati Act of various states. A detailed Appendix-2.2 has been given at the end, which provides some of the salient features of Town and Country Planning Acts as this affects the 74th CAA as well as the 73rd CAA.

States may modify for improving the spatial development planning preparation and implementation. It is essential that without the Act, neither the Gram Panchayat or the District Institution may not be in a position to implement the spatial development plan and link it to GPDP or SFC.

2.2 Modification in framework to implement the guidelines

The States which do not have provision of spatial planning in any of their Acts or Rules to facilitate Spatial Development Planning at village level, may adopt the following provisions depending on their respective situation.

The provision for the declaration of development zone and preparation of development plan/Local Plans (spatial plans) for every Gram Panchayat and erection of buildings, as envisaged under Section 230 and 241 of the Haryana Panchayat Raj (Amendment) Act, 2007, or under Andhra Pradesh Act, or any other State's Act as a model for revising their Gram Panchayat Spatial Development Plan. The provision for preparation of Local Area Plan, as envisaged in the Chapter 5, Section 30 (a) of the Kerala Town and Country Planning Act, 2016.

As we are aware of land acquisition is difficulty for any kind of infrastructure provision and lack of public land in a village area, we suggest the Village Planning Scheme. We suggest the States either under the Rules or the Act to amend to add the possibility of preparing the land pooling/reconstitution of land by the private owners within the village, for the provision of infrastructure in Abadi area. This will be under the Village Planning Scheme (similar to Town Planning Scheme) where the private owners assemble their land and allocate a small portion of their land for infrastructure provision, which is provided by the Government.

We also request the NRSC and NIC to provide necessary Abadi area to a scale, which can be used as in the case of SVAMITVA. This ensures provision of building bye laws and infrastructure in the Abadi area. To monitor it on regular basis (at least once in a year), this Abadi area map needs to be provided to Gram Panchayats.

2.3 Plan formulation for Gram Panchayats

The community Development Plans in 1951

adopted a mechanism or framework for the first time, to bring rural development in India. Balwant Rai Mehta Committee came with a suggestion to include three tier planning in Indian Planning Framework and further with 1992 CAA, the provisions were made for three tier institutional mechanism for planning and Constitution of District planning Committee for consolidation or rural and urban plans and preparation of District Plans. However, mandate for spatial plans for rural areas was not made in 73rd CAA.

There are 2,38,617 Gram Panchayats in India and RADPFI suggests the Gram Panchayat Boundary as a planning boundary for Gram Panchayat Spatial planning. The Revised Guidelines in this report suggest to have two level boundaries: a) Gram Panchayat Boundary for the planning area, and (b) a Cluster area, which may be used together with the neighbouring Gram Panchayats that can be provided for infrastructure purposes. For example, for road link, irrigation link, etc., it may be important to have a cluster approach as in the case of RURBAN MISSION. Andhra Pradesh's Act provides such a possibility. States may get a clue from that for spatial development.

Gram Panchayat level planning process comprises the following steps (Handbook for preparation of Gram Panchayat Level Plan, State institute of Rural Development, Assam, 2011)

- Identification of issues by Gram Sabhas/Ward Sabhas, based on vision document of the panchayat which has already been prepared.
- Determination of solution by Standing Committees of Gram Panchayat.
- Prioritisation of solution and fund allocation by Village Panchayats.
- Resulting in the preparation of first draft village panchayat plan.
- Reconsideration of draft plan in second Gram Sabha meeting.
- Finalisation of village panchayat plan by the full meeting of the village panchayat.

Kerala State came out with an integrated Decentralized District Plan - Handbook, which is participatory in nature. Kerala approached the plan from Local level (Gram Panchayat) to District Level (Zilla Parishad Level). This was brought in with in the purview of Town and Country Planning Act of the State. The salient aspects of Local Area Development within a District (say for Gram Panchayat Level), are:

Collection Process

- Preparatory Works
- Collection of Cadastral Maps
- Global Positioning System (GPS) Survey
- Preparation of Digitized maps
- Collection of Relevant Materials
- Selection of Engineering Trainees
- Selection of Surveyor Trainees

Data Collection

- Primary Data Collection
- Secondary Data Collection

Data Comp

Data Compilation

- Secondary Data Compilation

Data Analysis

- Spatial Analysis
- Local Level Analysis
- Discussion with stakeholders
- Conducting Special Gram/ Ward Sabha
- Identification of Development Issues, and Setting up of Goals and Objectives
- Formulation of Development Concept / Visioning
- Carving out Policies and Strategies
- Local Development Plan (Preliminary)
- Draft Local Development Plan

(Source: Handbook on “Integrated District Development Plan, Local Development Plan”, Town and Country Planning, Government of

Kerala, 2006).

- The final Local Development Plan at Gram Panchayat level consists of:-
- Modification of Draft Local Development Plan Based on Sanctioned Integrated District

Development Plan

- Development Seminar, where Visions are modified if required and sectoral targets are fixed at spatial locations (use of Spatial Data Infrastructure tool will be used here)
- Sanctioning of Local Development Plan
- Preparation of Development Plan for Block Panchayats
- Preparation of Development Plan for Zilla Panchayat
- Implementation and Monitoring (Revised RADFPI suggests to make this monitoring and evaluation through participatory process from Ward to Gam Panchayat level).

(Source: Handbook on “Integrated District Development Plan, Local Development Plan”, Town and Country Planning, Government of Kerala, 2006).

2.4 Time Schedule for Plan Preparation

As per the Kerala Town and Country Planning Handbook/Guidelines (2006), the following suggestions are given below:

The total time period for District Development Plan is 27 months as suggested by Integrated District Development Plan of Kerala Panchayat guidelines. However for village spatial planning, it can be restricted to 18 months as the scale is much below then the district.

The process for various time period is presented below (as given by the Kerala guidelines):

A. Preparatory stage

1. Constitution of various committees at

- local and district levels – 1 months
2. Capacity building (Trainings etc.) - 3 months
3. Preparation of digital map of local self-government institutions - 2 months

B. Preparation of Local Development Plan

1. Data Collection - Land Use Survey, Socio-economic Survey, Secondary data collection - **2 months**
2. Feeding the Data into Computer, Compilation, Map preparation - 1 months
3. Data Analysis - **3 months**
4. Development Concept, Sectoral policies - **3 months**
5. Preparation of Draft Local Development Plan - **3 months**

C. Preparation of Integrated District Development Plan

1. Preparation of base map of district - **1 month**
2. District level data collection - **3 months**
3. Data compilation - **3 month**
4. Data analysis & formulation of Developmental issues and setting goals & objectives – **8 months**
5. Development concept - **2 months**
6. Sectoral detailing - **2 months**
7. Report - **2 months**
8. Seminar - **1 months**

Total time required for the preparation of IDDP is **22 months**.

A suggestive time plan prepared by the Kerala Town and Country Planning is given in *Appendix 2.3*.

2.5 Statutory obligations

Planning Machinery/Staffing for Villages/ Panchayat to plan or execute plans

The preparation of Gram Panchayat Spatial Development Plan, is the sole responsibility of Gram Panchayat, and hence constitution of a Village Planning Committee would bring ease in realization of functions of Panchayat. The Village Planning Committee can comprise Sarpanch, Sachiv, persons having special knowledge of economics, planning, finance, engineering or administration, as determined by the state of DPCs. Apart from this, the School Principal and Teachers, Doctors, ANMs, ASHA workers, NGO workers and youth and women of the villages with adequate qualifications can be engaged in the committee for preparation of Village Plans.

Some of the states such as Andhra Pradesh, Punjab etc., went to the extent of gram panchayat to plan for resource plans, mangroves and other green spaces within the gram panchayat areas, land consolidation, maintenance of social cohesion, etc. In the case of Kerala Act, a step further statutory obligation includes linking to Taluka and District level plan preparations.

The DPC constituted in states as per 74th CAA, can further scrutinize each village development spatial plans as the consolidation lies in their function. In fact, it is necessary that each state should come out with a detailed Spatial Development Plan at the District level and interface with the gram panchayat-taluka and District level, and also rural-urban linkages.

2.6 Legislative processes

a) Similar to Master Planning done in ULBs, Rural Area planning should also be based on similar legal process for its sustainability and continuity. The planning processes, such as community participation, followed in urban planning shall be made mandatory. The Flow of process regarding decentralisation of Plan approval process of Gram Panchayat Spatial Development Plan is illustrated in the Appendix given earlier in 2.4 Section. That shows the model provided by the time line and plan preparation from Kerala.

The 73rd CAA enables decentralization, while 243ZD in 74th CAA facilitates integrated district planning through consolidation of rural and urban plans. These two amendments together can bring a major change between the gram panchayats to district level, and we expect that spatial planning is also integrated into fiscal planning along with spatial budgeting, there will be a major progress in rural development.

b) 74th CAA and its links to 73rd CAA

State Policy lays down that the State shall take steps to organise village panchayats and endow them with such powers and authority as may be necessary to enable them to function as units of self-government.

243ZD- Committee for district planning-There shall be constituted, in every State at the district level a District Planning Committee to consolidate the plans prepared by the Panchayats and the Municipalities in the district and to prepare a Draft Development Plan for the district as a whole.

However, there is no mandate or constitutional provision for preparation of Gram Panchayat Spatial Development Plans explicitly across States, except for some states. Neither the existing planning framework has spatial planning approach nor there is, statutory provision exclusively for spatial plans for Gram Panchayat. It would be imperative to ensure enabling mechanisms for preparation of these plans which may necessitate amendments to existing Panchayati Raj Acts and Town and Country Planning Acts. The sectoral planning in villages is carried out in form of infrastructure planning through grants provided by State and Central government. Revised RADFPI goes to the extent of planning the Abadi areas, which are heart of the villages, and how to plan them for the future through a legislation within the Panchayat Acts and Town and Country Planning Acts of various states. It is imperative to integrate various norms and standards for gram panchayats, not

only for infrastructure that exists in various states, it is also necessary to have norms and standards for land use planning as in the case of cities through Master Plans. Revised RADFPI went into details of this, later in chapter.

These norms and standards suggested were based on sectoral guidelines, and also interfaced with many programmes such as RURBAN MISSION, PMGSY, PMRural Housing, etc. In addition, Revised RADFPI suggested as in the case of Punjab's Gram Panchayat Common Property Act under a broader framework, which addresses issues such as green cover, water resources, forest areas, etc.

2.7 People's participation

The 73rd CAA envisaged Panchayati Raj System as a means of promoting greater community participation and involvement in development efforts in accordance with the needs for ensuring basic facilities to the villages. The Eleventh Five Year Plan (2007-2012) reiterates the objective of removal of regional imbalances through participatory planning processes at the grassroots level. The three tier local government, viz, Gram Panchayat, Panchayat Samiti and Zilla Parishad together needs to involve citizens for the preparation of the Gram Panchayat Spatial Development Plan through active participation. They are needed to be sensitized through the elected representatives who in turn through mass contact with the citizens can highlight the existing deficiencies in the rural infrastructure facilities and assist the Gram Panchayat to prepare spatial plans. Citizens Participation strengthen the democratic contents of governance and provides opportunities to citizens to take interest in their own interest. Covid-19 has forced us to shift to Citizen Science to make the participatory approach to new levels. Citizen Science enables participation directly from individuals and groups to express their views on planning process. The group feels that within a Gram Panchayat, there is a strong local network, which can be tapped for planning of

spatial development, natural management, etc. This needs to be exploited by the Gram Panchayat.

As suggested in section 2.3 earlier, it is necessary to use the citizen science for planning process. Many states (for example Haryana (2021) has brought in legislation to ensure more women in Gram Panchayat members (50%). Gram Panchayats through these elected members can form the groups to develop the spatial plans for women, children and aged on various aspects related to marginalized groups in spatial planning. Similar members (male members) can concentrate on other marginalized groups, over all spatial development plan and also come out with vision through participatory planning process. In fact, similar work was carried out in decentralized district development plan in Kerala in several districts.

2.8 Integrating and Implementation of Rural Planning

State Planning Commission provides support and direction for the preparation of District Plans. And therefore, it is proposed that the District Rural Planning Development Authority (DRDA) shall support and direct the preparation of Gram Panchayat Spatial Development Plans, in accordance with the overall vision development of Cluster/Taluka/Block and District. However, the state and central involvement shall be limited and Gram Panchayats shall be given required autonomy to plan according to the indigenous needs and requirements. Usually, State's intervention comes through State Finance Commission prescription, and the Center comes through CFC. Though the ratio between center and state allocations for rural-urban is different, how much each state allocates to rural and urban is decided by state finance commissions. This group suggest that along with these CFC and SFC, there should a pooled financing system for plan and implementation of various Gram Panchayats. Especially for rural infrastructure

this will enable the gram panchayats to provide basic infrastructure such as sewers, solid waste management, roads, etc which can be pooled together for funding. During the case studies for this spatial development plan preparation by selected institutions across India, it was suggested that pool sourcing can be an important tool for natural resource management, land pooling, infrastructure and also for building social capital. Key elements of the operational systems shall be as follows and is further discussed in Chapter 8.

Gram Panchayat shall be in consultation with subject matter specialists, Government officials, NGOs and other stakeholder(s) determines plan ceiling between various rural segments or villages within the Gram Panchayats and formulates strategy to prepare and integrate their plan proposals.

Rural Plans: Each Gram Sabha follows a participatory process with the help of Technical Sup-613 port Group (TSG) and government functionaries to come up with a “vision of development”

614 based on local needs. The Gram Sabha prepares its plan proposal after consultation with all the stakeholders especially with poor, SC, ST and women. The recommendations and needs of 616 each group are integrated to prepare the plan proposal of Gram Panchayat. Similarly, Janpad Panchayat integrates the plan proposals of all Gram Panchayats including the interventions of Janpad. These are finally consolidated and integrated at the Block and District level The rural and urban plans are submitted to the DPC for consolidation and approval. The DPC consolidates the plans at the district level with the help of district level TSG. The consolidated and integrated plan is finalized by DPC after due deliberations. The DPC is expected to ensure that the integrated District Plan provides clarity on the roles of various government departments and arrangements for monitoring and evaluation of the projects. The

District Plan is then submitted to the State Planning Commission (See Appendix 2.4).

All the line departments are grouped into major key sectors. Further, working groups are constituted for each sector for preparing proposals keeping in view the needs and possible inter and intra-sector convergence. The major sectors are as follows:

- Education: School Education, Technical Education, Skill Education
- Health and Nutrition: Public Health and Family Welfare, Public Health Education, Women and Child development, Food and Civil Supplies;
- Livelihoods: Agriculture, Forest, Panchayat and Rural Development, Animal Husbandry, Industry, Social Welfare, Water, Fisheries, Handicraft, Cooperatives, Planning, Backward Classes, Scheduled Castes/ Scheduled Tribes;
- Infrastructure: Public Works, Rural Development, Water, Power, Planning;
- Energy: Energy, Rural Development, Forest;
- Social Security: Social Justice, Women and Child Development, Revenue, etc.
- Natural Resources: Includes water, forest, drainage basin areas, flora and fauna of the areas.

Special consideration needs to be taken up for PESA areas, especially for interface with the plan of those areas. All government resources are included and district wise and department wise resource envelopes are calculated to facilitate the process. Budget is also earmarked separately for SCs, STs and women. Plan components are prepared focusing on specific social groups like SCs, STs, women and children at the level of habitation and then integrated. Gram 646 Panchayat is the basic unit of

planning in rural areas.

2.9 Contents of existing Gram Panchayat Development Plan (GPDP)

The guidelines issued by Ministry of Finance, for the release and utilization of the local bodies grant stipulate that proper plans are to be prepared by the gram panchayats for the basic services within the functions devolved to them as per State laws before incurring expenditure under the FFC award. However, the spatial development plan is not integrated in this as it is based on CFC and SFC guidelines.

In the context of the Constitutional mandate, these plans have to be participatory plans involving the community, particularly the gram sabha, in the formulation of priorities and projects and will also have to ensure the mandates of social justice and economic development mentioned in Article 243G. The Gram Panchayat Development Plan (GPDP) will have to have a clear component addressing vulnerabilities of poor and marginalized people and their livelihood opportunities through an integrated poverty reduction plan that converges with the labour budgeting and projectization exercises under MGNREGS as well. This group suggest that it is important to do Natural Resource Accounting too at the Gram Panchayat level, especially in green areas, vulnerable areas and sensitive areas.

Various states have prepared Gram Panchayat Development Plan Guidelines for which would facilitate the coordination of various activities to be undertaken and arrangements that need to be made for the execution of a time bound action plan for preparation of Gram Panchayat De- 668 velopment plans. However, we expect that Spatial Budgeting along with spatial development plan is interfaced with GPDP for every year.

The contents of GPDP has not been mentioned in the guidelines issued by MoPR and is left

upto the states to give the prescribed format or the contents of GPDP, different states have given different formats for preparation of Plans, however, broadly they are as follows:

1. Introduction
2. Resource Envelop
3. Situation Analysis
4. Environment Generation
5. Visioning
6. Prioritization
7. Technical and Administrative approval
8. Post Plan arrangements
9. System support for participatory planning in Gram Panchayat and Capacity Building

The above contents mentioned only refer to the sectoral development of the villages/Gram Panchayats but no Spatial reference is made, therefore Revised RADPFI proposes the preparation of Gram Panchayat Spatial Development Plans. This should include Resource Mapping, Institutional mapping (especially from ward to gram panchayat and cluster level), Water Mapping, and tentative plan period which can be scaled down to every year linked to budgets.

The spatial approach is discussed in next chapter and the contents are suggested in Chapter 3 and 4.

SPATIAL APPROACH TO RURAL PLANNING

Spatial planning for the rural areas can lead to sustainability of villages. Spatial approach to rural planning is particularly important for rural land which are usually in the varied geographic locations. Planning the villages located in the vicinity of the urban centres, along the major corridors, in the backward/ inaccessible areas, hilly areas, vulnerable/ disaster prone/ hazardous areas, agro-climatic zones, etc., is necessary, as various permissible and non-permissible land-use activities need to be decided. It is no denying fact that land-use planning and organized spatial development of villages will help to address various concerns such as conflicting land-uses, negative impact on the villages due to the adjacent industrial areas, haphazard use of rural land resources, etc. Land-use planning of the rural areas through systematic and iterative procedure can create an enabling rural environment. This in turn will help in the sustainable development of rural land resources to meet the demands of the rural population. Land-use planning for villages not only enables assessing of the physical, socio-economic, environmental potentials of the village but also helps in the optimal and sustainable utilization of the natural resources in the villages. However, spatial planning approach to villages may vary depending on the location, type, size and characteristic features of the villages. Given this background, there is an urgent need to categorise and plan for villages.

3.1 Need for Categorization of Villages

In India, the rural areas have no clear definition. Census has given definition of the urban areas, and all those areas which do not satisfy the parameters of urban areas are classified as rural areas. The rural areas or the villages, also have different characteristics according to their population

size, proximity to and dependence on urban center respectively, topography, economic activities, social customs and traditional values. There has been an attempt by the Census of India to classify the urban and rural areas according to population size, which in turn, also effects the characteristics of the city/town. But no such classification has been given for the rural areas where the characteristics of rural areas can be categorized and used for future planning. Therefore, there is a need to categorize the villages for the following reasons:

- The unplanned development spurting up near the urban centres in the extended abadi area of the village, giving rise to unauthorized development, which has to be later regularized and retrofitted into planned development.
- The interdependency existing between the villages and the metro cities, makes it important to plan the villages for the provision of services and infrastructure.
- The plan for the rural land in vicinity to urban centre holds importance because of the anticipated spatial expansion of the urban area.
- The connectivity of the villages to the nearby metro city, leads to rising real estate prices leading to new non-farm activities coming in the villages, for which infrastructural services are required.
- The planning of the activities to be permitted in the fast-transforming villages needs to be decided, for making a sustainable environment in the village.

Hence, this document makes the first attempt to categorize villages on the basis of following criteria.

3.2 Categorization of villages

For an effective and sustainable spatial planning of the villages, categorization of villages is an important step with an integration to the adjacent urban areas, as was also emphasized in the URDPFI guidelines. Such categorization of villages located in varied geographies will not only enable focused attention but also helps in understanding the characteristics of the villages. It is the first step for village planning. Depending upon the category, different approaches to spatial planning of villages can be adopted / devised. Such planning approach will enable to address the specific existing and future needs of the villages. Hence, the villages are categorized based on the Peri-Urban influence, Population size, Census Towns – Influence of Urban Functions, Interior/Inaccessible/Backward rural areas, Villages under the Panchayats (Extension to Scheduled Areas) Act, 1996, Village located along the express ways/the National Highways/the State Highways– Corridor Influence, Agro-climatic Zones, Vulnerable Disaster-Prone Areas, and Hilly Areas. The details of each of these village categories are given below:

3.2.1 Villages within Planning Area of the delineated Metropolitan area/city/town – Peri Urban Influence

The villages in the vicinity of the urban areas are generally dependent on the urban area and vice versa. Therefore, they are interdependent on each other for various economic activities and growth. This is particularly evident in the case of those villages which are located within the planning area of the metropolitan regions. The village will not be a typical rural area with only agricultural activities but may have diversified economic activities (non-farm) existing. The transitioning in the character of the village is often witnessed and therefore, the area is termed to be a part of the *Rural Urban Fringe*.

This categorization signifies the villages which exist in the rural urban fringe areas and are

present adjacent to the metropolitan city within the planning area boundary. These villages may or may not be connected to the city/town, by either the National Highway/State Highway/Major District Road or Other District road. The categorization can be done on the basis of such connectivity through the above-mentioned transport networks.

- Along the national/state highway and within the urbanisable limit of Municipal Corporation
- Not along a national or state highway, but within the urbanisable limit of the Municipal Corporation.

Character of villages in fringe area

The Urban-Rural Fringe (URF) is the zone of transition in land use, social and demographic characteristics, lying between (a) the continuously built-up urban and suburban areas of the central city, and (b) the rural hinterland, characterized by the almost complete absence of non-farm dwellings, occupations and land use, and of urban and rural social orientation; an incomplete range and penetration of urban utility services; uncoordinated zoning or planning regulations; areal extension beyond although contiguous with the political boundary of the central city; and an actual and potential increase in population density, with the current density above that of surrounding rural districts but lower than the central city. These characteristics may differ both in zonal and sectoral way, and can be modified through time (Pryor, 1968).

74th CAA defines "a transitional area", "a smaller urban area" or "a larger urban area": meaning such area as the governor may, having regard to the population of the area, the density of the population therein, the revenue generated for local administration, the percentage of employment in non-agricultural activities, the economic importance or such other factors as may deem fit, specify by public notification for the purposes of this part. The 74th CAA, mentions

about the *Transition areas* where Nagar Panchayat would be the ULB to provide for the development for areas in transition from a rural area to urban area.

Peri Urban Areas

URDPFI Guidelines, 2015, gives definition of peri urban area as zone which is within the planning limits but outside the urbanisation limit of the municipal corporation/authority or metro-politan planning committee or authority. Further the URDPFI guidelines defines these areas as the transition zones from rural to urban land uses with porous and transitory boundaries. These transition zones primarily have characteristics of both urban and rural areas. Therefore planning for villages located in these areas which might include valuable protected areas requiring conservation is very important. The villages located in these areas if planned properly can be instrumental in providing the necessary support services for the rural residents. URDPFI suggests planning for integration of plans of such settlements through two approaches:

- The plans can be prepared by the developmental body in consultation with the village authority and implemented jointly by the village authority or developmental body,
- Village bodies may prepare the plan and such plans will be compiled and made part of overall developmental plan of the region by developmental body.

Preparation of spatial plans for the villages located in these transition zones will help in achieving integration with the adjacent metropolitan/cities/towns. Such spatial integration considering the transitioning characteristics of the villages need to ensured for mutually cohesive and integrated development. Spatial planning of villages located in the peri-urban areas will also be instrumental in achieving and complementing with the urban needs and development. For any such spatial planning approach, preparation of land-use maps is the

first important step.

Preparation of land-use plan for the villages located in the peri urban areas:

- As the peri urban areas affect the functions of the villages and are intrinsically linked with the city economy, experience constant transformation, it needs to be ensured that the land-use map for such villages should be complementary to the land-use map of the adjoining urban area such as the metropolitan / city / town.
- As these areas are usually characterized by a mix of rural and urban activities, land-use should reflect the mixed nature of these characteristics.
- The perspective plan for such villages shall consider the constant migration.
- The land-use plan shall reflect the spatial growth of such villages driven by urban and peri-urban regions.
- The land-use plan shall provide the necessary spatial details of various existing land-use activities and also proposed land-use activities in these villages for the envisaged plan period.
- All relevant maps such as the base-map consisting of all the existing features including the human made and natural features shall be prepared. Besides, the location and the connectivity of various villages in the peri-urban areas, which may be contiguous to the protected areas are to be spatially mapped.
- The approach roads to such villages need to be mapped. This will help to know the proximity of the villages to the adjacent urban areas/ urbanization limits and the major corridors.
- Different village land-use activities shall be surveyed and spatially mapped. The standard symbology and colour code for various land-use categories shall be complied with the prescribed standards in the Chapter 5 of this report.

3.2.2 Villages categorized by their population size

The Census of India has given classification for the villages according to their population size. The villages having population less than 200 persons, are mostly located on hilly terrain, desert or tribal areas, with low density areas, such as Himalayan belt of India, North East India, tribal belt of Chattisgarh, Jharkhand, Eastern and Western Ghats of South India. A separate spatial plans for each hamlet would be rather difficult process and would result in a piece-meal development, rather than integrated development. Alternatively, a group of these hamlets with proper connectivity, can be treated as an integrated cluster. Also, the socio-economic characteristics of the villages will have to be determined, while making spatial plans for cluster of such villages. The most critical aspect would be the connectivity and the sharing of resources amongst the villages for formation of such cluster. In case of villages with small population size and with spatial contiguity, clusters could be formed by identifying contiguous villages/gram panchayats within a radius of 5–10 km (or radius appropriate to the population density and geography of the region) around the identified growth center. The criteria

for selection of cluster can be same as given by RURBAN guidelines for selection procedure.

Selection criteria gives due weightage to rural demography, growth in non-farm work force, presence of clusters, tourism and pilgrimage significance, proximity to transport corridors. The Integrated Cluster Action Plan methodology takes due cognizance of Tribal districts and follows distinct approaches for Tribal and Non-Tribal districts. The ICAP addresses the rural development in the clusters comprising small villages. The ICAP mentions the desired level of benchmark for:

- Basic amenities
- Social amenities
- Economic amenities, and
- Digital amenities

The categorization of villages as per Census 2011, explains the fact that 58.33% of the villages have population between 1000-5000 and are ideal for preparation of Gram Panchayat Spatial Development Plan. (Table 3.1) The villages which are less than 1000 population would also be considered for planned development which shall depend on their location, physiographic conditions and connectivity.

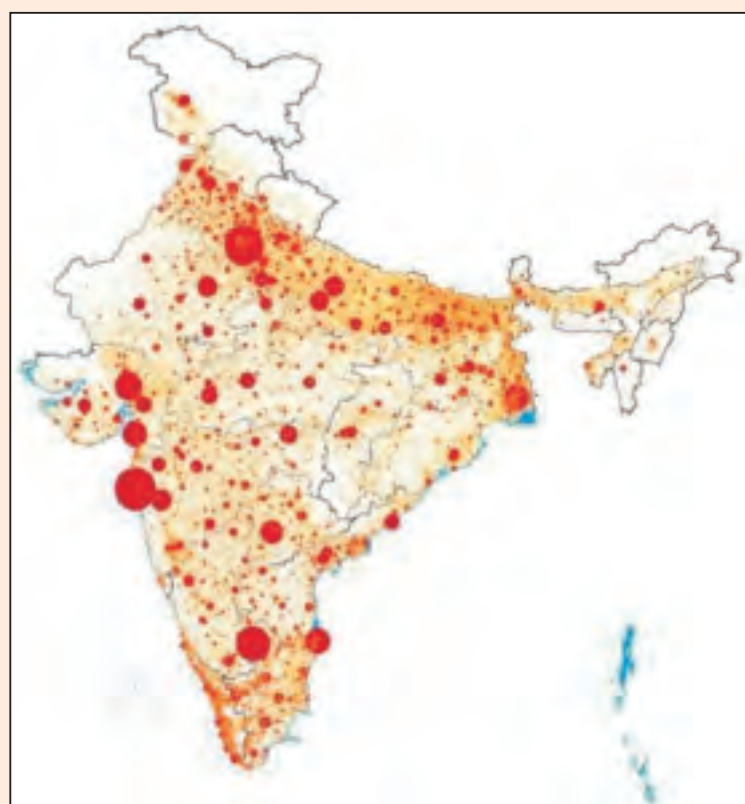
Table 3.1: Categorisation of villages according to population size

Class Size	Population Size	Total Villages	Total Population	% of rural population	Average population	Remarks
Very Large Villages	10000+	4,682	7,23,66,805	8.68	15456	1. Very large villages which are likely to be urban in future, if near metropolitan areas. 2. Very large villages which may be purely depended on flourishing agricultural or other primary activities.
Large Villages	5000-9999	18,641	12,38,08,537	14.85	6642	Large villages would also be urban, if have nearby metropolitan areas.
Medium Villages	2000-4999	96,388	28,86,37,987	34.63	2995	Medium sized villages which can be grouped together to form a cluster, if any geographical contiguity.

Class Size	Population Size	Total Villages	Total Population	% of rural population	Average population	Remarks
Small Villages	1000-1999	1,39,136	19,74,96,806	23.70	1419	Small sized villages where cluster plans would be feasible.
Hamlets	Less than 1000	3,38,636	15,11,53,313	18.13	1175	---
1	500-999	1,41,761	1,032,91,220	12.39	729	---
2	200-499	1,14,726	39,68,3027	4.76	346	
3	Less than 200	82,149	81,79,066	0.98	100	Isolated hamlet, where villages are located on hilly terrain, dessert or tribal areas, and spatial plans shall be based on connectivity and sharing of resources.
	Uninhabited	43,384	-	-		
	Total	6,40,867	83,34,63,448	100.00		

Source: Based on Census of India 2011

Figure 3.1: Settlement Pattern and Corridors



Source: Urban India 2015: Evidence, Indian Institute of Human Settlement

LEGEND

- Million Plus Cities
- Other Class I Cities
- Class II Cities
- Class III Cities
- Class IV or V or VI Cities
- Very large village
- Large village
- Medium village
- Small village
- Hamlet or Smaller

Bubble size is proportional to population
Source: Census of India, 2011; HHS Analysis, 2015



Datum WGS 84 : ES PG 4326
Scale 1:20,000,000
0 100 250 500km

3.2.3 Census Towns – Influence of Urban Functions

A majority of the villages in the country are not stand-alone settlements but a part of a cluster of settlements. Such settlements are relatively proximate to each other. This phenomenon can be particularly seen in the context of the Census Towns (CTs). As per the Census of India, a CT has urban characteristics though not statutorily notified and administered as a town. Such CTs have the influence of the urban functions.

Preparation of base maps for villages located in the vicinity of CTs

Preparation of spatial maps such as base maps and land use maps for such contiguous areas / peri-urban or urban villages enables in understanding the extent of urban functions on the villages. Hence, as per the Survey of Villages and Mapping with Improved Technology in Village Areas (SVAMITVA) 2020 guidelines, Large Scale Mapping (LSM) at appropriate scale (starting from 1:500 onwards) through drone surveying of Gram Panchayat and village community assets / infrastructure such as the village roads, ponds, open spaces, school, anganwadi, 898 health sub-centres, etc., shall be taken up and base maps shall be prepared (GoI, 2020a).

Preparation of spatial database for GPSDP

Further through household or socio-economic surveys, spatial database shall be created for all 903 the CTs and the villages located in the vicinity of the CTs. Such maps integrated with the socio-economic data would be helpful for various works undertaken by the Gram Panchayat and other government departments. These maps shall be prepared for the purpose of

the Gram Panchayat Spatial Development Plan (GPSDP). The digital spatial data or maps shall be leveraged through 'Gram Manchitra' for the preparation of the GPSDP. The indicative timeline for the preparation of the base maps and other related maps may be as per the implementation process flow under the SVAMITVA Scheme (**See Appendix-3.1**).

Preparation of land-use maps

Based on the influence of the urban functions on the rural areas, any re-delineation of the urban areas should consider inclusion of the adjoining CTs or the rural areas. Spatial maps such as land-use maps showing various land-use activities shall be prepared as a part of the GPSDP, for all the villages or the cluster of villages through baseline studies outlining the key requirements and interventions as per the Integrated Cluster Action Plan (ICAP) of the National Rurban Mission (NRuM). Also it shall be ensured that the land-use maps thus prepared shall consider the location of the villages located adjoining the proximate CTs or non-proximate CTs. The details of the proximate and non-proximate CTs as per the Census of India 2011 are provided in the Table 3.2 below. Land-use maps to appropriate scale ranging from 1:500 to 1:25000 (depending on the extent of the area) shall be prepared showing the influence of urban functions on the villages. The maps shall include the following details:

- Spatial distribution mapping of villages or cluster of villages showing the functional in-fluence of the proximate CTs
- Preparation of maps for villages which are contiguous to census towns along with the land-use details.

Table 3.2: Classification of Census Towns as per the Census of India, 2011

S.No.	CTs	Share of CTs (%)	Share of the population of CTs (%)
1	Proximate CTs	51.7	59.8
2	Peripheral CTs	28.8	35.7
3	Interstitial CTs	2.3	6
4	Non-Peripheral CTs	20.7	18.1
5	Non-Proximate CTs	48.3	40.2
6	Clustered CTs	31.7	27.7
7	Isolated CTs	16.6	12.6

Source: "Census Towns in India": Roy, SN and Pradhan KC, 2018

3.2.4 Villages in the Interior / Inaccessible/ Rural areas in Backward districts

The rural areas which are purely depended on agriculture and allied activities or fishing and 935 mining & quarrying activities should have spatial plans which are having potential to develop such activities and mentions the basic requirements for betterment of quality of life of individual, to mitigate the outward migration to urban areas. The villages with such socio-economic characteristics are defined as pure rural areas isolated from the urban centers with specialized activities as per the geographic suitability of the area/region. The basis of qualifying to such categorization for village shall be:

- More than 75% of population depended on primary activity
- Isolation from urban areas in terms of distance and accessibility.

Since the physiographical conditions of the region holds significance in such classifications, the villages with small population size, with geographical contiguity can also be considered as a Cluster of villages, which would address integrated economic and spatial development in the villages.

The Figure 3.1 shows the villages along the metropolitan areas, corridor and those which are

in interior and inaccessible. These villages will have different characteristics and would require different level and types of spatial plans to address their development.

Interior / Inaccessible / rural areas in the backward districts

In India, list of backward areas have been notified in each of the states. Therefore, it is important to consider the rural areas in these notified backward areas for planning and development. Spatial planning for the villages remotely located in the notified backward districts is vital. The village clusters in the rural areas are to be considered for vulnerability assessment depending upon the geographic, environmental or other related vulnerabilities.

- Spatial planning of the village enables the identification of problems and concerns associated to their backwardness and thus to address them.
- Preparation of land-use plan for villages located in the inaccessible and in the notified backward districts is particularly important because of the peculiar nature of the environment such as difficult terrain, eco-sensitive environment, etc.
- Therefore, the land-use maps for such areas shall be prepared the village or

cluster level. The planning of land-use activities may also include socio-economic and sectoral approach with focus on spatial planning aspects such as village land-use and zoning.

- The preparation of land-use maps for the identified village clusters in the notified backward districts and inaccessible areas may consist of the spatial information about the connectivity, forests, terrain, geography, vegetation, agriculture, etc.
- Besides, preparation of base-map shall be taken up to appropriate scale showing the built and non-built physical features along with the road connectivity details for the villages located in the interior areas. The existing approach road should be clearly shown along with road hierarchy.
- The mapping of villages as per the SVAMITVA guidelines shall be taken up and shall consider the following:
 - o For villages that are inaccessible and are located in the remote / isolated areas and on difficult terrain, terrain mapping along with other spatial maps shall be done.
 - o Mapping of geographical remoteness, spatially showing the non-availability of well-connected road network will enable identification of the potential areas for connecting the villages with the main road networks.
 - o The spatial distribution of the villages or the identified cluster of villages located in the notified backward districts shall be mapped.

For all such villages, the base-map of the abadi areas showing the land-use activities are to be taken up at a scale ranging from 1:500 to 1:25000. The details of various features in terms of existing infrastructure and amenities shall be done.

3.2.5 Villages under PESA

These villages predominantly having tribal population are located in the scheduled areas of India, as identified by the 5th Schedule of the Constitution of India. Such villages come under the 'Panchayat (Extension to Scheduled Areas) Act, 1996. The scheduled areas are notified in the ten states of India having tribal communities. These areas were not covered either by the Panchayati Raj Act or by the 73rd Constitutional Amendment Act. However, in line with the PESA Act, the special planning considerations such villages may be made. This is because, such villages have a history of suffering due to modern development processes. Therefore, there is a need for positive development and spatial planning for tribal villages in the notified scheduled areas. The National Rurban Mission of India already has provisions for clearly identifying such tribal clusters based on a set of parameters. The villages under PESA are relatively more vulnerable than the villages in the other areas due to the loss of access to forests and other community resources. Rampant land acquisition and displacement of the tribal population have increased the vulnerability of these villages. Therefore there is a need for spatial planning of these villages to prioritize the development. To reduce the vulnerability of such villages, spatial maps for the adjoining areas such as forest, water bodies, hilly terrain, etc. will be useful. These spatial maps of the villages shall consist of the following details:

- Tribal communities in the scheduled areas
- The land-use maps prepared for such areas should consider population projection and other demographic details particularly concerning the tribal population. Also such land-use plans shall also consider the socio-economic and environmental related information.
- Land-use map showing the details of the different land-use activities of the village

such as residential area, open spaces, village common areas, irrigation and agricultural areas, forest, location of community resources, etc.

3.2.6 Villages adjacent to Expressways/ NH/ SH-Corridor influence

“Economic Corridors” connect economic region along a defined geography. They do not stand alone, as their role in regional economic development can be comprehended only in terms of the network effects that they induce (Asian Development Bank, 2013). The impact on the cities and the villages lying adjacent to the economic corridors, have tremendous influence on the cities/towns as well as villages, in terms of land prices foremost. The location of village settlement shall have a minimum of 15 meter approach road from the Expressways / National Highway/ State Highway /Major District Road / Other District Road / any other road area network/sector roads.

Surge in Land prices is the indirect impact arising from the anticipated land-use arising in the future. The economic activity in the villages adjoining an economic corridor is diversified as well. The anticipated industrial and economic growth along the corridor gives opportunities to the adjacent urban and rural areas to participate in the economic development. The transformation of villages is initiated with the future anticipated economic growth. The case study of Delhi Mumbai Industrial Corridor (DMIC) and the villages falling adjacent to this corridor can be taken as interesting exemplar to establish the changes which have been taken in the villages. DMIC will cover the development of 1540 km long Western Dedicated Freight Corridor with 24 nodes or investment regions/industrial areas, across seven states.

The villages near to industrial areas have their interdependency with the industry in terms of provision of employment and provision of raw materials. The industrial development, in turns leads to income generation for the labour. Therefore, the villages near industrial cities have

peculiar characteristics regarding work culture and economic activities in the villages. The industrial city will act as a pull factor for labour to migrate from rural areas of backward districts which will further lead to urbanization and economic development of the city. If planned well, the villages near these urban centers may experience huge amount of trickle-down effect rather than only experiencing backwash effect and acting as a provider for the cities.

Villages near industrial city should have following criteria:

- Direct connectivity to the industrial region
- People commuting from the village to the city for daily work in industry.
- Atleast more than 50% of village population depended on industry in the city, either through employment or by provision of raw material.

Villages near investment regions tend to fall in the category of fast transforming villages, which is because of new land use activities coming in near future. Specialized investment in the region leads to differential characterization and degree of development in the villages, which requires spatial plans for planned development in the region.

Apart from the corridor development, a city with active tourism opportunities provides employment opportunities to local population and people residing in nearby villages. The employment generation in the villages due to tourism activities in the city has to be highly recognized. Moreover, the villages can also serve as a centre for village tourism and can generate its own income. The provision for services/ infrastructure has to be given accordingly. A village development plan has to address the spatial development in accordance with the economic activities present.

- Any village depended on tourist city centre shall have following basis:

- At least more than 50% of population engaged in tertiary activities based on tourism in the city.
- People commuting from village to city for daily work.
- Villages being on the way of the existing tourism circuit, if any.

3.2.7 Agro-climatic zones

Considering the agro-climatic regions while preparing the spatial plans for the villages is of utmost importance. These considerations shall be made depending on the location of villages in each of the 15 agro-climatic regions/ zones of India. These zones include the following regions: Western Himalayan, Eastern Himalayan, Lower Gangetic plain, Middle Gangetic plain, Upper Gangetic plain, Trans Gangetic plain, Eastern plateau and hills, Central plateau and hills, Western plateau and hills, Southern plateau and hills, East coast plains and hills, West coast plains and ghat, Gujarat plains and hills, Western dry, and Island region. More details of these regions are given in the Important Documents given in the MoPR web site. The agro-climatic zones are based on the major climates suitable for cultivation of certain crops. Therefore, the spatial planning shall consider the natural resources and environment depending upon the zone. The key considerations of such spatial planning approaches shall include the physiography, terrain, soil types, water availability, temperature, rainfall, etc., as they have a direct impact on the type of crop and vegetation. Therefore, the spatial planning approach and preparation of maps to appropriate scale shall be taken up on the basis of the agro-climatic regions. The following details shall be covered:

- Base-maps of the villages located in the agro-climatic zones showing the physical features, location, extent, physiography such as the topographic features, elevations, contours, etc.
- The base-map of the villages showing the land cover details such as the abadi area, village roads, water bodies, plantation, farmland, landscape, soil environment, morphology, etc.
- The land-use details of the abadi area showing the residential, agricultural, forestry, irrigation, storage, etc.
- The spatial mapping of the cropping patterns, etc.

The standard mapping scale of such maps may vary depending on the area ranging from 1:500 to 1:25000.

3.2.8 Villages located in the Vulnerable Disaster Prone Areas

The villages located in the eco-sensitive zones (ESZ) such as the hilly areas, in and around the protected areas or around the national parks, wild life sanctuaries, etc. The land-use plans shall be prepared for the villages falling within or in close proximity to the ESZ categories as identified in the guidelines for declaration of the ESZ provided by the Ministry of Environment, Forest and Climate Change. These guidelines provide the framework to states/UTs to develop specific buffer zones around National Parks, Wildlife Sanctuaries, Sanctuaries, important migratory corridors, etc. with a view of minimizing and preferably eliminating any negative impact on protected areas and sanctuaries.

Spatial planning approach to the ESZ earmarked areas such as the protective and eco-sensitive areas and termed as E-Zones (as per URDPFI guidelines) is very important. The land-use planning of the villages falling within or located in close proximity to the buffer of the protected zones shall be taken up. This will not only help in spatially mapping of various land-use activities but also will enable to identify the villages which are located in the hazardous or environmentally sensitive areas. Further, these villages may be sub-classified as per the ESZ as identified in the guidelines as follows:

- Villages in an around the special recreation zone/ protective areas such as sanctuaries/ reserve forests
- Villages located in the forest zone
- Villages located in the coastal areas as per the Coastal Regulation Zone
- Villages located in the undevelopable use zone
- Villages located in the undevelopable use zone such as earthquake/ landslide prone, cliffs and environmentally hazardous area, areas adjacent to fault lines, areas with slope

3.2.9 Major River Drainage Basins

Villages located in the environmentally hazardous areas such as along the major rivers and drainage basins are vulnerable are majorly prone to health hazards. In of this, mapping of such villages will help in identifying hazardous / unauthorized areas and also will be helpful in assessing the health impacts of drains on the nearby villages. The mapping of villages in the catchment area is important for addressing related concerns of the villages. The base-map scale may depend on the area to be mapped and may in general vary from 1:1000 to 1:25000. The mapping of villages located in such areas shall consist of the following details:

- Boundaries - Basin, sub-basin, village
- Settlement – abadi area, land-use details, village roads, etc.
- Terrain - upslope and downslope
- Water bodies – rivers, streams, tanks
- Drainage - surface water runoff, snow melt

3.2.10 Villages located in the Hilly areas

There has been an increase in the population residing in the hill areas. This is no different in the case of the rural areas or the villages or hamlets located in the mountain ranges and hill areas of India. Due to such increasing population pressure in the hill areas, there is a need to

preserve their fragile ecology. Hill Areas Development Programme (HADP)/Western Ghats Development Programme (WGDP) which have been in operation from the Fifth Five Year Plan in designated hill areas by the Central Government through Special Central Assistance allocation to these areas. Villages located particularly in the hill areas have rich resources and hence their potential can be tapped without causing harm to the fragile ecological areas. Base-map to appropriate scale shall be prepared for the villages located in the designated hilly areas showing the terrain, slope, details of forestry, infrastructure facilities, cropping patterns, roads, footpaths, horticulture farms, etc. Hill areas under HADP were designated 1965, while areas under WGDP were designated in 1972 (Gol, 2008). The following are the designated hill areas:

- a) Two hill districts of Assam-North Cachar and Karbi Anglong.
- b) Eight hill districts of Uttar Pradesh–Dehradun, Pauri Garhwal, Tehri Garhwal, Chamoli, Uttar Kashi, Nainital, Almora and Pithoragarh
- c) Major part of Darjeeling District of West Bengal.
- d) Nilgiris District of Tamil Nadu.
- e) One hundred and thirty-two talukas of WGDP comprising of Western Ghats in Maharashtra (51 talukas), Karnataka (28 talukas) Tamil Nadu (23 talukas), Kerala (27 talukas) and Goa (3 talukas).

For the benefit of the people residing in the villages of the hilly areas, there is a need to preserve the fragile ecology so as to reduce the detrimental impact of unsustainable use of resources of the hills particularly land and forests. Also, there is a need to reverse the process of intensification of resource use to reduce the unsustainable use of local resources. The following need to be considered for the sustainability of villages located in the hill areas:

- Increasing the level of the water table, preservation of forest area
 - Increasing the cultivable and irrigated area
 - Water conservation
 - Increasing health care facilities
- The need for giving special attention to hill areas/WGDP areas
- How these categories of villages at panchayat level in the spatial development plan and what are the various aspects to be considered are given in the next chapter IV.

GRAM PANCHAYAT SPATIAL DEVELOPMENT PLAN

4.1.0 Introduction

The Constitution (73th Amendment) Act, 1992 provided the constitutional status and empowered the Gram Panchayats to perform functions and powers entrusted to it by the State Legislatures. The Gram Panchayats are entrusted with the responsibility of preparing the plans for economic development and social justice on 29 subjects listed in the Eleventh Schedule. Further, the Gram Panchayats have been mandated to prepare the development plans. Due to unplanned development, villages are sprouting near the urban centres giving rise to unauthorised development. The spontaneous growth of rural settlements needs to be tackled through regularization and retrofitting into planned development. This is also important because of the interdependency between the villages and the metro cities/ urban centres. In this context, there is a need for spatial planning of these fast transforming villages for planning of various activities towards achieving the sustainability of the villages. Therefore there is a need for undertaking master planning exercise for such villages (GoI, 2020b). In line with such mandate, the Gram Panchayat Spatial Development Plans (GPSDP) shall be prepared. The GPSDP shall focus on spatial planning and development through the preparation of necessary maps such as the base maps, land use maps, etc. Such plans shall address the local development issues, problems, needs and priorities and shall provide spatial solutions for better resource allocation, infrastructure and management. Spatial planning shall be taken up for the planned development and regulation of the growth of the rural areas for a sustainable development. Such plans shall be prepared in complementary to the adjacent urban areas. At the same time, such planning has a direct impact

on the use of land. Hence there is a need to coordinate and integrate plans at various levels within the desirable spatial framework.

4.1.1 Vision and Plan period

The GPSDP provides a vision for the spatial development of the villages usually for a plan period of five years. The period may be from 5 to 10 years for the vision plan or 10 years with phasing for 5th year and 10th year. Besides the spatial development, the GPSDP shall also parallelly consider the development of socio-economic and environmental aspects. The focus would be on planning the land-use activities for the envisaged plan period. However, such plan period may vary according to the needs and priorities of the villages depending on various development issues and other related considerations. Planning exercise at Gram Panchayat level is complex because of the socio-economic hindrances which exist at the rural level. The GPSDP should follow an overall common vision for the district. Because, plans prepared at these levels must be compiled at higher administrative units. Use of cadastral maps at village area planning level is important and the revenue department which is custodian of cadastral maps has to play the critical role in providing, reliable and authentic land data base.

4.1.2 Institutional structure for plan preparation

With the enforcement of respective amended town and country planning acts, the state governments would thereby be empowered to prepare GPSDP. However, the responsibility of preparing and implementing it may be entrusted to the Gram Panchayats. The Gram Panchayats would be adequately activated to prepare the GPSDP for the envisaged plan period. This will also enable the Gram Panchayats to establish

their identity as the local government. The GPSDP shall be prepared through a participatory process involving all concerned stakeholders. The plan shall consider various issues for sectoral development for optimum utilization of re- sources in the larger interest of the habitants of the rural areas.

Lower literacy levels in rural areas can be a hindrance to the planning process or can result in faulty planning or social-economic bias. The State governments can provide technical assistance/knowhow to village Panchayats. States can have a better Planning functioning reciprocated by healthy indicators on basic parameters at grass root level, such as : Literacy, Women's participation in decision making, women empowerment, Handling of development funds as in past records, Transparency in funds handling, Inclusion of vulnerable groups and youth in decision making. Therefore, the contents of the plan shall be accordingly included in the GPSDP to address the overall development of the villages.

4.2 Plan Hierarchy

The hierarchy of plans shall be at three levels i.e., micro, meso and macro levels concerning the village development. The GPSDP shall prepare the perspective plans for long term vision and develop its area in a sustainable manner. The plans shall be prepared at three levels. The micro level plan shall be for the inhabited (abadi) area, the meso level plan shall be for the village/ gram panchayat level and the macro plan shall be for the village cluster level and the tehsil/ block level. It shall be ensured that there is a horizontal and vertical integration of such plans. Horizontal integration refers to the sectoral integration while the vertical integration refers to the integration of plans at these three levels. It needs to be ensured that these plans are within the framework of any plans such the Indicative Land-use Plans at the tehsil/ block level and the district plans. The spatial plans thus prepared shall complement each other and shall meet the

overall vision as envisaged for the spatial development of the village for the specified plan period.

4.2.1 Plan for the Abadi area (Habitation area)

The GPSDP shall give special focus for the development of the abadi area of the village. Abadi area indicates the area within the village boundary used for habitation purpose. Usually, the abadi areas include the use of any land or building or part thereof for human habitation and such other uses incidental to residential uses. Presently, there is no system of preparing the land-use plan for the abadi area. However under SVAMITVA scheme, there is a provision for large scale mapping (LSM) of the abadi areas through the drone survey technology. Most of the attention has always been on the landcover of the villages rather than on the land-use. However, contrary to this the GPSDP shall consider the preparation of the land-use plans for the village, particularly for the abadi area. This plan in other terms is a master plan for the villages or the cluster of villages.

- The different land-uses under the builtup category of the abadi area may primarily consist of the mixed land-use along with other land-uses such as residential, commercial/economic/ convenient shopping, industry, educational, health services, utilities and services, special area, recreational, transportation & communication, etc.
- Besides the different land-uses under the non-built-up category may include the area under the non-agricultural use, barren and unculturable use, permanent pasture and other grazing land, land under miscellaneous tree crops, culturable waste land, fallow land other than current fallows, current fallows, net sown area. The details of the land-use are provided in the table 5.1.
- The mapping of such land-use activities need to be undertaken and a

comprehensive land-use is required to be prepared for the abadi areas.

- The maps thus prepared for a large scale ranging from 1:5000 to 1:50000 and above depending upon whether it is for abadi area, village boundary area, cluster villages and block level.

4.2.2 Plan for the Gram Panchayat Area

As per the Constitution (73th Amendment) Act, 1992, Gram Panchayats are basic governing units at the lowest level of the Panchayati Raj institutions in India. Gram panchayats is a democratic structure at the grass-roots level. The Gram panchayat area is a village area under the gram panchayat. The panchayat area consists of the abadi area, agricultural, vegetation, forest, hill, barren land, etc., falling within the village boundary. The GPSDP may also consider the relevant details from the 'Guidelines for the preparation of Gram Panchayat Development Plan (GPDP) 2018'. The following shall be considered while preparing the plan for the Gram Panchayat area:

- The land-use plan prepared for the abadi area including various land-use activities.
- The spatial planning and development for the village wards. The ward level development shall include addressing of various vulnerabilities and providing spatial solutions. These may include the spatial provisions required for the allocation of infra-structure such as basic services, health, sanitation, educational institutional, etc.
- The area around the abadi area but falling within the village boundary usually consisting of the agricultural land, space for irrigation and storage facilities, etc.
- The cadastral boundaries shall be considered for the preparation of spatial maps showing the details wet agricultural, dry agricultural, barren lands, vacants lands, etc.
- The connectivity details such as approach road to villages and the village roads.
- The details of various natural features such as water bodies, hills, forest area, natural terrain, etc.
- The maps thus prepared for a large scale ranging from 1:5000 to 1:50000 and above depending upon whether it is for abadi area, village boundary area, cluster villages and block level.
- The maps thus prepared for the Gram Panchayat area are relatively in small scales as when compared to the maps prepared for the Abadi area.

4.2.3 Plan for the Cluster and its linkages

As per the National Rurban Mission (NRuM) 2015, the clusters of villages would follow administrative convergence units of Gram Panchayats and shall be within a single block/tehsil for administrative convenience. The Integrated Cluster Action Plan (ICAP) shall be a key document covering baseline studies outlining the requirements of the cluster and the key interventions needed to address these needs and to leverage its potential.

- The GPSDP shall consider the preparation of macro level plans for the cluster development. The clusters may be considered as per the NRuM.
- These clusters may consist of a number of villages, as identified under the NRuM for spatial planning and development.
- The linkages and connectivity from the cluster level to the village level road network shall be considered. These roads shall be integrated in a planned hierarchical manner.
- The spatial planning at the cluster level shall make adequate provisions for the required common infrastructure facilities such as health care, community halls,

religious gathering places, educational institutions, etc.

- The spatial plan for cluster development shall relevant aspects from the ICAP.
- The spatial maps may consist of the base-maps, land-use maps, landcover maps, network, infrastructure maps, and other relevant maps.
- The maps thus prepared for a large scale ranging from 1:5000 to 1:30000 and above depending upon whether it is for abadi area, village boundary area, cluster villages and block level.
- The maps thus prepared are relatively in small scales as when compared to the maps prepared for the Gram Panchayat area or the Abadi area.

4.2.4 Indicative Land-use Plans (ILUP) at the Tehsil level

The ILUPs are being prepared in the states like Andhra Pradesh and Telangana since 1985 (AP, 1985). These plans are usually prepared at the Tehsil level (referred to as Mandals in the States of Andhra Pradesh and Telangana) by the Directorate of Town and Country Planning of the State. ILUPs at the tehsil level are prepared to draw attention to inappropriate uses of land. ILUPs enable to highlight various environmental related problems due to continuation with the existing land-uses. Such plans will also be helpful assess potentials for more intensive use of land. The following process of ILUP preparation shall be considered:

- Preparation of base-map showing various important land features such as contours, administrative boundaries, settlements, hilly areas, forest areas, agriculture land, water bodies, vegetation/green areas, etc. The base-map may be prepared based on the satellite imagery, land-use landcover maps or physical survey or digital survey, etc., as appropriate depending on the data availability and the extent of area under consideration.
- The slope of the land is one of the main considerations for the preparation of ILUPs. Usually for the lands having a slope upto 30%, the existing land-use is permitted to be continued. This is done with appropriate management to maintain the existing land cover. Similarly for land with a slope upto 40%, cultivation of seasonal crops are recommended. For lands having slope from 30%-60%, conservation measures are adopted. Further, forestry is recommended for lands having a slope of more than 60%. In such areas, trees crops may also be permitted if strict conservation is assured (AP, 1985). Classification of land according to the land-use intensity.
- ILUP shall cover the details of the existing land use, landcover, built areas such as settlements/settlement clusters, structural conditions, road network, details of public and semi-public buildings, agricultural lands etc.,
- Comprehensive details such as demographic, socio-economic, infrastructure and environmental shall be collected from primary and secondary sources for the preparation of ILUPs. For the collection of primary data, required details surveys shall be conducted.
- Data thus collected shall be analyzed and necessary projections for the envisaged plan period (usually 5-10 years) are made.
- Based on the analysis the proposed Indicative Land Use Plan is prepared and approved by the DTCP.
- The ILUPs are sent to the District Collector, Tahsildar and to the Gram Panchayat for implementation.

Source: Based on the Andhra Pradesh. G.O.Ms.No.569 Revenue (Mandal) Department Dt.22-05-1985 Integrated Land-use Plan.

4.3 Approach, Techniques and Methodology

4.3.1 Approach - Focus on Spatial planning and use of Citizen Sciences

Innovative approach integrating the spatial planning with the use of the concept of Citizen Sciences shall be considered. The spatial planning for the villages is the need of the hour particularly for the villages located in close proximity to the urban centres.

- Such planning shall be taken up for curtailing the rapid unplanned development in the villages or the rural areas in general.
- In order to address the unplanned, spontaneous growth and unauthorised development, spatial plans shall be prepared for importance for making a sustainable environment in the villages.
- The spatial planning approach holds importance for the for orderly disposition of land resource, which in turn contributes to the ease of living.
- The spatial planning shall be integrated with the citizen science for more effective planning.
- Such spatial planning integrated with the citizen science shall utilize the volunteer 'citizen scientists' for the purposes of research design, data collection, data analysis and dissemination.

4.3.2 Techniques- latest mapping techniques

The latest mapping techniques shall be considered. These techniques include the geospatial techniques for the preparation of various maps. Besides, digital surveying techniques such as the drone survey technology as per the SVAMITVA scheme. This scheme aims to provide an integrated property validation solution for rural India. Under this scheme, the rural abadi areas are demarcated using the

drone surveying technology. Using the latest geospatial and surveying technologies, the following maps shall be prepared based on the need basis:

- Base-map - Preparation of the base-map particularly for the abadi area usually to a scale of 1:500 based on the high-resolution satellite imagery or through digital surveying as per the guidelines of the SVAMITVA 2020. Through the drone surveying, the roof prints of the buildings in the abadi areas can be mapped.
- Land-use map - Land use planning to improve the management and delivery of the services, different and innovative approaches and systems/tools are required to solve the urgent problems facing the rural areas
- Cadastral map -Cadastral maps with survey boundaries will help in knowing the ownership status of the land. Also the dry and wet agricultural survey boundary wise can be prepared based on the village documents. Such maps shall to be periodically updated.
- Property mapping - The mapping of the buildings in the villages along with the details house numbering rationalization. Such maps will be helpful for a variety of purposes such as property ownership, address proof, revenue collection, bill payments, etc.
- Utility and infrastructure mapping - Maps showing the location of various utility and infrastructural facilities
- Terrain maps - Terrain mapping showing the slope particularly for hilly watershed/terrain
- Surveying and mapping - Preparation of base-map, land-use map, property map, utility map, etc., based on the digital survey and mapping techniques as prescribed

under SVAMITVA scheme.

- Preparation of village map along with its boundaries and the relevant census information containing ecological and socioeconomic dimensions.
- Preparation of maps to the appropriate scale of 1:500 to 1:25,000 depending on the extent of the villages or village clusters.

4.3.3 Data science and its application for primary surveys / mapping

Baseline household surveys shall be conducted for collection of the demographic and socioeconomic data in the prescribed survey formats or the questionnaires. The survey formats as prescribed by the Unnat Bharat Abhiyan (UBA) may be considered. These survey questionnaire formats of the UBA are at two levels i.e., at the village level and the household level. Besides these formats, specific formats may also be prepared and used based on the requirements of the GPSDP.

- The village survey form consists of the basic information of the village, village infrastructure and basic amenities, village connectivity (roads), land forest and horticultural profile, common village electricity requirements, etc.
- The baseline survey format consists of the general household information, family member information, information of the government schemes, source of water, source of electricity and power, landholding information, agricultural inputs, agricultural produce in a normal year, livestock numbers, major problems in villages, if any.

4.3.4 Data collection through secondary sources of information

Data shall be collected from various government and other related organisations.

- Toposheets - Relevant maps from the Survey of India such as toposheets of

appropriate scales for preparing the base-maps shall be procured.

- Land-use related information - Required information and data from the directorate of town and country planning organisations shall be collected.
- Satellite data / Imagery - Based on the satellite imagery. CARTOSAT for base-map preparation, Landcover based on the LISS III and LISS IV.
- Population data - Thematic mapping on available Census data
- Spatial Data Infrastructures for Rural Development at District/Sub-District Level
- Village Level SDIs for Rural Development - Village wise digital database on census data, on both biophysical and social and economic dimensions from NIC District Centers in different database formats.
- Non-spatial Census database for the respective gram panchayats / villages

4.4 Plan Preparation

Contents of the Plan

The Gram Panchayat Spatial Development Plan (GPSDP) shall be prepared in accordance with the RADPFI guidelines. Therefore, the contents of the GPSDP are discussed in the chapter to guide the Panchayats in the direction of rural spatial planning.

4.4.1 Plan boundary validation and convergence

The plan boundary shall be either the gram panchayat area or the village cluster under consideration. The official village boundaries for all planning purposes shall be considered. However, in the case of the village cluster, boundaries shall be based on the convergence of various village / gram panchayat areas as per the NRuM.

4.4.2 Land records and digital mapping

- Mapping information relating to the status of land ownership (individual, corporate, custom, and reserve). The cadastral maps of the villages may be procured from the revenue department.
- Preparation of village maps through digitization based on data obtained from the local government agencies.
- Census data in digital format from the District NIC, Survey of India (SOI) topographical map (1:250,000 and 1:50,000 scale) and the District Census Hand Book
- The digital maps prepared using the geospatial techniques shall be integrated with the attribute information and consisting of the assigned unique ids in a regular sequence.
- Taluka map with village boundaries shall be prepared with in-built table having aerial extent, village-ids, etc.

4.4.3 Analysis of Existing Scenario

I. Regional setting

The following locational attributes shall be considered in planning exercise:

- a) Location of the panchayat in absolute terms of latitude and longitude; also distance and direction from other established points;
- b) Nodal significance of the village/panchayat in the national or regional infrastructure of transport and communication, power, and in an agricultural area, irrigation network, agricultural extension services, agricultural produce collection and distribution centre, agro-industries linked to local markets;
- c) Status that the panchayat/village occupied in the rural hierarchy involved;
- d) Role and status of the village/panchayat in

the rural delivery systems of social services;

- e) Relative significance of locations of village/panchayat in proximity to a metropolis/megapolis:
 - i. Nodal significance
 - ii. Presence of high productive economic activities
 - iii. Presence of large-scale market

The following site attributes shall be studied for taking up a planning exercise:

- a) Conditions of site: low-lying, swamp, or dry land, ridge; on a riverbank or canal side. Within the Block/district-flat, sloping (in which direction), undulating-gentle slope, moderate slope, steep slope.
- b) Value and importance of the site; and its historical past, that is, when the nucleus was established.
- c) Analyze the factors responsible for determining the site:
 - i. In alluvial plains
 - ii. In hilly and mountainous regions
 - iii. In arid regions
 - iv. In the areas of territorial ruler ship
 - v. In the areas around some localized physical resources, mining settlements, manufacturing
 - vi. towns, resort towns
 - vii. Around large metropolises
- d) Climate and its influence on daily life, on building the homes, the range of crops a panchayat can produce; and how the panchayat/rural activities have modified the natural climate, particularly in the built-up area.
- e) Nearness/proximity to the core or urban centre.

II. Human Resource

- a) Shall include the analysis of population characteristics.
- b) The chapter should include the size, territorial distribution, and composition of population, changes therein, and the components of such changes.
- c) The important data such as migration, population growth, population distribution, age sex population distribution, sex ratio, households characteristics shall be included in the chapter.
- d) Skill assessment data under skill development programme.
- e) Ward level data (Now few villages also have wards)
- f) SECC (Socio economic Caste census) data, provides village wise caste and socio economic data.

III. Land Use and Land Management (Village level)

Land use planning of rural areas shall be in accordance with the categorisation mentioned in the chapter 5th. The chapter shall give information regarding the activities carried out in the abadi and agricultural area of the villages. It will also give information regarding existing services, living conditions and available land resource for further development of various activities. The rural area often has mixed land use in abadi area, and the clear cut demarcation is not possible, therefore principle of zonation may not be applied in various villages, especially small villages in the interior. The Gram Panchayat is liable to modify the land use zones given in table 5.1 accordingly and formulate the land use plan. It is the onus of Gram Panchayat to restrict and prohibit activities which pollute the land, water and air resources in the local area, in the proposal.

The land management in the rural areas shall

discuss the availability of land as a resource for raising revenue or for infrastructural development. It shall restrict the unplanned development near the metropolitan areas which often arises in the extended abadi areas of the villages.

IV. Economic Base: Primary, Secondary, Tertiary (if any)

The economic base of the village is largely primary. However, a village may depend on other activities as well depending on its connectivity, infrastructure, socio-economic status and regional setting. This chapter shall include the details of each economic activities in the villages, especially the one on which the village depends.

In case of primary activities the details such as workforce, employment, productivity, cost incurred, market activities, government assistance, landholding size, landholding ownership, techniques used in production, Net sown area, Gross sown area, irrigation details, storage information shall be given. The details can be referred in Chapter 5.

V. Infrastructure: Social, Physical and Economic.

The plan shall analyse the available infrastructure in the villages and the population and area served by the existing services. The analysis carried in the chapter aims to bring out the requirements of infrastructural services and basic amenities in rural are- as.

- a) Physical- Deals with housing (Census data), Roads, Drainage,
- b) Social - Deals with Health, Education and Community Centres
- c) Economic- Deals with Milk collection centre, Godowns, Market Yards, Wholesale (Location and site)

VI. Disaster and Climate Resilience

The rural areas are the ecological backbone of a region and hence shall be given special attention

to conserve the environmental resources. This chapter shall discuss the vulnerability of rural areas to various disasters. Hazards in the rural areas turns into a disaster easily, since these areas are given no attention and hence GPSDP shall dedicate a chapter to the issue stating the possible solution to the proneness of the villages to any hazard such as floods, fire, drought, earthquake etc. and suggest both pre and post disaster mitigation measures. The traditional methods and techniques to conserve the resources which are environment friendly shall also be included in the chapter. The building typology and the agricultural activities affecting environment can be discussed along with the waste disposal and solid waste management issues and solution to build a climate resilient village.

The above mentioned aspects are area specific, however, synchronisation with the District Disaster Plan should be carried out in the Proposals and copy shall be forwarded to District office. The integration of Disaster Plan with the District Disaster Plan should be followed in the GPSDP and government agencies shall ensure the same.

VII. Resources and Potential

The villages or panchayats have Common Property Resources which belongs to the Panchayat, the GPSDP should mention the location and extent of all such resources along with their usage and potential that they carry for the development of rural areas. The forest area, River body, Land as a resource should be mentioned as per their extent on map and in table (area, usage, population depended)

4.4.4 Fiscal Analysis

This chapter will include the options offered by the panchayat for raising its revenue from the resources owned by Panchayat.

Convergence of Central/State funded Schemes and Projects

The existing central and state rural schemes for housing, infrastructure, employment, social assistance, and rural development allocates certain budget for various sectors in rural areas, such schemes shall be acknowledged and realised while planning the rural areas, especially during the requirement of financial assistance. This chapter should mention the budget received from the existing schemes of government; and study implementation, reviewing, monitoring and effectiveness of such schemes. The transfer of funds is guided by the recommendations of the 15th Finance Commission.

Gram Panchayats shall undertake fiscal analysis and shall decide the priority of sectoral development. Depending on the available fiscal resources, funds and grants, the gram panchayat shall provide the necessary financial assistance for various projects. For example, the gram panchayat may assist for housing projects to homeless through Centrally/State Sponsored housing scheme namely, IAY and PAY as per scheme guidelines. The beneficiaries are to be selected as per the ranking based on prioritization criteria. The applicants must have included in the BPL list as per the BPL Survey. Priority shall be given to steady growth of the productive sector. It shall be ensured that particular attention is given to the sector of health, education and steady employment. Besides, emphasis shall be laid to the development of basic infrastructure in the abadi area. At the same time, the quality of service delivery mechanism (Hospitals, Anganwadis, Schools etc.) shall be taken up for improvement (Haryana, 2012).

4.4.5 Governance system

This chapter on governance may include the present institutional framework of the panchayat, its functions performed as per 73rd CAA, its existing members, their term, various departments involved in planning of the panchayat, allocation of funds and budget

preparation of panchayat.

The exercise of people's participation and decentralisation of powers and funds can be discussed in this section along with community participation in plan preparation stating the issues and potential in the existing form of governance of Panchayat.

Existing convergence and future convergence shall be discussed.

Special Needs of Gram Panchayat

This chapter shall solely include the needs of the Gram Panchayat in present and in future (for 10 years), depending on the calculated population projections, using current trends of population growth and economic activities to be induced (if any).

Conservation Areas

Tourism, activities, handicrafts and culturally important areas shall be given special emphasis on and shall be planned accordingly.

Vision of the Gram Panchayat

For instance the following are some of the vision, mentioned in the GPDPs, however, they can be varied depending on the collective aspirations of the villages.

- Open defecation-free Panchayat
- Safe drinking water available to all households of GP
- Destitute free GP
- GP where all habitations are connected through all-weather road
- Child labour-free GP
- Forced migration-free GP
- Trafficking free-GP
- 100% Anganwadi enrolment GP
- 100% school enrolment GP
- 100% child and mothers are covered through immunization GP
- Malnutrition-free GP
- Infant death-free GP

- Maternal death-free GP
- Complete NSAP coverage GP
- Home for all-GP
- Clean and green GP

4.4.6 Projections

Projected population should be guided by trends in rural population growth of panchayat, migration, economic activities induced or dispersal of economic activities.

Demographic projection

The population projection will be based upon central growth of the village (birth and death) in and out migration, active working population, mortality population above 60+, household projection, average household population, population of various communities and their location.

Economic Base and Employment

Hierarchy of commercial centres, dispersal of commercial activities, any specialised economic activities of the villages, workforce, dependency on primary activities, production, potential of any other activity.

Shelter

Housing needs and requirements according to population projected.

Transportation

Travel demand, forecast, road length, hierarchy of roads, transport terminals, mobility of population from a village to a village depending upon its economy base and projection.

Infrastructure

Infrastructure with focus on social infrastructure (health, education, recreation). Physical infrastructure in terms of roads, mobile/internet connectivity, agro services, irrigation infrastructure, water, sanitation infrastructure, economic infrastructure, agro irrigation, electricity infrastructure, banking services, cooperative/training centres, etc.

Land-use requirement

Land use requirement for various activities proposed or needed

4.4.7 Strategies and Proposal

This chapter will include the strategies and vision of Panchayat in accordance with the district vision. The proposal shall be described spatially along with the budget required and source of funding.

4.4.8 Vetting the plans - Public consultation by Gram Panchayat Committees

Plan approval and work flow - All the plans

prepared shall be vetted through organized public consultation by the gram panchayat committees / working groups involving various stakeholders. All Gram Panchayats shall constitute working groups. The working groups may be engaged in various stages of plan preparation. The vetting of plan including it, has to be done within one month after the various working groups, gram sabha. During this vetting the aligned department should also participate for their technical vetting. The following table shows stages of plan preparation, consolidation, appraisal, vetting and approval:

Table 4.1: Work and Approval of the Plans

Working Group	Prepares spatial plans and conceptualization of projects
Gram Sabha	Consolidation of all spatial plans
Gram Panchayat Sub-committees	Appraisal of all spatial plans
Line Department	Projects for technical vetting at higher level
Gram Sabha	Final spatial plan approval

After technical and financial appraisal of Gram Panchayat Sub- Committee, the Charge Officer will submit the project to the concerned line department for within one week. He/she shall be responsible for coordination among the stakeholders and shall monitor the progress as well. (Source: Haryana. 2012. Hamari Yojana-Hamara Vikas. Guidelines for GPDP).

4.4.9 Revision of plan

Plans shall be revised based on the inputs or suggestions received by the stakeholders in the consultation meetings. The plan shall be revised by incorporating necessary revisions within a stipulated period of 45 days from the date of consultation.

4.5 Plan implementation and Phasing

The phasing for the implementation of the plans after incorporating the suggestions given in the public consultation shall be taken up by the

Gram Panchayat. The phases of implementation are decided based on the available human and fiscal resources. The required resources shall be pooled in to implement such phases. Such phases shall be decided keeping in view of the practicality and achievability. It shall be ensured that the necessary measures are taken up for integrating the plan with appropriate provisions for health, sanitation and waste.

4.6 Plan monitoring and evaluation

4.6.1 Role of Gram Panchayat

For success of any plan, effective monitoring and evaluation is required to be taken up periodically, as decided by the Gram Panchayat. Various Gram Panchayat committees or concerned officers may be assigned the responsibility of periodic monitoring and evaluation. Besides, the plan monitoring and evaluation shall be done through the following:

- Situation Analysis and community participation – active community participation in the village shall be encouraged. The volunteers from the village shall be engaged in the periodic evaluation and continuous monitoring. Situation Analysis refers to collection of methods that are used to analyze internal and external environment to understand capabilities of the user group. The situation analysis constitutes detailed data gathering at the Gram Panchayat level and inferencing after analysis. Based on the people's perceptions of their requirements and based on the problems and prospects emerging out of the analysis of data, development seminars may held resulting in the identification of key areas for local development. A proper and justified method should be followed in the plan formulation. The plan has to be prepared ensuring the public participation, transparency and efficiency.
- Women volunteers – The identified women volunteers from the village shall be encouraged to participate and lead the process of plan monitoring and evaluation.
- Social justice - Involvement of representatives from various community groups. To ensure the social justice, special attention shall be given to the marginalized and all categories of people in the society who need special consideration (Haryana, 2012).

Source: Haryana. Hamari Yojana-Hamara Vikas. Guidelines for GPDP. 2012

4.6.2 Roles and responsibility mapping

The roles and responsibilities shall be decided by the Gram Panchayat for preparation, effective implantation, monitoring and evaluations of such plans.

RURAL INFRASTRUCTURE PLANNING: LAND-USE, NORMS AND STANDARDS

5.1 Introduction

The vision of RADPFI guidelines is to bring parity in terms of planned development amongst all settlements, whether rural or urban. Therefore, the need for planned development holds importance for rural settlements as well. The preparation of spatial plans shall depend on the prescription on norms and standards for the provisioning of infrastructure facilities. The chapter has attempted to prescribe norms and standards based on which proposals can be drawn. However, no guidelines have been prepared yet for dealing with spatial provision of services or management of land for rural areas.

Rurban Mission, launched by the Ministry of Rural Development addresses the need and urgency for provision of urban services to rural areas. However, if mission accomplishes, there are high chances and possibilities for land speculation leading to growing unauthorised activities in the periphery of the settlements. Thus, there is a need for regulating such activities in rural areas, and hence norms and standards are required for activities permitted in under various uses in rural areas. However, the existing conditions do not seem to be much favourable, considering the diversity of Indian villages. The RURBAN mission and the Integrated Cluster Action Programme (ICAP) aims to bring service parity in rural areas and thereby foresee planned development of cluster of villages. Therefore, it becomes imperative to have development guidelines with a pragmatic vision for rural areas where people actively participate in the process of community development. The RADPFI guidelines answers the questions:

- What are the principles while planning and designing future settlements in rural areas and upgrading existing ones?
- What are key elements of sustainability?
- What futuristic changes do we have to prepare for?
- What lessons can be learnt from past?

5.2 Norms and Standards

Norms and Standards for Infrastructure provision and construction activities are essential to promote development of amenities as well as sustainable built-up environment for human habitation. The standards for building construction and infrastructural allocations have been pre- scribed by National Building Code of Bureau of Indian Standards, Indian Road Congress etc., in various sectors of infrastructure construction and development. There have been standards and norms in existence and enforced to a certain extent by the relevant statutory authorities in urban areas but compliance to the same in rural areas is virtually non-existent. Hence the construction activities in rural areas are by and large unregulated resulting in organic growth which is characterized by haphazard development and access to basic facilities remains a big challenge in rural areas. The formulation of norms and standards has to be in congruence to a sus- tainable land utilization plan. In the upcoming scenarios of seeding and expansion of urban development or processes of urbanization in the urban regional hinterlands, a set of norms and guidelines to regulate and moderate development activity in rural areas become nevertheless important.

5.2.1 Rationalizing Norms and Standards – Department wise

Rationalization of norms and standards across various departments need to be done so as to avoid data duplication. Periodic updation of data is vital to avoid data redundancy. Effective coordination of various relevant and local departments is important for efficient service delivery. Therefore, the department wise rationalization of norms and standards for an effective rural infrastructure planning enable ease of implementation of various administrative functions. A few concerned ministries and relevant national level departments are listed below for reference; Ministry of Rural Development, Ministry of Panchayati Raj, Town & Country Planning Organisation, Ministry of Urban and Housing Affairs, Department of Drinking Water and Sanitation, Bureau of Indian Standards (NDC, IS), Indian Road Congress, Central Public Health & Environmental Engineering Organisation, Central Pollution Control Board, Ministry of Environment and Forests, Ministry of Power. However, it is important to build a good coordination system among various grassroot level departments functioning for the local rural community.

5.2.2 Land-use for Rural Areas

Land and land use are essentially State subjects. The increasing urbanisation has put tremendous pressure on the land to be put for urban uses. As per Census 2011, the total area under the cities has increased from 77,370 sq. kms. to 1,02,220.59 sq.km. in 2011 thereby signifying increase of areas under cities and towns by 32.1 percent during 2001-11. In order to prevent unwarranted conversion of rich agricultural land to urban uses, it becomes essential to prescribe land-use norms and activities permissible for the rural areas.

Proper planning of land and its resources allows














for rational and sustainable use of land catering to various needs, including social, economic, developmental and environmental needs. Proper land use planning based on sound scientific, and technical procedures, and land utilisation strategies, supported by participatory approaches empowers people to make decisions on how to appropriately allocate and utilize land and its resources comprehensively and consistently catering to the present and future demands. There is a need for scientific, aesthetic and orderly disposition of land resources, facilities and services with a view to securing the physical, economic and social efficiency, health and well-being of communities.



















The land use prescription shall form the internal component of the Spatial Development Plan. Further, how the land-uses are to be regulated within the Gram Panchayat and at the fringe of villages become crucial aspect. This is backed by the fact that rural areas also needs to ensure adequate food security and hence rich fertile land need not be converted into non-agricultural uses.



















Land-use Categories and Standards

The standards signs, symbols and colour codes used for the preparation of base-maps and land-use map shall comply with the conventional signs and symbols, and other related details with the Survey of India (Sol) and National Map Policy of India 2005 (Appendix-5.1). However, due to the non-availability of such symbology / colour codes in the Sol for specific land-uses, the following symbology adopted from the AMRUT (Atal Mission for Rejuvenation and Urban Transformation) 2016 Design & Standards shall be considered. The Table 5.1 provides break up of land-use categories along with the Standards for representation of both built up and non- built up areas in the land-use maps:

Table 5.1: Land-use for Rural Areas and Standards Colour codes

Builtup Area	Use category	Activities Permitted	Standard Symbol and Colour Code
	Residential	Residences*	
	Commercial/ Economic	Retail shopping	
		Informal Shop	
		Daily market, weekly, informal , regulated and specialized markets	
		Godowns, Storage grounds	
	Industry	Service and Light industry (MSMEs, Household industries, agrobased industries, khadi industries, cottage industry, industries depended on indigenous raw materials and art and craft.)	
		Location of SEZ and Big Industries.	
	Educational	School	
		Anganwadis	
		Training Centres	
		Vocational Institute	
		College	
		Skill development / Vocational institute	

	Health Services	Government Hospital	
		Private Clinic	
		Clinic /Dispensary	
		Subcentre/PHC/CHC	
	Utilities and Services	Bank	
		ATM	
		Credit Society	
		Police Thana/ Station	
		Cremation ground/Burial ground/Crematorium	
		Community Hall	
		Dharamshala	
		Public Toilet	
		Social Welfare Centre	
	Special Area	Temple	
		Mosque	
Church			
Chhatri			
Heritage site			

	Recreational	Playgrounds	
		Garden	
	Transportation & Communication	National Highway	
		State Highway	
		Major District Roads	
		Other District Roads	
		Village Roads	
Railways			
Bypass			
Bus stand			
Railway station			
Non-Built Up Area	Pastures		
	Barren and Unculturable use		
	Grazing land		
	Land under tree crops/ tree clad	Agricultural land/ cultivable land/ culturable land 	
	Crop land	Agricultural land/ cultivable land/ culturable land 	
	Fallow land		
	Horticulture		

**The villages often, do not have, clear cut demarcated zones, For instance, there may be a household serving as a residence and a shop and a micro scale household cottage industry, therefore, Gram Panchayat may modify the land use zones according to the local situation. However, each Gram Panchayat shall mention about the restricted/prohibited activities which pollute the air, water and land resources in the local area and should mention in the land-use plan. Also, the socio-cultural environment of the community in the village should be considered while preparing the land-use plan. For instance, the villages where tribal communities are dependent on indigenous resources the plan shall consider land-use plan accordingly.*

Table 5.2: Land-use distribution for village categories (in percentage)

Village Categories		Land-use Classification							
		Metro region area & peri-urban	Hill area ^s	Vulnerable/disaster area (villages)	Corridor villages (villages) - industrial corridors/other NH/SH/district roads	By population size**	Census town villages #	Villages in the interior villages (> 50- 100 km from a town)	
Total built up area		Range	Percentage distribution						
	Residential area	30-50 [@]	50*	30	30	40*	30-50	40*	30-35
	Mixed	10-12	12	10	10	12	10- 12	11	10
	Industrial	2 - 3	3	2	2	3	2 - 3	3	2
Village commons/ green environmental areas	NRSC Guidelines are not based upon permissible and non-permissible, however we are suggesting non-permissible areas considering their sustainable development goals which is to be achieved. As per these SDGs we have brought in under village commons which are non-permissible.								
	Water bodies	8 -10	10	10	8	10	8-10	8-10	10
	Public places								
	Water harvesting areas								
	Forest areas/sacred groves/mangroves/open access								
	Open spaces								
Infrastructure	Social Infrastructure##	3-5	5	5	5	3	3-5	5	5
	Economic Infrastructure	8-10	10	8	8	10	8-10	10	8
	Physical Infrastructure	15-20	20	15	15	20	15-20	20	15
<p><i>@Within the residential area the building byelaws and design standards have to be applied as per the state government building byelaws and</i></p>									

<i>rules</i>
<i>* In case of metropolitan region urbanisable area declared by Metropolitan Development Authority under the town planning act of the state the total residential area may go upto 55%</i>
<i>** Based on category of villages (population as per Census of India 2011) higher limits to be adopted for very large and large villages.</i>
<i>\$ based upon 2008 planning commission guidelines recommendations</i>
<i>## The norms for individual infrastructure such as education and health needs to be adapted to State government guidelines. Example: The distribution of schools, hospitals etc. to be a function of distance travelled</i>

Note: Around 1% may be assigned for agricultural waste, dairy waste and allied agricultural wastes across various typology of villages.

5.2.1 Infrastructure Standards

A) Physical Infrastructure

a) Water supply

The National Rural Drinking Water Programme envisages to provide every rural person with adequate safe water for drinking, cooking and other domestic basic needs on a sustainable basis. This basic requirement should meet minimum water quality standards and be readily and conveniently accessible at all times and in all

situations. While Implementing the Rural Water Supply Schemes, the following norms can be adopted for providing potable drinking water for the population. The minimum supply for areas with extreme conditions of access of water resource, 40 litres per capita per day can be set as the minimum. The division of purpose for the usage of water is as follows for the same: 40 litres per capita per day (lpcd) for humans to meet the following requirements.

Table 5.3: Norms for provision of water

Purpose	Quantity (lpcd)
Drinking	3
Cooking	5
Bathing	15
Washing utensils & house	7
Ablution	10

(Source: Accelerated Rural Water Supply Programme)

In addition, provision should be allowed at 30 lpcd for animals in hot and cold desert/eco systems. With normal output of 12 litres per minute, one handpump or standpost is estimated for every 250 persons. In case of an independent habitation/ hamlet/ Wadi/ Tola/ Majra/ Mohra etc, if their population is less than 250 persons and there is no potable water source within its location, one source may be provided. A rural habitation not having any safe water source with a permanently settled population of 20 households or 100 persons, whichever is more, may be taken as the unit for coverage with funds under the Accelerated Rural Water Supply Programme. However, the State

Government could cover any habitation regardless of its size/population/number of households. The above is the minimum to be provided. The recommended provision is in the range of 70-100 lpcd within walking distance of 50 metres. Individual states can adopt higher norms, supplying above 100 lpcd. A source is said to be safe if it is free from physical, chemical, bacterial and any biological contamination. It also should conform to the drinking water quality standards prescribed. The recommended standards acceptable and cause for rejection for drinking water in India by WHO and BIS is as follows:

Table 5.4: Potable water quality standards

Sl.No.	Characteristics	Acceptable	Cause for Rejection
1.	Turbidity (NTU)	1	10
2.	Colour (Units on Platinum Cobalt Scale)	5	25
3.	Taste and Odour	Unobjectionable	Objectionable
4.	PH	7.0 to 8.5	<6.5 or >9.2
5.	*Total Dissolved Solids (mg/l)	500	2000
6.	Total hardness (as CacCo3) (mg/l)	200	600
7.	Chlorides (Cl) (mg/l)	200	1000
8.	Sulphates (as So4) (mg/l)	200	400
9.	Fluorides (as F) (mg/l)	1.0	1.5
10.	Nitrates (as No3) (mg/l)	45	45
11.	Calcium (as Ca) (mg/l)	75	200
12.	Magnesium (as Mg) (mg/l)	30	150
13.	Iron (as Fe) (mg/l)	0.1	1.0
14.	Manganese (as Mn) (mg/l)	0.05	0.5
15.	Copper (as Cu) (mg/l)	0.05	1.5
16.	Arsenic (mg/l)	0.05	0.05

**For determination of habitation with salinity problem, TDS limit (cause for rejection for rural areas) is fixed at present at 1500mg/l against the recommended limit of 200 mg/l. As per the convention salinity is measured based on TDS characteristics. TDS has close corelation with salinity.*

b) Sanitation

Proper sanitation provisions is necessary for a healthy habitat. The Swacch Bharat Mission aims to establish sanitary facilities in all houses, schools, anganwadis, places of community congregation, and for Solid and Liquid Waste Management activities through awareness generation, triggering behavior change and demand segregation. Dwelling with individual conveniences shall have at least the following fitments:

- One bathroom provided with a tap,

- One water closet
- One nahani or sink raised from the floor with a tap.

Similarly, provision of public or community toilets is to be taken up in rural areas. Public toilets are meant for floating population, i.e., for people on the move and community toilets are meant for a community that resides in the area and has a common provision of convenience. The following norms for number of seats, urinals, bathrooms and area for washing may be adopted:

Table 5.5: Norms for number of seats, urinals, bathrooms and area for washing

Types of toilets	Toilet seats	Bath Units	Urinal units	Clothes washing area
Community toilets	One seat per 50 users	One unit per 50 users	One unit per 200-300 users	4 - 5 sq. metres per 10 toilet seats; min 1.5m x 1.2 m
Public toilets near railway stations (may be used at all hours)	One seat per 100 users	One unit per 70 users	One unit per 300-500 users	4 to 5 sq. metres per 30 toilet seats; Min. 1.5mx1.2m
Public toilets near market place/ offices (will mostly be used during working hours)	One seat per 100 users	One unit per 50 users	One unit per 200-300 users	4 to 5 sq. metres per 10 toilet seats; minimum 1.5m x1.2m.

(Source: BIS, Code of Basic Requirements for water Supply, Drainage and Sanitation, 1993)

c) Solid and Liquid Waste Management can be defined as: Any material/liquid that is left over after productive use or which is beyond any use in its current form and is generally discarded as unwanted; and Material linked to human activity in comparison to nature which has its own system of recycling waste such that it eventually becomes a resource: for example, organic matter such as leaves, branches, and so on, decompose to form manure. Waste can be classified in different ways:

- Based on its physical properties, waste can be categorized into solid waste (for example, garbage) and liquid waste (for example, waste water);
- Based on pattern of use, it can be classified into human waste (faeces, urine), animal waste, farm waste and industrial as well as commercial waste; and
- Based on source, waste can be categorized as municipal waste (for example, household waste, commercial waste, and demolition waste), hazardous or toxic waste (for example, radioactive waste, explosives waste and e-waste), and biomedical waste (for example, hospital waste)

Solid Waste: Any waste other than human excreta, urine and wastewater is called solid waste. Solid waste can be classified into two types: biodegradable and non-biodegradable.

Biodegradable waste is that which can be decomposed by biological processes, for example, vegetable peel, food, farm waste, and so on. Organic waste is biodegradable and can be recycled; and Non-biodegradable waste cannot be broken down by biological processes, for example, paper, glass, metal, and so on. Non-biodegradable waste can be further classified into two types: recyclable and non-recyclable

- Recyclable waste is that waste which has economic value that can be recovered, for example, metal, paper, glass, plastic bottle, and so on
- Non-recyclable waste is that waste which does not have economic value of recovery, for example, tetra packs, thermocol, etc.

Solid and Liquid Waste Management: SLWM is one of the key components of any sanitation initiative. In India especially in rural areas, waste is a severe threat to the public health concern and cleanliness. Though, the form of waste (both solid and liquid) generated in rural areas is predominantly organic and biodegradable yet is becoming a major problem to the overall sustainability of the ecological balance.

For e.g. it is estimated that rural people in India are generating liquid waste (greywater) of the order of 15,000 to 18,000 million liters and solid waste (organic/recyclable) 0.3 to 0.4 million

metric tons per day respectively (DDWS-UNICEF, 2008). Generation of solid waste in rural areas ranges between 50 gm/cap /day and 250 gm / cap / day as mentioned below:

- Rural (Peri-urban or Urban outgrowth) 150 to 250 gm / cap / day.
- Rural (Remote /Tribal) 50 to 150 gm / cap / day.

Liquid Waste: Liquid waste is water which has been used once and is no longer fit for human consumption or other uses where clean water is required. Broadly, there are two types of liquid waste or wastewater (Figure 1):

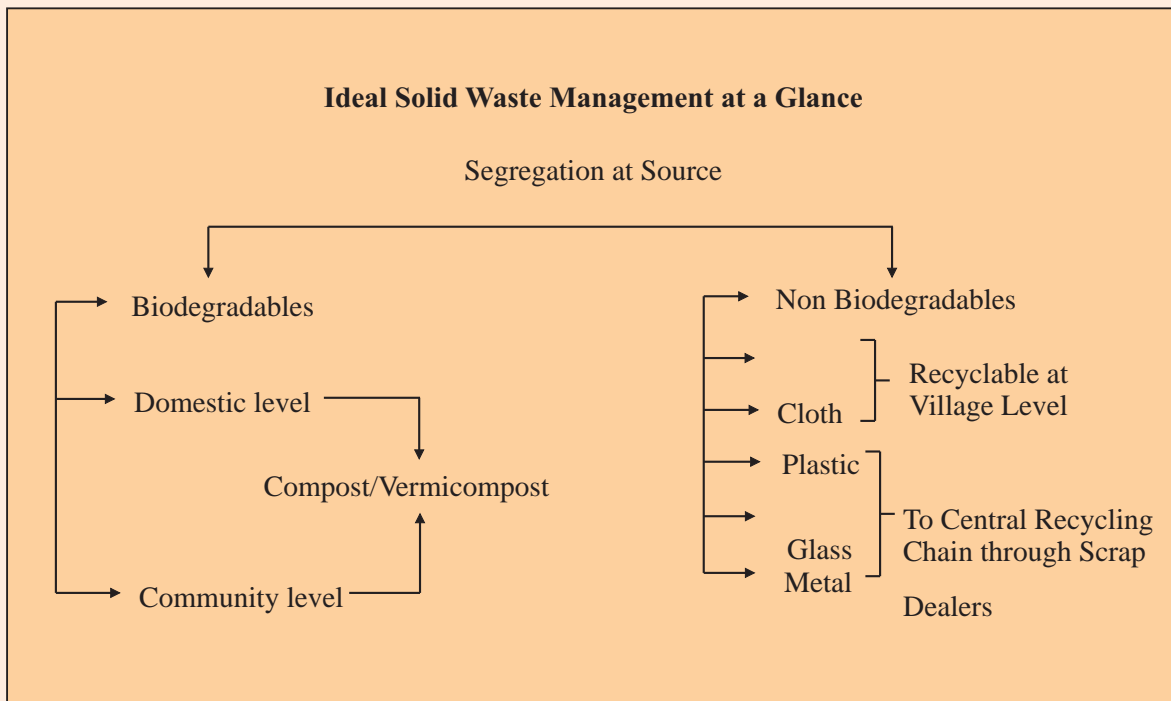
- Black water is wastewater from toilets containing fecal matter; and
- Gray water or sullage is wastewater from bathrooms or kitchens. Gray water

generally contains fewer pathogens than black water.

Solid Waste Management

Solid waste management in rural areas is often neglected although it is easier to handle and manage the process in rural settings. Several waste management techniques are available and all of them abide by the model of 4 Rs, i.e., Reduce, Reuse, recycle, recover. The waste management in rural areas can be initiated through sensitization and cooperation of people. The process of waste segregation and collection is to be encouraged for a collective disposal and treatment. Inorganic wastes can be recycled locally or can be collected to be sold off for recycling. The various ways to manage solid waste, one of them is as follows:

Figure 5.1: Various levels of SWM



(Source: Solid and Liquid Waste Management in Rural Areas- A Technical Note, UNICEF/Ministry of Rural Development, Gov. of India)

Composting: Decomposition of organic waste is a natural process. Rural waste generation is largely organic in nature and can be put to an organized method of producing compost manure.

There are following options for composting of wastes:

- Pile method of Composting
- NADEP Method
- Bangalore Method
- Indore method
- Coimbatore Method
- Vermi Composting
- Thermophilic Composting
- Biogas Technology

One hectare of composting site can handle 83.33 tonnes per day. A composting site for biodegradable waste collected in the village can be accordingly built on a site away from the habitation as well as water body, close to the agricultural fields, where the manure generated can be put to use.

1. **Biomethanation:** is a process of anaerobic decomposition which results in the production of Methane. The site requirement is less as compared to the handling capacity, i.e., 1 hectare for 125 tonnes per day.
2. **Gasification/ Pyrolysis:** It is a thermochemical decomposition of organic material at high temperatures in the absence of oxygen. The land required for a 50 tonne per day plant is 1 hectare.
3. **Incineration:** It is a waste treatment process involving combustion of organic substances. The thermal treatment of waste converts it into ash, gas and heat

which in some cases can be used to generate electricity. The land required is 1 hectare for 125 tonne per day.

4. The **non biodegradable** waste generated of some value like, paper, plastic, metal can be sold off through the central recycling chain through scrap dealers. In spite of composting, re-use and recycling, some waste remains untreated/unmanaged which requires final disposal, either by incineration or by **land filling**.

Gram Panchayat can organize themselves to construct and maintain land fill. Gram Panchayat may make use of Youth Club members/Women Self Help Groups.

Selection of Land fill Site: Gram panchayat in consultation with Zilla Parishad/Block Panchayat (as the case may be) should select the landfill site which should be:

- Located at the outskirts of the village
- Accessible
- On vacant/uncultivated land
- Located in the natural depressions with slight slopes
- Site should be such as to avoid surface water and ground water pollution.

Liquid Waste Management

Liquid Waste Management is important to complete the total sanitation system and for a better environment. The waste water can be recycled in other uses like irrigation or horticulture. The norms for the treated effluent to be released in the environment or water sources are:

Table 5.6: Sewage disposal standards

Parameters	Inland Surface water	Land for Irrigation
Suspended solids (mg/l). Max.	100	200
pH value	5.5 to 9.0	5.5 to 9.0
Oil and Grease (mg/l)., Max	10	10
Total residual Chlorine(mg/l)	1.0	-
Ammoniacal Nitrogen	50	50
Total Kjeldahl Nitrogen (mg/l)	100	-
Free Ammonia, (mg/l)	5	-
Nitrate Nitrogen (mg/l)	10	-
Biological Oxygen Demand, mg/l	10	-
Biological Oxygen Demand, Mg/l	30	100
Chemical Oxygen Demand, (mg/l)	250	-
Arsenic (As) (mg/l)	0.2	0.2
Lead (Pb), mg/l	0.1	-
Dissolved Phosphate (P) (mg/l)	5.0	-
Sulphide (S) (mg/l)	2.0	-
Phenolic Compound, (mg/l)	1.0	-

(Source: CPCB, 1986, Government of India)

Waste water collection system is necessary for any further discussion on the treatment techniques and facilities. On site decentralized treatment would need pipes connecting the source to the treatment or collecting facility. The centralized treatment system for settlements needs a layout of drains to carry grey and black water. The shallow surface drain is most suitable for carrying grey water along with storm water.

For black water mixed with grey matter (sewage), small bore/shallow sewer is the cost effective sustainable option. They are designed alongside with interceptor tanks at the sources to receive liquid portion of household waste water for offsite treatment and disposal.

Various technologies available for treatment of liquid waste generated in settlements is given in the table.

Table 5.7: Various technique of sewage treatment processes

SI No.	Recycling/ Treatment Technique	Applicability	Land Requirement (per MLD in Hectares)	Capital Cost (per MLD in INR)	O&M cost Million/year/MLD
1	Activated Sludge Process	The most widely used option for treatment of domestic wastewater for medium to large towns where land is scarce.	0.15-0.25	2-4	0.3-0.5

SI No.	Recycling/ Treatment Technique	Applicability	Land Requirement (per MLD in Hectares)	Capital Cost (per MLD in INR)	O&M cost Million/year/MLD
2	Stabilisation Pond Systems (SPS)	<ul style="list-style-type: none"> In warm conditions Easy land availability Where power supply is expensive, low or unreliable. Where social preference is for aquaculture 	0.8-2.3	1.5-4.5	0.06-0.1
3.	Duckweed Pond System	<ul style="list-style-type: none"> Low strength domestic wastewater after sedimentation of influent Biological Oxygen Demand (BOD) < 80mg/L 	2-6	1.5-4.5	0.18
4.	Root Zone Treatment System	<ul style="list-style-type: none"> Suitable for treatment of small quantities of waste water (250 gm BOD per day) Maximum 50 kf BOD per day. 			low
5.	Anaerobic Decentralised wastewater treatment system (DEWATS)	<ul style="list-style-type: none"> Modified septic tank system Takes total waste water, both grey and black. Effluent has much less BOD, suitable for reuse in agriculture and horticulture., Can be designed to handle wastewater flow of 1- 1000 m³ per day. 			
6.	Soakage pit	<ul style="list-style-type: none"> Simplest method of construction and use for grey water. Household level, low volume handling Suitable for sandy or sandy clay soil, for clay and black soil size of the pit would need to be larger. 			
7.	Upflow anaerobic Sludge Blanket Process (UASB)	The suitability of this technology may be doubtful as a standalone secondary treatment option may be needed.	0.2-0.3	2.5-3.6	0.08-0.17
8.	Facultative Aerate Lagoon (FAL)	<ul style="list-style-type: none"> Standalone system As a pre treatment unit for WSP. As an upgradation option for overloaded WSPs. 	0.27-0.4	2.2-2.9	0.15-0.2
9.	Biological Filtration and Oxygenated Reactor (BI OFOR) technology	<ul style="list-style-type: none"> Adaptability to flow and load variations Deep reactors enabling low land requirements Very limited odour production High energy/power requirement (220-335 kwh/ML treated). 	0.04	6.5-8.1	0.86

SI No.	Recycling/ Treatment Technique	Applicability	Land Requirement (per MLD in Hectares)	Capital Cost (per MLD in INR)	O&M cost Million/year/MLD
10.	High Rate Activated Sludge Biofor-F Technology	<ul style="list-style-type: none"> • Compact layout • Higher aeration efficiency • Compliance with strict discharge standards • Absence of odour and aerosol inthe working area. 	0.08	5.2	0.18
11.	Trickling Fil- ters	<ul style="list-style-type: none"> • Standalone system if operated atslow rates • As a high rate roughing filter For high BOD waste water • In combination with ASP. 	0.25-0.65		
12.	Fluidized Aer- ated Bed (FAB)	<ul style="list-style-type: none"> • Small to medium flows in congested locations • Sensitive locations • Decentralized approach • Relieving existing overloaded STPs. 	0.06	3-5	0.6-0.75
13.	Submerged Aeration Fixed film (SAFF) Technology	<ul style="list-style-type: none"> • Small to medium flows in congested locations • Sensitive locations • Decentralized approach • Relieving existing overloaded trickling filters 	0.05	7	1.14
14.	Cyclic Activated Sludge Process (CASP)	<ul style="list-style-type: none"> • Small to medium flows in congested locations • Sensitive locations • Decentralized approach • Relieving existing overloaded trickling filters 	0.1-0.15		

(Source: Compendium of Sewage Treatment Technologies, National River Conservation Directorate, MOEF, 2009; Technical options for Solid and Liquid Waste Management in Rural Areas, Ministry of Drinking water and Sanitation., 2013)

Implementation of solid and liquid waste management technologies faces a challenge of financial viability greater than the urban areas. The technique for selection should go by the:

- Cost effectiveness of the technology
- Area constraints if any in the area of implementation.
- Slope, drainage, water level and soil type
- The population it can serve

It would be desirable, if several villages can pool together a facility with least distance to be

covered. The Rurban settlements can follow URDPFI guidelines in implementing a centralized Solid and Liquid waste management system. Similarly the Villages adjacent to a municipality can become a part of the integrated urban waste management system.

d) Road Infrastructure

Rural Connectivity is a key component of Rural Development in India. Rural roads contribute significantly to generating increased agricultural incomes and productive employment opportunities, alongside promoting access to

economic and social services. Rural Roads are the virtual lifelines for the vast multitude residing in rural areas. However, even today, only about 60% of villages/ Habitations in the country are connected by roads.

A **Road Network** in a Block or District comprises of all categories of roads, such as National Highways, State Highways, Major District Roads, Other District Roads and Village roads, which facilitate the essential movement of persons and goods in an area.

The **Road system** in India has been classified by the Indian Roads Congress into three categories. These are as follows:

- Primary Road System- Expressways and National Highways (NH)
- Secondary Road System- State Highways (SH) and Major District Roads (MDR)
- Tertiary System or Rural Roads- Other District Roads (ODR) and Village Roads (VR).

The rural roads in India are commonly referred to:

- Other District Roads (ODR)
- Village Roads (VR)

Other district roads are the roads serving rural area of production and providing them with outlet to market centres, taluka/tehsil headquarters, block development headquarters or major district roads, and would serve to connect villages with population 1000 and above or cluster of villages. Village roads are roads connecting villages or cluster/group of villages with each other and to the nearest road of a higher category. These two categories of roads are proposed to be called together as 'rural roads' with uniform standards.

The following table gives the minimum road widths for Village Roads. For further information on the norms and design specifications Indian Road Congress' Rural Roads Manual, 2002 can be referred.

Table 5.8: Norms for Village Roads

Village Road type	Road Description	Minimum Road Width (in metres)	Functions /remarks
R1	Link Roads	6 m	Inter village, ODR, highways connectors.
R2	Major Through Roads	7.5 m	Main village roads with drain on both sides to facilitate drainage system of the village
R3	Minor Through roads	4.5 m	Other village roads
R4	Minor Through Lanes	3.75 m	Village lanes

(Source: Draft National Building Code, Doc: CED 46 (8064) WC, Nov 2015; Rural Roads Manual, 2002, Indian Road Congress)

Table 5.9: Roadway widths for single lane and two lanes

S.No.	Road Classification	Roadway Width (meters)
1.	National and State Highways (single or two lane)	12.0
2.	Major District Roads (single or two lane)	9.0
3.	Other District Roads (i) single lane (ii) two lanes	7.5 9.0
4.	Village Roads(single lane)	7.5

Source: Geometric Design Standards for Rural Highways, IRC:73-1980, Indian Roads Congress, New Delhi, 1980

Table 5.10: Roadway design speed

Road Classification	Design speed (km/hour)							
	Plain terrain		Rolling Terrain		Mountainous		Steep terrain	
	Ruling speed	Min Speed	Ruling Speed	Min Speed	Ruling Speed	Min Speed	Ruling Speed	Min Speed
National and State Highways	100	80	80	65	50	40	40	30
Major District Roads	80	65	65	50	40	30	30	20
Other District Roads	65	50	50	40	30	25	25	20
Village Roads	50	40	40	35	25	20	25	20

Source: Geometric Design Standards for Rural Highways, IRC:73-1980, Indian Roads Congress, New Delhi, 1980

Control of building activities along the Highways and Roads

In order to regulate and control building activities along National Highways, State Highways, Major District roads and major urban roads as notified by - PWD, the persons responsible for carrying out excavation, earth work, construction,

demolition or repairs to all sites within 100 m. from these roads shall apply to the Panchayat concerned for permission to carry out such work in accordance with the setback mentioned here below, subject to NOC from PWD/NHAI, where ever applicable.

Table 5.11: Setbacks for building types

Type of Building Activity	National Highway or State Highway	Major District Roads	Village Roads (All sub categories)
Theatres, Industrial Units etc., Major Commercial Establishments	8 metre front setback	5 metre	3 metre
Residential	5 metre front setback	3 metre	3 metre
Institutional	8 metre front setback	5 metre	5 metre

(Source:pp-35,Model guidelines for Development and construction including safety provision for Natural Hazards in Rural Areas, GOI-UNDP Disaster Risk Management Programme, Ministry of Home Affairs, GOI, 2008.)

Street Lighting

In order to ensure the citizens' safety and provide guidance to the public lighting authorities, the Bureau of Indian Standards (BIS 1981) has established standards (IS 1944) for lighting levels for street light.

In 2012, the Bureau of Energy Efficiency (BEE) and Bureau of Indian Standards (BIS) introduced 10 comprehensive performance, safety, and quality standards for the LED lighting (Appendix-10.2) as part of the Government of India (GoI)

initiative to introduce and promote energy-efficient street lighting in the country and to introduce the concept of sustainability in the Local Bodies, although these standards are not specific to the street lighting standards. The, (Appendix-10.2) refers to general lighting standards. In addition, BIS has also issued a National Building Code 2010, as a guidebook on comprehensive source for lighting projects for various applications in the country. The guidebook has specific sections on Road Lighting and Energy-Efficient Lighting Systems.

RADPFI guidelines also has put a benchmark study in Appendix 10.2 which may be referred.

B) Social Infrastructure

The social infrastructure component includes health and education services for the population. The norms for setting up schools and health

centre is given below. For the villages of categories III to VII the provision of infrastructure can follow a cluster approach wherein the settlements have a common centrally located facility. The norms for hilly tribal and difficult areas can be set for at a lower threshold as per the respective state government policy.

Table 5.12: Norms for Educational/health/public utility Facilities

Use	Standard/Population	Area (in hectares)	Distance from Habitation
a) Primary School	1 for 5000	0.4 to .6 ha	Within 500 metres
b) High School with Primary School	1 for 15000	1 ha	Within 1km
c) Dispensary/Health Centre	1 for 5000	.05 ha	Within 500 metres
d) Community Hall	1 for 5000	.05 ha	Within 1 km
e) Aanganwadi	1 for 5000	.05 ha	Within 500 metres

(UNDP Disaster Risk Management Programme Ministry of Home Affairs, Govt. of India , 2008) The distance norms as well as population norms can be relaxed in case of hill areas/desert areas with low population densities/concentration.

Table 5.13: Plot Size, Ground Coverage, FAR, Height and Setbacks

Sl. No.	Use	Minimum Plot Size (in sq. metres)	Ground Coverage (in percent)	FAR	Height	Setbacks (in metres)		
						Front	Side	Back
1.	Nursery School/Anganwadi	5000-1500	33.3	1.0	10	4.5	3	3
2.	Primary School	1500-3000	30	0.9	10	6	3	6
3.	Senior Secondary	4000-10000	25	1.0	12.5	9	4.5	6
4.	Nursing Home,	250	35	0.7	6	3	-	3
5.	Dispensary	251-500	33.3	1.0	9	4.5	3	3
6.	Diagnostic centre	Above 501	30	1.0	12	6	3	4.5

(UNDP Disaster Risk Management Programme Ministry of Home Affairs, Govt. of India , 2008)

Other relevant Standards - Socio Cultural Facilities

The provision of socio-cultural facilities shall

correspond to the changing settlement demography work-life and in line to the idea of providing urban level facilities to the rural populace.

Table 5.14: Norms for socio cultural facilities

Category	Population Served per unit	Land Area Requirement (minimum)
Crematorium	One per Block	0.5 ha
Cremation Ground	One per Gram Panchayat or 5000 Population	400 sq. metres
Burial Ground	5000 residents observing burial rituals in a Habitation or a Gram panchayat	500 sq. metres
Open Spaces/Parks	One housing area park per 5000 population and Neighbourhood Park for 15000.	0.50 ha and 1 ha respectively.
Playground/Ground for Fairs and Festivals	One per 5000 population	1.00 ha.
Religious Places	5000	400 sq metres
Fire station	2 lakh population or 10 km Radius	0.6 ha

(Sources: Derived from URDPFI Guidelines 2014; Green Burial Ground Project, PARD)

C) Economic Infrastructure

The economic infrastructure for the rural areas usually encompasses the rural roads, tracks, bridges, irrigation schemes, markets, major dams, canal works for irrigation and drainage, rural housing, rural electrification, rural telecommunication and connectivity. Detail mapping of this infrastructure entails the mapping location of various such infrastructural facilities within the rural / village clusters / villages. The mapping shall provide connectivity details to the adjoining urban centers if any. Such geo-spatial mapping will help in identifying the service villages, hamlets and rural settlements, which are usually located within a a buffer of 100-300 meters for the expansion of the urban areas. As per the URDPFI guidelines, the use of cadastral maps at village area planning level is important. This will help in identifying the location of economic infrastructure with respect to the survey boundary and in turn the land ownership status.

D) Environmental infrastructure

For a sustainable development of the rural areas, it is important to map and document the rural facilities and environmental infrastructure that enhances the lives of the local rural communities. Also geo-spatial mapping of the infrastructure will help in addressing and overcoming common environmental problems in rural areas such as air pollution, water pollution and health care. The challenge is to protect to the rural natural environment and habitat. Green environmental infrastructure for supporting sustainable rural development is critical. Dependence on the solar energy for agricultural and irrigation purposes need to be increased.

Adequate land use to the tune of 3% to 10% of the total Gram Panchayat area has to be assigned which may be part as village commons and should be incorporated within the village commons/ environmental areas within the table 5.2.

This percentage can also be added in infrastructure as a part of environmental infrastructure and the physical infrastructure can be assigned for atleast 1% of the total infrastructure in table 5.2.

Table 5.15: Standards for infrastructure as per the village categories

	Infrastructure	Metro-politan cities/ towns	Agro-climatic zones	Hill areas	Vul-nerable/ Disaster Areas	NH/SH-Corridor	Population size	Census towns	Interior / inaccessible/ backwar dareas	Villages under PESA
Physical	Water supply (in lpcd)	70- 100	70- 100.	70- 100 lpcd	Min.40 idrought prone	70-100	70-100	70-100	40-100	70-100
	Solid waste (in tonnes)	Based on criteria by CPHEEO								
	Liquid waste management	Based on criteria by CPHEEO								
	Road circulation (Village Roads)	Min. 7.5 m Wide Road connecting to the District Road	Min 6 m Wide Road	Min 6 m Wide Road	Min 6 m Wide Road	Major Through Roads with min 7.5 m Wide	Min 6 m Wide Road	Min 6 m Wide Road	Min 6 m Wide Road	Min 6 m Wide Road
Social	Education	One Lower Primary and Primary School in each village within 3km walking distance								
	Health	One Anganwadi per 1000 rural population; One Anganwadi per 700 population								
	Cultural	1.21 hectare open space for a village with 200 houses								
	Recreation	One housing area park with minimum area 0.4 hectare								
	Others (Police station)	1	1	1	1	1	1	1	1	1
Economic	Commercial Bank	One Rural Bank within 5 km								
	Energy solar/wind/ geothermal and transmission /distribution	atleast 50% household power through renewable technology i.e.,100kW capacity in- stalled on public or semi-public building. In the case of agro-climatic zones, selection of technology based on local climatic variable and natural resource availability in the region (such as Solar radiation intensity exposure/wind velocity)								
	Godown/ storage spaces	Depending on the Agricultural Activity, small sized godowns : Capacity of 50 to1000MT and shall not exceed the stack hieght dimension 9.15m X 6.1m X 4.57m								

Sources: Education -Right of Children to Free and Compulsory Education Act 2009; Right to Education Act. Indian Standard recommendations for basic requirements of school buildings.

Commercial bank-Ministry of Finance, Banking facilities in rural areas. 2020

Cultural -Draft National Building Code, Doc: CED 46 (8064) WC, Nov 2015, and Rural Roads Manual, 2002, Indian Road Congress

Godown-NABARD. Model scheme on construction of Rural Godown

Energy-LuminousIndia calculator

Water-Based on Calculation from source: Accelerated Rural Water Supply Programme

<http://megphed.gov.in/standards/guiderural.pdf>

Roads - Draft National Building Code, Doc: CED 46 (8064) WC, Nov 2015; Rural Roads Manual, 2002, Indian Road Congress

5.3 Habitat Planning in Rural Areas

While planning for housing in rural settlements the following factors shall be taken into consideration:

- Ecosystem and Biodiversity.
- Topography with its direct effect on climate, likelihood of natural disasters, natural drainage, etc.
- Identity of the place rooted in its culture and heritage.
- Nearness and connectivity with nearby urban centres.
- Occupation related requirements.
- Water and Waste management.
- Land records and Land tenure.
- Site selected shall be conveniently approachable and suitably developed and shall not be subjected to water logging/flooding.
- Facilities like branch of co-operative bank,

a fertilizer depot, a veterinary hospital, market place and a branch of the co-operative consumer store besides facilities for educational and health care should be available within a maximum distance of 5 km from any settlement.

- Proposed Road Hierarchy

Norms for Low Income Housing development.

- Plot size : 80 m², Minimum
- Density (Gross) : 60 plots per hectare, Maximum
- Minimum frontage : 6 m
- Ground coverage : 33 percent (subject top a maximum of 50 percent)
- Floor area ratio (FAR) : 2, Maximum
- Open spaces : 1.21 hectare open space for a village with 200 houses.

(Source: National Building Code, Doc: CED 46 (8064) WC, Nov 2015)

Table 5.16: Parameters of residential building

Sl.No.	Plot Area in sq. metres	Maximum ground cov-erage (in percent)	FAR	No. of D/U	Max. heigh tin metres	Setbacks (in metres)		
						Front	Side	Back
1.	Below 50	90	1.8	2	6	1.2	-	-
2	51 – 100	80	1.6	2	6	2.0	-	1.5
3.	101 – 150	75	1.5	3	9	2.0	-	2.0
4.	151 – 250	66	1.3	3	9	3.0	-	3.0
5.	251 – 500	60	1.2	3	9	4.5	1.5	3.0
6.	Above 501	50	1.0	3	9	4.5	3.0	3.0

(Source: Model guidelines for Development and construction including safety provision for Natural Hazards in Rural Areas, GOI-UNDP Disaster Risk Management Programme, Ministry of Home Affairs, GOI, 2008.)

Table 5.17: Parameters of commercial buildings

Sl.No.	Use	Ground Cover-age (in percent)	FAR	Maximum Height (in metres)	Setbacks (in metres)	
					Front	Back
1.	Convenience Shops	75	1.0	6	2	-
2.	Local Shopping Centre	50	1.0	6	3	-
3.	Community (Gram Panchayat) Shopping Centre	40	1.2	9	4.5	-

*Minimum size of plot for above, 20 sq. metres.

(Source: pp-31, Model guidelines for Development and construction including safety provision for Natural Haz- ards in Rural Areas, GOI-UNDP Disaster Risk Management Programme, Ministry of Home Affairs, GOI, 2008.)

Table 5.18: Parameters of industrial buildings

Sl. No.	Plot Size (in sq. metres)	Ground Coverage (inpercent)	FAR	Height	Setbacks (in metres)		
					Front	Side	Back
1.	100-400	60	1.2	8	3	-	3
2.	400-1000	55	1.1	8	4.5	-	3
3.	100-4000	50	1.0	8	6	3	3
4.	Above 4000	45	0.9	8	9	3	4.5

(Source: pp-31, Model guidelines for Development and construction including safety provision for Natural Haz- ards in Rural Areas, GOI-UNDP Disaster Risk Management Programme, Ministry of Home Affairs, GOI, 2008.)

Table 5.19: Parameters of institutional and community buildings

Sl. No.	Plot Size (in sq. (in sq. Metres)	Ground Coverage (inpercent)	FAR	Height	Setbacks (in metres)		
					Front	Side	Back
1.	500-1500	40	1.2	9	4.5	3	3
2.	1001-2000	33	1.0	9	4.5	3	4.5
3.	2001-4000	30	0.9	9	6	3	4.5
4.	Above 4001	25	0.9	12	9	3	6

(Source: Adapted from Model guidelines for Development and construction including safety provision for Natural Hazards in Rural Areas, GOI-UNDP Disaster Risk Management Programme, Ministry of Home Affairs, GOI, 2008.)

The following Equivalent Car parking space (ECS) or Equivalent Vehicle parking space (EVS) should be provided:

Table 5.20: Parking Norms

Sl. No.	Use	No. of ECS/EVS
1.	Residential	1 EVS for 100-200 sq. metre plot 1 ECS and 1 EVS for plots more than 201 sq metres.

Sl. No.	Use	No. of ECS/EVS
2.	Multi Family Residential	1 ECS for 75-100 sq metre built up area and 1.25 for more than 101 sq. metre built up area.
3.	Motel	1 ECS for every room
4.	Wholesale Mandi, Godown and Cold Storage	2 EVS for 550 cu. Metre storage, 2 ECS for 100 sq metres built up area.
5.	Offices, Conference Hall, Banquet Hall	2 ECS for 100 sq. metre built up area
6.	Educational	1 ECS for 100 sq m built up area
7.	Industrial	1 EVS,0.5 ECS for 100 sq. metre built up area.

*ECS stands for Equivalent car space which is 23sq. metres, if provided in open.

** EVS stands for Equivalent Vehicle Space, which is a more neutral term for the type of vehicle it proposes for parking. It is an inclusive term for Light Commercial Vehicle and tractors with trailers and non-motorised vehicles like Bullock Carts. The recommended space requirement for EVS in open is, 35 sq. metres.

(Source: Adapted from Model guidelines for Development and construction including safety provision for Natural Hazards in Rural Areas, GOI-UNDP Disaster Risk Management Programme, Ministry of Home Affairs, GOI, 2008.)

SUSTAINABLE DEVELOPMENT GOALS AND DISASTER MANAGEMENT- GLOBAL AND NATIONAL PROTOCOLS

6.1 Natural Resources in Rural Areas

Rural areas are blessed with natural resources of land, water, vegetation, and minerals. The rural habitations inhabit the bountiful natural landscape thus providing the rural population livelihood and sustenance extended to urban and regional economies.

Rural areas cater to all the basic needs of urban areas and safeguard natural habitats and landscapes. They also define cultural and patrimonial heritage of each region. A significant population of them are facing the consequences of climate change, lack of critical infrastructure and poverty (Mihai & Iatu, 2020) due to unplanned growth of settlements in these areas. Hence, Rural Planning should aim to achieve Sustainable Development at grassroot level.

6.2 Sustainable Development Goals and Rural Planning

A sustainable settlement is the one which takes care of the basic requirements of the people, like food, water, providing a sense of society or sense of community or a sense of culture. This is explained through the following three stages:

- i. The first stage is about understanding, how up to a maximum level the local context with respect to natural resources, can be utilized to satisfy the requirement of food in a balanced manner.
- ii. The second stage is about integrated water and waste management as without water it is difficult to assume that one will

have food that is required to sustain. Thus, in addition to aspects like soil, climate, landform, water bodies, agriculture, horticulture, another aspect is added that is the lifestyle. How the changes in lifestyle in terms of waste being collected, pollution is being created due to lack of waste management.

- iii. The third stage is consideration of society along with the climate, landform, agriculture the type of food, flora, and fauna. All of which influence culture, food habits, maintaining the comfort condition and lifestyle. Apart from the above aspects the history of how things have evolved and how events have influenced the daily practices, the belief system, and way of relating to natural elements, all these paradigms will also affect the way a good settlement is defined.

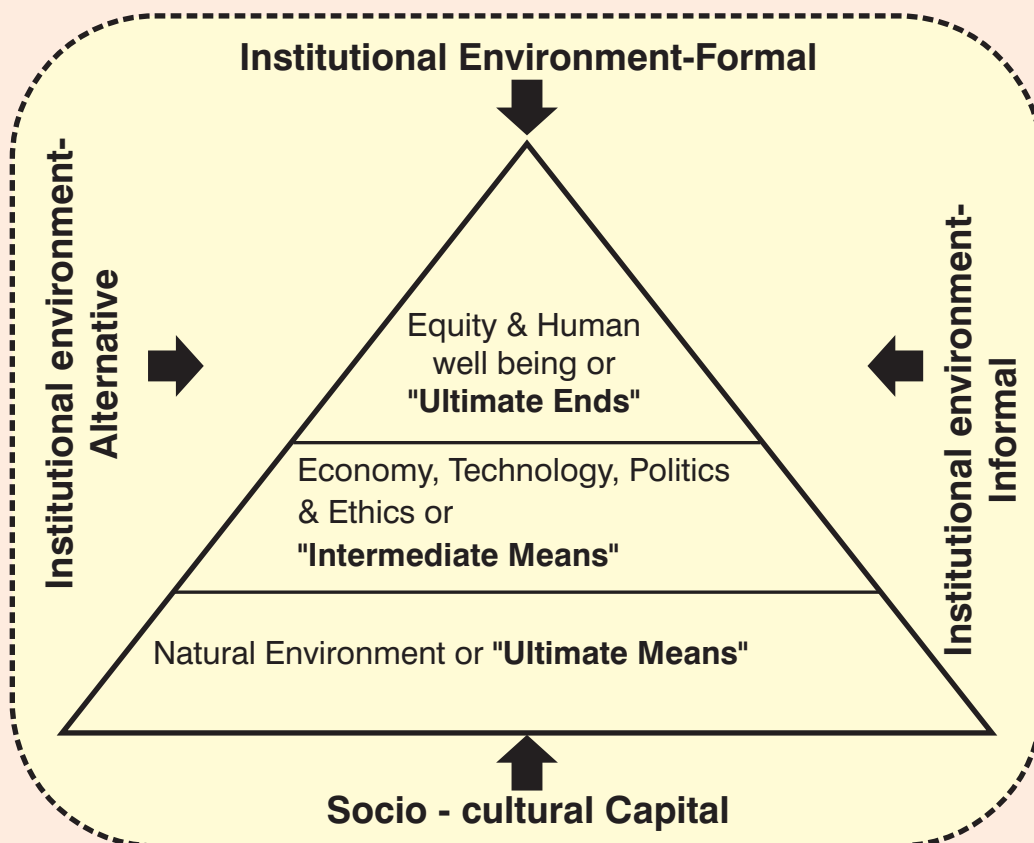
So overall, this kind of understanding of a place can fundamentally define what is a sustainable settlement for that local context for that place for that set of people for that specific culture. One of the early definitions of sustainable development was provided by Brundtland Commission (1987) as: 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'¹. The Brundtland Commission's report also states that in essence, sustainable development is a process of change in which the exploitation of resources, the direction of investments, the

¹World Commission on Environment and Development's (The Brundtland Commission) Report, Our Common Future (Oxford: Oxford University Press, 1987)

orientation of technological development; and institutional changes are all in harmony and enhance both current and future potential to meet human needs and aspirations. Applied to the context of planning and development, the most fundamental element of sustainability is the utilization of natural resources in a region most efficiently, most equitably across sections of society and in such a manner that the resources are conserved and renewed for future generations to meet their needs and aspirations. The inter-connection or interrelation between the three aspects of sustainable development: environment, economic and social can be expressed through Daly's Triangle which replaces the social aspect with equity and considers the three main aspects of sustainability to be equity, economy, and

environment. These aspects can be arranged in a triangular format (Figure 6.1) with the environment being the most primary and occupies the bottom of the triangle followed by the economy which occupies the center of the triangle and the top of the triangle which is occupied by equity. In this the intermediate mean that is the economy is placed at the center of the triangle so that when economy succeeds it achieves the ultimate end that is it achieves the equity and human well-being and when the economy is conserved and protected this results in ultimate meaning that is the conservation of the natural environment. One can achieve sustainable development or a sustainable settlement only when measures and policies are taken such that all three interconnected aspects are equally respected.

Figure 6.1: Interrelation between Environment, Economy and Equity for Sustainable Development



Source: (Jovovic, Draskovic, Delibasic, & Jovovic, 2017)

Integrating sustainability principles and disaster management in Rural planning process and development in today's scenario has been explained in this chapter.

a) SDGs, Rural Planning and Sustainability parameters

Sustainable Development Goals (SDGs) aim to eradicate extreme poverty, famine, open defecation, and other critical issues in developing countries associated with lack of public utilities, mainly in rural areas, and to reduce the huge gaps between countries and regions. Linkages between the environment and humans play a central role in sustainable development and the environment has been recognised as fundamental for the achievement of many or all the SDGs. The environment is integral to most SDGs (13 SDGs contain at least one environment-related word, aspects of the environment are mentioned in 62 of 150 targets], and three SDGs (13, 14, 15) with 27 targets are focused entirely on the environment.

The 17 SDGs and its targets are focusing on not only the socio-economic aspects and sustainable development, but also environmental sustainability which is crucial in rural areas given the vulnerable landscapes, agriculture, and added layer of climate variability. To achieve all range of SDGs across the globe, proper attention must be paid to rural development perspectives such as quality of life improvement, sustainable agriculture, rural resilience, and circular economy and reduced inequalities. Sustainable rural development involves a holistic approach where daily basic needs of rural populations must be covered by reliable public utilities combined with technical, socioeconomic, and environmental conditions to support regional economies and urban-rural linkages.

The success of sustainable rural planning depends on, inter alia, developing and implementing comprehensive strategies for dealing with climate change, drought,

desertification, and natural disasters. This can be achieved with an additional parameter of Institutional sustainability under Sustainable Rural Development. Some of these sustainability parameters, which can be considered in Rural Planning and Development, are:

1. **Integrated Rural-Regional Planning:** Regional planning and development to control, mushrooming unplanned and unorganized growth of rural settlements along with integration of land use and transport is important to achieve resulting in sustainable development. The article 243zd of the constitution proposes the integration of rural and urban plans into a District Development Plan thus consolidating both the plans with the District and State vision for development.
2. **Sustainable Agriculture:** Sustaining agricultural productivity depends on quality and availability of natural resources like soil and water. Agricultural growth can be sustained by promoting conservation and sustainable use of these scarce natural resources through appropriate location specific measures. Sustainable Development Goal (SDGs) 2015 emphasizes on addressing the concerns of poverty, hunger, malnutrition and enhancing agricultural productivity with minimum damage to soil and natural resources (www.unsdsn.org) and dedicated two goals (1 and 2) entirely for this. The focus of rural planning hence should not just be on increasing agricultural productivity but also on minimizing the adverse impacts on environment.

Indian agriculture remains predominantly rainfed covering about 60% of the country's net sown area and accounts for 40% of the total food production. Thus, conservation of natural resources in conjunction with development of rainfed agriculture holds the key to meet

burgeoning demands for food grain in the country. Towards this end, National Mission for Sustainable Agriculture (NMSA) has been formulated for enhancing agricultural productivity especially in rain-fed areas focusing on integrated farming, water use efficiency, soil health management and synergizing resource conservation.²

- 3. Promotion of Renewable Energy:** India has embarked upon the targets envisaged for renewable energy generation through solar and wind, emboldened by the Jawaharlal Nehru National Solar Mission. The target to be achieved through the solar generation of electricity is 100 GW by 2022. India's Nationally Determined Contribution (NDC) in response to COP decisions 1/CP.19 and 1/CP.20 for the period 2021 to 2030 also emphasized on shifting to solar and wind energy through contributing 40% of cumulative electric power from non-fossil fuel based resources by 2030. The Rural areas can utilise the renewable sources of energy for in situ fulfilment of their requirements of energy. Similarly, the use of agricultural, livestock/human waste can be used for biogas generation.
- 4. Sustainable Rural Infrastructure:** Considerable amount of reuse and recycling has been an integral part of our traditional culture, especially due to austere lifestyles in rural areas. But with the changing times and the upgrading of services, the creation of new infrastructure should take the cognizance of principle of reuse and recycle and recover to promote sustainable environment.
- 5. Sustainable Rural Livelihood:** Rural areas depend on local geographical conditions like climate, natural

resources, socio-economic conditions etc. for identifying activities such as agriculture, fisheries, agro-industries etc. for defining the economic pathways. The sustainable rural planning must provide opportunities for livelihood that are resilient enough to cope and recover from shocks and stresses. Its activities, capabilities and assets should be enhanced both for the present and future without affecting natural resources.

b) Resource Management

For sustainable rural development, it is imperative to manage, allocate and pre-plan the natural resource base for each type of development activity. It should be carried out in such a way that it enhances resilience of ecosystem and its benefit. The natural resources in the rural areas should be analysed from the perspective of socio-ecological system. Mapping of all resources and accounting of their direct and indirect benefits in terms of ecosystem services should be done. In addition, the potential impact of proposed economic activities is to be assessed for suggesting suitable mitigation strategies for adverse impacts on natural resources.

c) Solid and Liquid Waste Management

As a result of increased population, consumerism, and commercial activities, the amount of waste produced in rural areas is growing. Every day, 15,000 to 18,000 million litres of grey water and 0.3 to 0.4 million metric tons of solid waste are produced in rural areas (UNICEF, 2018). Due to the smaller size and stronger community relations in rural settings, SLWM proposals may be easier to introduce in rural areas than in urban areas. There are more opportunities for waste (both solid and liquid) reuse and recycling for use in horticulture and agriculture.

²National Mission on Sustainable Agriculture, Operational Guideline, Ministry of Agriculture, Government of India, 2014

Municipal Solid Wastes Management Rules, 2016 has extended SWM beyond Municipal limits but is limited to rural areas in close proximity to urban centres. The source segregation of waste has been mandated to channelize the waste to wealth by recovery, reuse and recycle.

In October 2014, the Swachh Bharat Abhiyan (Gramin) was launched with the aim of improving the cleanliness, hygiene, and overall quality of life in rural areas. One of the program's main elements is solid and liquid waste management. (TARU, 2016)

The mission was carried out as a national campaign/Janandolan with the goal of eliminating open defecation in rural areas from 2014 to 2019 through widespread behaviour change, the development of household and community-owned toilets, and the establishment of monitoring mechanisms for toilet construction and usage.

Solid and Liquid Waste Management under SBM Guidelines

SBM focuses on raising awareness and establishing community-run sanitation systems.

Ownership at the grass roots level and community engagement at all levels (Table 6.1) are crucial for implementing SLWM programs economically and efficiently.

To build demand for a sustainable system, information, education, and communication (IEC) interventions should focus on SLWM. This would contribute to the establishment of waste collection systems that have a tangible effect on the community. The community/Gram Panchayat (GP) must be encouraged to demand such a scheme, which they would then be able to run and maintain. Panchayat leaders, elected members, schools, non-governmental organizations (NGOs) operating in villages, shopkeepers, households, and the public should all be targeted for awareness and education campaigns.

With support from state governments, GP functionaries will oversee the design, implementation, service, and maintenance (O&M) of SLWM systems. Mechanisms for involving third parties in building and management activities under the oversight of the GP and the community may be investigated.

Table 6.1: Actors in Rural SLWM

Actors in Rural SLWM	
Level	Organization
State	Public Health Engineering Department
	Water Supply and Sanitation Department
	Communication and Capacity Development Unit
	Panchayati Raj and Rural Development Department
	Tribal Development Department
	State Pollution Control Board
District	Zila Panchayat
	SBM (G) Cell
	NGOs
	Private sector

Actors in Rural SLWM	
Level	Organization
Block	Block Development Officer
	Panchayat Raj Public Works
	Block Resource Centre
	NGOs
	Private sector
GP	Gram Sevak/Sachiv
	Panchayat Development Office
	Community based organisations
	SHGs
	Private sector/entrepreneurs
	Households

Source: Ministry of Drinking Water and Sanitation and Asian Development Bank (2014) Guidelines on Solid and Liquid Waste Management

Community based Waste Management System requires steps (Table 6.2) such as: Information Collection, Participatory Planning and Preparation of GP/ Block level action plan.

Table 6.2: Steps for Community Based Waste Management System

Step 1 Information collection

- No. of Households
- Total Population
- Details about shops, marriage halls, market, commercial establishments, etc.
- Community map of the area
- Existing system and practice of waste management
- Quantum of solid and liquid waste generated per day
- Local body's approach and future plans for SLWM
- Details of vacant spaces available in the local body
- Details and activities of NGOs & CBOs, e.g. Women Self-help Groups etc available in the village.

Step 2 Participatory planning

The data collected is to be analysed along with the representatives of the community

- The community should be informed about various technology options for SLWM both at household as well as community level and accordingly technology options should be decided
- Based on the discussions with the community, SLWM action plan should be prepared.

Step 3: Preparation of GP/block level action plan

- Social mobilization and awareness generation: It should focus on inter personal communication, focused group discussion, technology demonstration and exposure visits to successful sites
- Technology options: Household and community level technological options with approximate cost estimates should be worked out
- Operation and maintenance: Success of a technology depends upon proper O&M at the household and community level. This aspect should be discussed in detail during planning process and incorporated in the action plan.

Source: Adapted from Operational Guidelines of SWM-Phase II (Ministry of Jalsakti, 2020)

As per the constitution 73rd amendment act, 1992, sanitation is included in 11th schedule. Accordingly, GPs have a pivotal role in the implementation of SBM (G). (Ministry of Jalsakti, 2020). Table 6.3 highlights the role of GPs under different stages of work.

6.3 Climate Change Mitigation and Adaptation

Climate change and its recent trends have a direct impact on Human and Natural environment affecting lives and livelihoods. The changes in weather phenomena with increase in the occurrence of extreme events and long-term climatic variability has impacted human habitations and regional economies to a great extent. These changes also impact agriculture and pathogens which pose a challenge to the rural economic base. Numerous agencies

including National and International agencies are carrying out studies and are supporting settlements to develop, adopt and implement sustainable and climate safe practices as per the National Action Plan on Climate Change, Government of India. The Intergovernmental Panel on Climate Change (IPCC) Working Group-II's (WGII AR-5) most recent report (2013) paints a grim picture for India. Focus of the report is on food and water supply and the urgent need for our regions to be resilient. Considering this, the Regional Plans and Development Plans must mainstream the impact of climate change and developing climate resilient rural areas. The focus should be on water security, use of heat repealing materials in construction and minimising concrete surfaces. It may be desirable to develop appropriate policies and bring about effective legal and administrative control systems to deal with the problem.

Table 6.3 : Role of Gram Panchayat in Different Stages of Work

Stages	Role of Gram Panchayat
Planning	Each gram panchayat shall develop a village swachhata plan for each financial year involving people from all villages
Fund flow	GPs shall also be the recipient of funds, subject to conformity with state arrangements and shall also contribute from their own resource for the financing solid liquid waste management infrastructure
Coordination	District shall provide support to GPs for engagement with businesses, corporates social organization and institution like banks and insurance companies for the creation of assets and O&M
Monitoring	Both Block level and district level PRIs shall regularly monitor the implementation of the programme.

Source: Adapted from Operational Guidelines of SWM-Phase II (Ministry of Jalsakti, 2020)

Table 6.3 Role of Gram Panchayat's role in Climate proofing

The expression "climate proofing" is meant as a process that aims to identify risks that an investment project or development plan or simply people and their assets may face as a result of climate change, and to reduce those risks to levels considered to be acceptable. It does not imply a complete mitigation of the

potential risks of climate change. ADB (2005) defines it as: "Climate proofing is a shorthand term for identifying risks to a development project, or any other specified natural or human asset, as a consequence of climate variability and change, and ensuring that those risks are reduced to acceptable levels through long-lasting and environmentally sound, economically viable, and socially acceptable changes

implemented at one or more of the following stages in the project cycle: planning, design, construction, operation, and decommissioning." An analysis of ways in which development processes can take the challenges and

opportunities of climate change into account will be most effective if it is carried out in the rural spatial planning phase. Table 6.4 highlights the parameters to be considered for climate proofing and community resilience.

6.4 Climate Proofing and Local Area Plans

Table 6.4: Parameters and Strategy for Climate Proofing and Community Resilienc

Parameters	Strategy
Housing	<ul style="list-style-type: none"> Guidelines for construction of buildings on slopes Structural Stability of buildings in hills for the entire Gram Panchayat. Soil Erosion and sedimentation control in Non Hill areas.
Ecologically sensitive Rural Planning	<ul style="list-style-type: none"> Demarcate eco sensitive areas Bringing in principles of climate resilient rural development based on environmental parameters like conservation of natural ecosystems and watershed management.
Rural Infrastructure and Services	<ul style="list-style-type: none"> Augment water supply and water treatment in rural areas Water conservation and rain water harvesting.
Disaster Resilience	<ul style="list-style-type: none"> Preventive health measures Public health management and surveillance system Emergency medical response

Source: Adapted from Operational Guidelines of SWM-Phase II (Ministry of Jalsakti, 2020)

Local area planning whereas is a process of planning that is concerned with resolving local level problems and issues. Its priorities include over all welfare of the people and development of the local area. The plan must be equipped with adaptation measures while addressing the local concerns to enhance resilience of rural areas to climate change impacts.

Climate proofing of all anticipated economic and social activities is to be made mandatory at the time of spatial planning of rural settlements. The risks identification at village level shall reduce the overall environmental burden from developmental activities within a region/ area and will lead to climate proofing of the region. The risk-based approach to climate change adaptation manages both the current and future

risks, hence requisite for Sustainable Rural Planning.

The integration of this risk-based approach in Local Area Plans for village planning shall strengthen all decision-making processes providing feasible rural development.

6.4.1 Vulnerability Assessment

Vulnerability assessment is a tool used to assess the impacts of climate change on the present development. It can also be used as an initial step in the adaptation planning process. Further, Housing, Rural Infrastructure and Services, Poverty and Livelihood, Ecosystems and Land-Use as well as emergency response capacity are the key sectors which are considered to

understand the present and future vulnerability of the rural settlements in the context of climate change impacts. Kapur (2010) identifies the vulnerable population by three components-

- Disadvantaged people,
- Fragile living and
- Lack of services.

The estimation of vulnerability should be a procedure, involving the evaluation of the possibility of a risk event happening, its influence on the system, its flexibility and durability, the creation of potential solutions that can minimise the adverse effects of the risk event, the formulation of the system's desired outcome, and tracking and adaptive management. Vogel & o'Brien (2004) emphasize that vulnerability is: (a) multi-dimensional and differential (varies for different dimensions of a single element or group of elements and from a physical context to another); (b) scale dependent (about the unit of analysis eg. Individual, local, regional, national etc.) and (c) dynamic (the characteristics that influence vulnerability are continuously changing in time and space).

With regards to the first characteristic, there are generally five components (or dimensions) that need to be investigated in vulnerability assessment:

- (1) the physical/functional dimension (relates to the predisposition of a structure, infrastructure or service to be damaged due to the occurrence of a harmful event associated with a specific hazard);
- (2) the economic dimension (relates to the economic stability of a region endangered by a loss of production, decrease of income or consumption of goods due to the occurrence of a hazard);
- (3) the social dimension (relates with the presence of human beings, individuals or communities, and their capacities to

cope with, resist and recover from impacts of hazards);

- (4) the environmental dimension (refers to the interrelation between different ecosystems and their ability to cope with and recover from impacts of hazards and to tolerate stressors over time and space);
- (5) the political/institutional dimension (refers to those political or institutional actions e.g. livelihood diversification, risk mitigation strategies, regulation control, etc., or characteristics that determine differential coping capacities and exposure to hazards and associated impacts) (Ciurean, Schröter, & Glade, 2013).

There are several frameworks suggested by various institutions for the assessment of vulnerability, that can be applied to conduct the assessment based on the basic problem identification.

The outputs of a vulnerability assessment include:

- A description and analysis of present vulnerability, including representative vulnerable groups (for instance specific livelihoods at-risk of climatic hazards).
- Descriptions of potential vulnerabilities in the future, including an analysis of pathways that relate the present to the future.
- Comparison of vulnerability under different socio-economic conditions, climatic changes, and adaptive responses.

a) Spatial Mapping of Vulnerability

Spatial Mapping of the vulnerability parameters are to be done where each parameter can be classified with index of 1 to 5 where 1 is low risk and 5 is very high risk. The vulnerability as per the severity of local challenges pertaining to

socio-ecological sustainability in view of climate change impacts and other natural disasters are to be assigned weightages. The participation of stakeholders along with the experts is important in assigning weightages (See Appendix– 6.1).

b) Regulations in terms of drainage basins, Green Corridors and Energy Use

The larger goal of climate proofing in GPSDP can be achieved through formulating regulations not just for the administrative jurisdiction of Gram Panchayat but beyond the limits of any such boundaries. The first and foremost consideration is demarcation of the drainage pattern within the catchment of the surface water bodies in and around the administrative boundaries of the GP. This requires regulations at a watershed level for providing healthy vegetation buffers along the drains (as per their order) for conserving the water bodies. These buffers along side the drains will act as a carbon sink. These green corridors are also important for enriching the biodiversity. Forests land often share boundaries with many villages in a particular locality. This forest land having sparse, or no vegetation gets encroached by villagers and in due course of time the land use changes to built-up or agriculture. The green buffer along the forest land would help in protecting the forest from encroachments.

The potential of villages for solar farming and harnessing wind energy should be the prerequisite of any GPSDP. This requires huge land and financial resources and is thus suitable for cluster of GPs. The use of energy thus generated would help in achieving the Nationally Determined Commitments (NDC) of India under Paris Agreement on Climate Change.

Spatial Planning for the cluster of GPs sharing common resources at Block/Tehsil or district level is important and accordingly the regulations are to be framed for creation of green corridors and harnessing of green energy. The detailed spatial plan can then be prepared at a

Gram Panchayat level by all GP's sharing the resources.

6.5 Rural Disaster Resilience Strategy and Plan (including Bureau of Indian Standards)

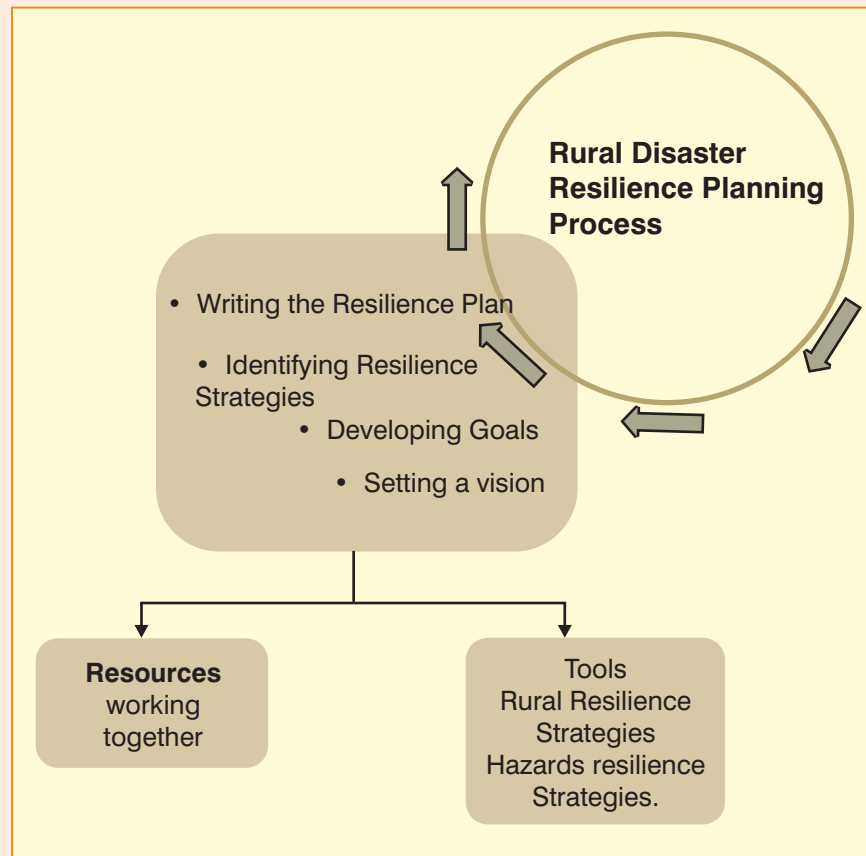
In the context of rural disaster resilience, the inter-relations among community and various other formal and informal organizations are very important. A challenge in developing rural disaster resilience is not only recognizing and anticipating the scope of damages, but integrating multiple agencies, jurisdictions, and stakeholder groups in a response to a disaster. Hazard preparedness should include strong coordination across federal, state, and local agencies with clear lines of responsibility. The capacity of rural communities in not only responding to disasters but also to adapt and thrive in adverse conditions shall be a prime consideration of any rural spatial/development plan.

The capacity of rural communities for building rural disaster resilience as per Kapucu, et al. (2013) is determined by presence (high level) of the four key factors. One, social capital depicting the strong relationships and networks within the community. Second, community competence measured through problem solving strategies, skills, and flexibility. Third, how information flows within the community and how communication infrastructure is designed and represented by trusted sources of information. Fourth, the bouncing capacity, the extent to which economic resources and risks are fairly distributed across the community (Kapucu, Hawkins, & Rivera, 2013). A summary of the social, economic and other dimensions of rural resilience is given in Appendix – 6.2.

The Rural Disaster Resilience Planning (RDRP) approach by Justice Institute of British Columbia has been designed with rural communities in mind. The RDRP process (Figure 6.2) includes a user-friendly guide to help you work through the

various steps to increase resiliency in your community including:

Figure 6.2: Rural Disaster Resilience Strategy and Plan



(Source: Rural Disaster Resilience Planning, Justice Institute of British Columbia last accessed from <https://rdrp.jibc.ca/step-3-building-a-resilience-plan> at 26.09.2016)

The figure 6.2 indicates steps undertaken to prepare a climate change induced vulnerability leading to hazard/disaster, resilient development plan.

Step 1: Getting Started - what steps to take in preparing for disaster resilience planning.

Step 2: Resilience Assessment - how to assess what disasters are likely to take place and community current state of resilience.

Step 3: Building a Resilience Plan - identifying strategies and goals for building resilience in your community.

Step 4: Plan Implementation - how to develop an

Action Plan to help your community increase its overall resiliency and adopt strategies to help the community survive a disaster.

A resilient plan for settlements taking care of the environment can help us against the vagaries of climate change, i.e., weather extremities and aid resource optimization. The GP spatial development plans are to be developed through mainstreaming the four steps suggested for resilient planning of rural settlements.

6.5.1 Rural Resilience and Bureau of Indian Standards

The increasing focus on building resilience of habitats based on measuring performances

through resilience indicators is being operationalized worldwide through publishing ISO standards. Bureau of Indian Standards in India is also publishing the indicators for measuring resilience of cities (The draft was circulated in February 2021 for comments). The goal of these standards is to make habitats sustainable. These set of indicators with modified measures as per rural context can also be used for measuring resilience performance of rural settlements to climate change, disasters, and other chronic stresses. Measuring performance will guide in prioritizing the development activities at all the three levels i.e. Gram Panchayats, Blocks/ Tehsils and district.

6.6 Disaster Management

"Disaster means a catastrophe, mishap, calamity or grave occurrence affecting any area from natural and manmade causes, or by accident or negligence, which results in substantial loss of life or human suffering or damage to, and destruction of property, or damage to, or degradation of environment and is of such a nature and magnitude as to be beyond coping capacity of the community of the affected areas". It is clear from the definition, that disaster may impact human habitat in a severe manner. Hence it is evident to manage these disasters at appropriate level so that impact can be minimized.

As per section 2 (e) of Disaster Management Act, 2005, disaster management means a continuous and integrated process of planning, organizing, coordinating and implementing measures which are necessary or expedient for-

- Prevention of danger or threat of any disaster
 - Mitigation or reduction of risk of any disaster or its severity or consequences
 - Capacity-building
 - Preparedness to deal with any disaster
 - Prompt response to any threatening disaster situation or disaster
- Assessing the severity or magnitude of effects of any disaster
 - Evacuation, rescue and relief
 - Rehabilitation and reconstruction

6.6.1 Disaster Risk Reduction and Rural Development

There has been a paradigm shift in disaster management from 'response and relief' to 'prevention and mitigation' centric approach, which calls for a holistic framework of disaster resilience at different levels. Disaster Risk Reduction (DRR) primarily covers the events of the Disaster Management (DM) cycle's pre-disaster phase, but it is also essential for the on-disaster response phase and the post-disaster recovery phase. Pre-disaster disaster preparedness programs are largely directed at enhancing on-disaster response, while post-disaster reconstruction activities provide for "building back better" to reduce the risk of future disasters.

The Hyogo Framework of Action (HFA) for DRR 2005–2015 was more forthright in specifying that "effective integration of disaster risk reductions into sustainable development policies, planning, and programs at all levels" was a strategic objective, and that addressing the inherent risk factors across all development sectors was one of its five action priorities. Mainstreaming DRR into development remains the most complex, time-consuming, and difficult of all DRR-related activities, especially in the developing countries with a large rural population(source).

The shift from the HFA to the Sendai Framework for Disaster Risk Reduction (SFDRR) has emphasized achieving specific goals, integrating climate change adaptation, establishing environmental-disaster links, and mainstreaming disaster risk reduction through sectors of development. The Sendai Framework stresses the importance of mainstreaming disaster risk reduction into sustainable growth and extends the reach of mainstreaming to cover

all levels of both urban and rural environments. It is time for the policies, plans and initiatives related to disaster risk reduction to start falling into place and finding coherence in India, as it addresses the important task of implementing robust disaster risk reduction measures to protect its vulnerable citizens in both urban and rural areas.

Prime Minister's 10-point agenda on Disaster Risk Reduction (DRR) in India encompass issues, tools, and approaches to address almost all the critical challenges in achieving sustainable development objectives, focusing on local 'disaster management system', capacity strengthening and harnessing technological advances (NDMA, Gol, 2016). The PM's Agenda-10 enables synergies of SFDRR, Paris Climate Agreement and SDGs and instigates onto the focus at local level, giving importance to rural areas alongside. It also gives importance to potential of traditional knowledge and local or indigenous innovations, which may offer many cost-effective solutions in risk mitigation (NDMA, Gol, 2016).

The year 2015 was a landmark year for the United Nations and Global Development Agenda. The convergence of interests and global concerns for sustainable development, disaster risk reduction and climate change led to the formation of a new roadmap for a sustainable and safe world together: The Sendai framework for disaster risk reduction, The 2030 agenda for sustainable development and The Paris Climate Agreement. These agreements of global significance provide opportunities to build coherence across different but overlapping policy areas. These agendas focus on the need to review all existing and new programmes and projects on rural development, along with the schemes on agriculture and poverty alleviation, and restructure them so that they can simultaneously reduce the risks of disasters by better planning, design, and application by investing in DRR for resilience.

The Gol has adopted the strategy of mainstreaming DRR through the developmental planning route, either through its Five-Year Plans or one-year plans or through its prestigious national flagship programmes (NIDM, 2020). There is a huge scope of decentralized planning in flag- ship development programmes of the Ministry of Rural Development, Government of India. Mainstreaming DRR and CCA concerns within program design and strategy formulation of these programmes can make their implementation on the ground truly effective (National Disaster Management Plan (NDMP), 2016).

6.6.2 Institutional Set up

The Disaster management Act, 2005 (DM Act 53 of 2005) lays down institutional and coordination mechanisms for effective Disaster Management at the National, State, District and Local levels. As mandated by this Act, the Government of India created a multi-tiered institutional system consisting of:

- National Disaster Management Authority (NDMA), headed by the Prime Minister.,
- State Disaster Management Authorities (SDMAs) by the Chief Ministers and
- District Management Authorities by the District Collectors and co-chaired by elected representatives of the local authorities of the respective districts.

The Act further provides for constitution of National Executive Committee (NEC), National Institute of Disaster Management (NIDM) and National Disaster Response Force (NDRF).¹² It also envisages the involvement of Community based and local level disaster management Initiatives in coordination and consonance with the District and state level disaster management authorities.

For the purpose of this Policy, local authorities would include Panchayati Raj Institutions (PRI), Municipalities, District and Cantonment Boards,

and Town Planning Authorities which control and manage civic services. These bodies will ensure capacity building of their officers and employees for managing disasters, carry out relief, rehabilitation and reconstruction activities in the affected areas and will prepare DM Plans in consonance with the guidelines of the NDMA, SDMAs and DDMAAs. Specific institutional framework for dealing with disaster management issues in mega cities will be put in place.

6.6.3 Community Based Disaster Management (CBDM)

CBDM initiates a process involving sequential stages that can be operationalized to reduce disaster risk. Processes of CBDM are guided by principle of:

- subsidiarity,
- economies of scale,
- equity,
- heterogeneity and
- public accountability.

The different stages in CBDM are:

- disaster/vulnerability
- risk assessment,
- risk reduction planning,
- early warning systems,
- post disaster relief and participatory monitoring and
- evaluation.

CBDM by its very nature demands a decentralized bottoms-up approach with intensive, micro interventions at the local Panchayats, ward or village level with the intention of generating confidence, awareness, knowledge, partnership and ownership for planning and rolling out local disaster management plans encompassing all levels of disaster management continuum. Equity and inclusion of marginalized segments of the society and bringing the vulnerable groups to the

centre stage of planning and implementation of the CBDM has to be prioritized to make the programme participatory and inclusive.

Disasters affect the entire community, however, persons with disability, women and children, underprivileged, older persons and pregnant women need special attention at the programme implementation level. Such rights and human dignity based inclusive ethos created by such programmes will empower communities and display resilience in times of crisis. Capacity building and training of community volunteers is the mainstay of community-based disaster management since they are the first responders. Considering the large number of stakeholders and community representatives that need to be sensitized and trained, it is important that capacity building and training interventions be meticulously planned for the purpose of CBDM. CBDM should converge with existing mainstream, institutional mechanisms and social welfare delivery programmes to make it holistic, cost effective, multi-dimensional and community centric.¹³

6.6.4 Gram Panchayat/Village Disaster Management Plan

The Village Disaster Management Plan (VDMP) emphasizes the local level as the first line of response, since communities are often the most familiar with local sources of risk and the first on the scene after disaster strikes. It can be used to tap human and material resources in the aftermath of a disaster and describe the roles and responsibilities of the concerned officials and teams related to that village.¹⁴

Development of Village Disaster Management Plan is the most important ingredient in implementing Community Based Disaster Risk Management in any area. It refers to a list of activities a village agrees to follow to prevent loss of life, livelihoods and property in case a disaster. It also identifies in advance, action to be taken by individuals in the community so that each one

knows what to do when a disaster strikes or when a warning is received. The main objective is to empower the community to deal with disasters on their own as a way of life. The following figure shows the process of disaster management.

The Actions and initiatives can be grouped into Two Phases: Pre Disaster Phase and Post Disaster Phase. The Pre Disaster Phase involves

all the Mitigation Measures through preparedness and capacity development to prevent untoward circumstances. The Post Disaster phase involves Immediate relief measures post eventuality and Recovery Measures by an Assessment and respective Reconstruction and Rehabilitation.

Figure 6.3: Disaster Management Cycle

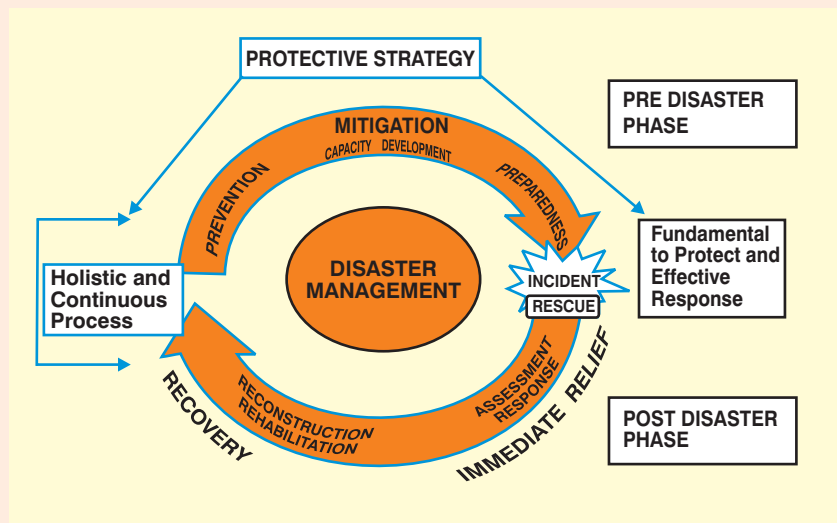
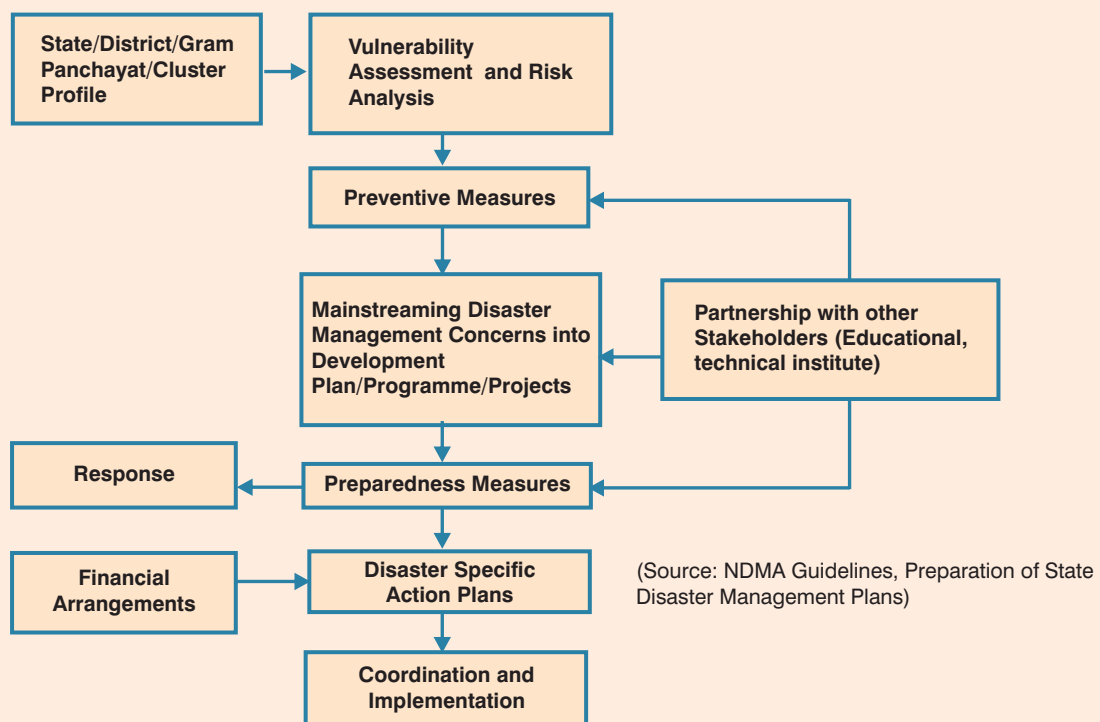


Figure 6.4: Suggested Framework for developing SDMP, DDMP, VDMP, CDMP



a) **Vulnerability Mapping**

Hazard zonation mapping and vulnerability analysis in a multi-hazard framework will be carried out utilising Geographic Information System (GIS) based databases such as the National Database for Emergency Management (NDEM) and National Spatial Data Infrastructure (NSDI). As a first step towards addressing disaster vulnerabilities, Central Ministries and Departments, National agencies, knowledge-based institutions and DM authorities at the State and District levels need to carry out risk and vulnerability assessment of all disaster-prone areas. Hazard zonation mapping and vulnerability analysis based on GIS and remote sensing data, needs to mandatorily include a ground check component. Hazard and Consequence Mapping on GIS platforms will be prepared for all chemical accident-prone districts. The increasing use of GIS, remote sensing and applications of Global Positioning Systems (GPS) in DM, has made it imperative to set up a mechanism for sharing thematic and spatial data through a designated electronic clearing house. The NSDI has been set up by the Survey of India, to collect, compile, analyse and prepare value-added maps for use by various agencies in the field of DM for management of natural resources, industrial applications etc. The NSDI need to work towards interoperability of data and information sharing protocols to facilitate effective policy analysis. A two-way interoperable link will be established between NSDI and the proposed National Disaster Emergency Communication Network for easy and quick sharing. The programme designed to have spatial and non-spatial databases in a secure environment under the NDEM will derive the data sets through NSDI for addressing the information needs for disaster management.¹⁵

b) **Prevention Preparedness and Mitigation Measures**

Prevention consists of actions that reduce risk from natural or manmade disaster incidents. It is

required to list and elaborate all types of measures (like - building codes, flood plain management, storm water management, coastal area zoning and management plan, etc.) – planned and implemented by the districts as a part of prevention measures. It is good to have long term mitigation goals in place and connect these goals with measures that district has planned and implemented.

These goals may include (but not limited to):

- Provide better early warning methods for flood, storms, cyclone
- Reduce the destruction and loss of life within buildings
- Provide for safer environments for transportation systems
- Eliminate flooding in populated areas
- Ensure redundant water supply systems
- Reduce environmental degradation and restoration of livelihood
- Reduce effects of the natural environment on the infrastructure
- Ensure redundant power systems on critical facilities
- Ensure adequate materials available for road maintenance

Protection reduces or eliminates a threat to people, property and the environment. Primarily focused on adversarial incidents, the protection of Critical Infrastructure and Key Resources (CIKR) is vital to local habitations, national security, public health & safety and economic vitality. Protection includes actions or measures taken to cover or shield assets from exposure, injury or destruction. Protective actions may occur before, during or after an incident and prevent, minimize or contain the impact of an incident.

Mitigation, with its focus on the impact of a hazard, encompasses the structural and non-structural approaches taken to eliminate or limit a hazard's exposure; impact on people, property

and the environment. Besides flood proofing, river desiltation, change in land use pattern and shelter belt plantation.

Examples of mitigation activities also include:

1. **Town Planning Act:** Planning, adopting and enforcing stringent building codes, flood-proofing requirements, seismic design standards and cyclone wind-bracing requirements for new construction or repairing existing buildings.
2. **Zoning Regulations:** Planning and adopting zoning ordinances that steer development away from areas subject to flooding, storm surge or coastal erosion.
3. **Development Control Regulations:** Incorporate the disaster management concerns into development. This should include all Government Sponsored Developmental Programs and Schemes.
4. **Undertaking retrofitting** work on public buildings to withstand ground shaking or cyclone-strength winds.
5. **Specificity of disaster**
6. **Land use regulation:** Planning and building community shelters and cyclone safe rooms to help protect people in their homes, public buildings and schools in hurricane and tornado-prone areas.
7. **Safety norms** for economic and social infrastructures including places of worships and crowd management: Steps taken for developing and implementing public safety norms for critical infrastructures and places of worships.
8. **Capacity Building for Mitigation:** Steps taken for human resource development and capacity building for effective disaster mitigation at District Level.
9. **Awareness generation** on disaster mitigation.

For further information National Disaster Management Guidelines and Handbook for Effective Disaster Management at Micro Level-NDMA&IGNOU, can be consulted.

c) Roles and Responsibilities at local level

Local Authorities have the following duties:

- i. To provide assistance to the District Collector in disaster management activities.
- ii. To ensure training of its officers and employees and maintenance of resources so as to be readily available for use, in the event of a disaster.
- iii. To undertake capacity building measures and awareness and sensitization of the community
- iv. To ensure that all construction projects under it conform to the standards and specifications laid down.
- v. Each department of the Government in a district shall prepare a disaster management plan for the district. The local authorities need to ensure that relief, rehabilitation and reconstruction activities in the affected area, within the district, Block, Cluster and Gram panchayats are carried out.
- vi. Trust / Organisations managing Places of Worships & Congregation

Each establishment / organisation identified as critical infrastructure and key resource in a Gram Panchayat or cluster.

- a) Including places of congregation in a Gram Panchayat shall prepare - on-site and -off-site disaster management plan.
- b) Carry out mitigation, response, relief, rehabilitation and reconstruction activities.

Community Groups and Volunteer Agencies:

- i. Local community groups and voluntary agencies including NGOs normally help in prevention and mitigation activities under the overall direction and supervision of the DDMA or the Collector.
- ii. They should be encouraged to participate in all training activities as may be organized and should familiarize themselves with their role in disaster management.

The following chapters starting from Chapter VII to the end gives the details of how to implement various aspects of Spatial Rural Area Planning.

SIMPLIFIED PLANNING TECHNIQUES

One of the most commonly faced problems by Spatial Planners is lack of data availability and data records maintained by government offices. This poses a great deal of hindrance in plan preparation. The entire planning exercise requires collection and maintenance of data sets for analysis of present situation or existing scenario to predict the future requirements, issues and potential of a settlement. The data can be quantitative as well as qualitative to analyze the existing infrastructural services and make estimates based on population projections.

The Census of India, is the only organisation providing the information of villages regarding the demography and households assets and provision of services in Village directory. The CSO report on “Basic Statistics for Local Level Development” (BSSLD) is another initiative which addressed the needs of data requirement at local level for future planning.

The chapter briefly describes some of the useful and simplified techniques for data collection, survey, analysis, projections and mapping.

7.1 Data Identification and listing

The BSSLD report gives a clear idea about the datasets that needs to be maintained at local level and hence, a checklist can be prepared, referring BSSLD document, which would help in preparation of datasets for further analysis. Appendix 7.1 gives a suggestion of datasets required for Gram Panchayat Spatial Development Plan.

7.2 Data Collection Techniques

Information or data can be divided into two types, i.e. Primary data and Secondary data. Primary data is collected first hand by

investigator, thus through Primary survey. Secondary data is second hand data, initially collected by some other investigator for other purpose but later on used by an investigator for his/her own purpose.

7.2.1 Data Collection

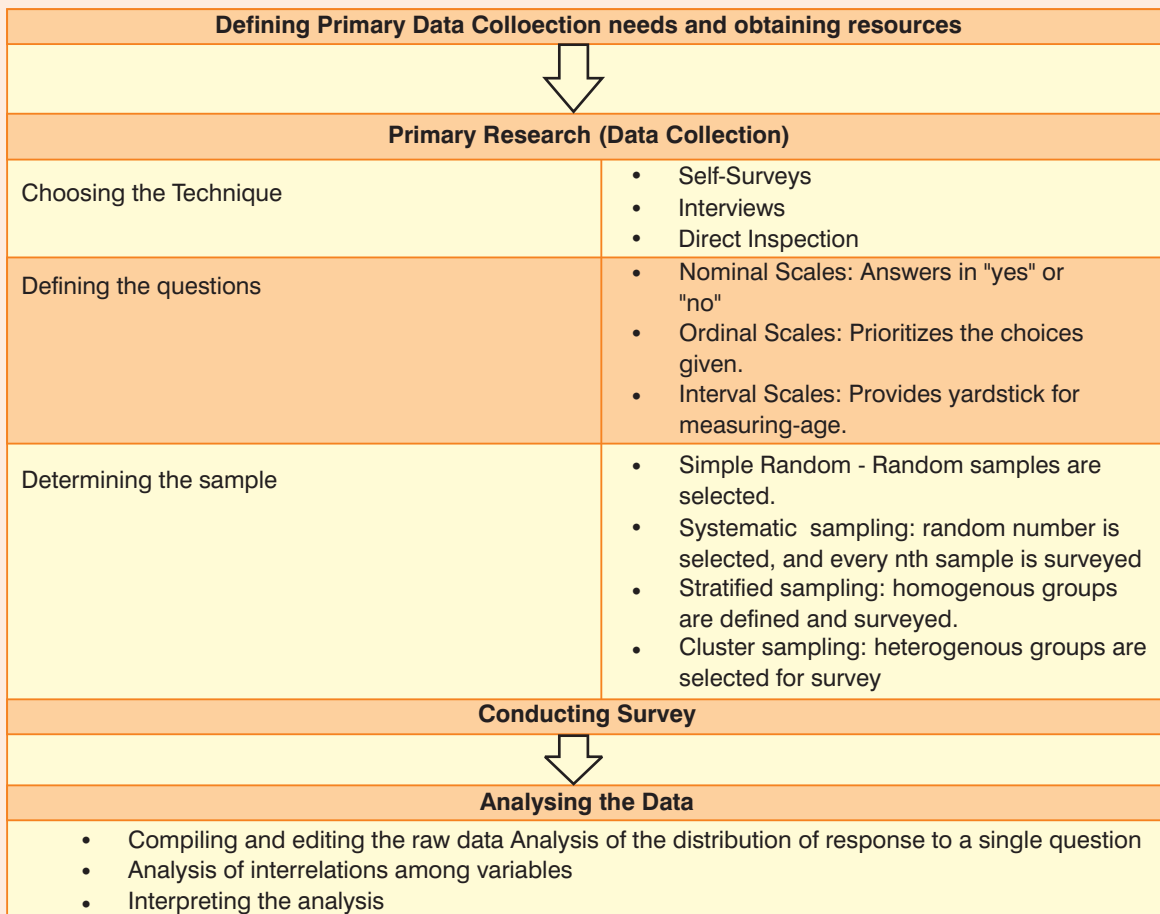
A) Primary data collection techniques

Primary data are data that were previously unknown and which have been collected directly by the researcher for a particular research project. Primary information is primary data to which meaning has been added; in other words, the data have been analysed, inferences have been drawn from them and, thereby, meaning has been added.

This section discusses four types of primary surveys which are listed in the order of passive to active respondents. Following are the broad categories of primary surveys:

- Visual survey / Reconnaissance survey: This survey does not require direct contact with population of the study area. It is quick overview of the area.
- Inspection: It involves direct inspection of area by surveyor for extracting information.
- Personal Interview/Dialogue: This survey is more personal and could be either face to face or telephonic. In such type of surveys some initial topics are investigated to gain insight in the area of interest.
- Self-survey: In this type of survey indirect contact is made with the respondent by sending questionnaire through mail or handed out but the response is not collected on the spot.

Figure 7.1: Stages of conducting Primary Survey



Source: Reading Material on Planning Techniques by JH Ansari and Shri Mahavir & MM analysis

a) Visual surveys/Reconnaissance survey

Visual surveys are direct inspection surveys which are performed by survey teams moving in automobile or walking. This type of survey can be used in the initial stages of the investigation, often after preparing initial checklist. It performs variety of functions, such as:

- Familiarize with study area.
- Give initial impressions of the physical and human state of an area.
- Identify selected areas for further investigation.
- Generate ideas for development of checklist.

b) Inspection

Direct Inspection: The direct inspection of

conditions or activities is employed in many kinds of surveys where human communication is not required to elicit the information. It can be used for observing traffic counts, recreation area use surveys, housing quality studies and proxy observations where required.

Indirect Inspection: The findings of the initial survey can be substantiated with the help of Key Indicator Survey which are specific to the objectives of the analysis. Often, instead of getting direct information on the variable, surveyors rely on observing approximations known as proxies. A proxy is used to inform about a variable without direct investigation, instead investigating its key indicators. Such as: instead of enquiring about the income range, the surveyor can observe the housing condition, number of vehicles and other consumer goods.

c) Personal Interview/Dialogue

A number of types of surveys are undertaken face to face or by telephonic conversation. The questionnaire format in these surveys is either objective or subjective and based on qualitative or quantitative information gain.

In case of quantitative survey, the structured dialogue is one-way where precise questioning takes place. Semi-structured dialogue is a flexible two-way process where only some initial topics are investigated. These topics can be revised as the practitioner gains insight in the area as information flows-in from the respondents. The semi-structured dialogue is thus an informal process but it needs to be managed expertly, particularly in the aspects listed below:

- Behavioural factors of the surveyors and respondents
- Questions not to be ambiguous or long
- Careful probing to seek answers
- Judging responses without biases
- Cross-checking with other respondents
- Managing the conversation
- Recording the interview (audio/video)
- Avoiding errors and biases

d) Focused Group Discussion (FGD)

Focused group discussion is a qualitative data collection and research technique. Questions about opinions, perceptions, beliefs, attitude of people towards planning aims, services are probed in these discussions. FGD can be used for learning about stakeholders, their interrelationship and to know about a range of issues on the topic. This method costs fairly low compared to surveys, as one can get results relatively quickly and increase the sample size by talking with several people at the same time. FGDs can either be used to explore meaning of survey findings that cannot be explained statically as well as before designing questionnaires. Homogenous group of people

are selected for FGD so that they are comfortable and have free flow of discussion. Main objective and key questions of the meeting should be pre-decided. Group of 10 to 12 people and questions should be selected for a single FGD. More than one, mostly three to four FGDs to be done before legitimate results can be reached on an issue. FGD in rural settings can make use of interactive diagrammatic data collection techniques such as mapping, Venn diagram etc.

e) Self-Survey

These are often in the questionnaires sent to respondents through mail or survey forms handed out or inserted in the newspapers and the filled questionnaires are mailed back to the surveyor. It has various limitations, like; responses can be low and unsatisfactory. Primary data collection techniques can be costly and very time consuming thus methods of rapid information collection, which rely mostly on direct observation, is an alternative. This method seeks several views of anyone "fact" (cross checking), makes use of checklists and semi structured dialogue. However, rapid methods must not be considered as substitutes to specialist investigations and should be used for quick access to information for rapid decision making only.

7.2.2 Secondary Data Collection techniques

Secondary data is the data that have been already collected and recorded by someone else and readily available from other sources. Secondary data collection is faster, less expensive and includes lesser activities. However, the secondary data may not always meet the needs of the planners/researchers or investigator.

i) Published sources:

Mostly secondary data is collected from published sources, which makes it reliable. Some important Sources of published sources and statistical data are as follow:

- Published reports of Central and State

Governments and local bodies.

- Statistical abstracts, census reports and other reports published by different Ministries of the Government.
- Official publications of the foreign Governments.
- Reports and Publications of trade associations, chambers of commerce, financial institutions etc.
- Journals, Magazines and periodicals.
- Periodic Publications of Government organizations like Central Statistical Organization (CSO), National Sample Survey Organization (NSSO), Census Decadal data.
- Reports submitted by Economists, Research Scholars, Bureaus,
- Published works of research institutions and Universities

ii) Unpublished sources:

Statistical and non-statistical data can also be collected from various unpublished sources.

Some of the important unpublished sources from which secondary data can be collected are:

- The research works carried out by scholars, research associates and professionals.
- The records maintained by private firms and business enterprises, which may not have been published due to business discretion.
- Records and statistics maintained by various departments and offices of the Central and State Governments, Corporations, Undertakings among others.

7.3 Digital Data collection Techniques- Village Information System (VIS)

Information or data can be textual/attribute or

spatial in nature. Alongside its primary and secondary collection techniques, it is also possible to access data on various digital platforms. Stepping into the fourth industrial revolution, it is imperative to understand public, private, open source and crowd sourced digital data platforms.

Primary surveys may be conducted using latest technologies and thereby generate digital primary information. Similarly, secondary information available may be converted and processed in digital formats. This information when collected, geo-located and temporally analysed, produces rich and enhanced socio-spatial-temporal data useful in rural development planning.

a) Village information system (VIS)

Village information system (VIS) is a Spatial Data Infrastructure (SDI), using GIS based information management system, where both spatial and non-spatial information (demography, infrastructure, natural resources, topography, land-use landcover, agro-industrial productivity information, socio economics etc. (refer to section 7.5 to 7.7) is managed at the village level, block level and District level. The system provides for storage, handling, retrieving, and analysing information and making it available in easily understood thematic formats in public domains like html environments. When applied to development planning, VIS allows assimilation of data/information collected from diverse sources and its iterative assessment for alternative development scenarios and thereby facilitates resource allocation and quick data-based decision making (Spatial Decision Support System - SDSS) for planners and policy makers (Singh et al., 2018).³

VIS facilitates:

- Information assimilation – making inter - data interoperability possible among a plethora of datasets.

³Singh, R. K., Bisht, D., & Sundriyal, R. C. (2018). Village Information System (VIS): A Step towards Rural Development in the Indian Himalayan Region. 8(1), 15–20

- Information processing- sectoral, thematic, and spatial
- Information dissemination in easy to understand and spatial formats.
- Controlling data accessibility and privacy
- Ensuring data validity and updates

In a VIS, the main components acting as sources of information/data, are villagers (citizens), government departments, government programs/schemes/reforms, village administration and village Panchayats. With growing promotion of private sector, private players/NGOs/CBOs etc. also contribute to and access information. Villagers majorly contribute primary data, and the secondary data is sourced from government departments/schemes etc. Data collected, mapped, and processed by a VIS may be categorised as following:

- Basic demographic data
- Socio-economic data
- Physiographical data
- Infrastructure/utilities/amenities data
- Geo-political and boundaries data
- Fiscal data – revenue, grants, loans, expenditures, deficits etc.
- Judicial data – related to any, and all stakeholders, public/private property, development scheme/project etc.
- Citizen feedback
- Grievance Data

The aspects of quantity and quality, both are captured and mapped for each one of them.

b) VIS for socio-economic planning:

Data collected, mapped, and processed and made available on a VIS can be used in the making of government schemes/policies (central, State, local, internationally funded etc). Availability of information also facilitates geo-locating beneficiary concentration and precise beneficiary identification. Further, by providing

feedback, the same beneficiaries help in monitoring the success and implementation of the scheme. Primary information from citizens/villagers may be collected physically or digitally. Workshops, brainstorming sessions, stakeholder meetings may be conducted. Such information gathered is to be fed to the VIS. VIS virtual participatory/feedback/grievance portals, forms and even mobile applications can be developed to receive information, which can feed into the VIS.

c) Linking VIS to GPSDP and Village Planning Schemes (VPS)

It is suggested that the socio-economic proposals, the proposed land-use plan and infrastructure provisions in the VPS (refer to section 8.1) and GPSDP (section 4.0) be mapped on VIS. Annual plans and projects be geo-located and thus integrated with the VIS. A VIS can thereby be used for the following purposes:

- Use the standard base-map available in the VIS for a delineated planning region
- Geo-locating spatial plan proposals under VPS and GSDP
- Plan implementation governance: Spatial responsibility mapping for various developmental works proposed (spatial governance)
- Plan implementation and monitoring: Monitoring physical progress of VPS and GPSDP implementation
- Monitoring spatial allocation and usage of funds for implementation/execution of proposals
- Citizen based budgeting, monitoring, and feedback: VISs have huge potential to be used as platforms for participatory development planning and budgeting. VIS may be leveraged to implement citizen sciences for development planning in rural areas. (refer to section 7.3.2)

There are some preliminary efforts towards developing a VIS in India.

d) Gram Manachitra

Gram Manachitra is a geo spatial decision support system for panchayats developed by the National Informatics Centre under the e-Panchayat Mission Mode Project of Ministry of Panchayati Raj. Gram Manachitra is linked to SVAMITVA scheme through a tripartite MoU among NIC, NICS and MoPR.

It provides information about:

- GP basic information
- Financial institutes
- Educational institutes
- PDS
- Health
- CSC
- Textual GP SECC data
- maps indicating the geo-location of various social and economic amenities and infrastructure.
- Textual fiscal data - finance commission allocation data and resource allocation from various schemes/programs
- Progress report on Antyodaya mission
- The portal allows to build queries and print maps with desired information. Following is the image of a panchayat map generated from its website <https://grammanchitra.gov.in/>

A detailed report on Gram Manachitra is given in Appendix-2.1c.

e) Data for VIS

Refer to section 7.5 to 7.7 to know the various datasets, their sources and various GIS mapping platforms available. VIS also facilitates attribute data available only in tabular format, to be processed and geographically represented on maps to understand their spatial spread and

concentrations. This especially is beneficial in mapping allocation, usage and accrual of funds/fees/taxes and other fiscal data.

7.3.1 Drone survey

Drones are Unmanned Aerial Vehicles (UAVs) for geographic data capture. To contribute to the building up of a LMIS, drones are an important technology being used to conduct Large Scale Mapping (LSM) aerial surveys of dense built-up areas. A drone survey may especially serve the purpose of digitising built in the abadi/gamthal area of a village at a 1:500 scale on UTM projection and WGS-84 datum. The technology is time and cost effective and can be readily used in inaccessible terrains. Presently, in India it is being used by SVAMITVA Scheme to build a rural digital property database for LMIS to provide property validation solutions. This has been explained in detail in section 7.6. Gram Manachitra explained above, is using the data generated under SVAMITVA to generate spatial rural information. Over and above its application in building a GIS-based Property Information system, this technology also helps in assessing the building condition and roof material, spatial layout of infrastructure and natural resources.

Benefits of using Drone technology are:

- access to safe, accurate and timely spatial data
- time efficiency
- reduction of data acquisition cost
- providing access to otherwise manned inaccessible terrains

Limitations:

- weather dependent
- short flight time accuracy
- requires technically skilled professionals to carry out the process

7.3.2 Data crowd sourcing

Promoted by National programs like Digital India

E- Panchayat, Digi-village (The Digital Village campaign) all villages in India shall be digitally equipped and villagers be digitally literate, thus citizens shall increasingly be generating digital data. Several national programs and schemes launched by the GOI are now providing a mobile application to collect data, monitor progress and gather citizen feedback on the implementation of the scheme/program/reform. These platforms are increasingly being used to disseminate information to citizens and especially beneficiaries. They are designed to facilitate beneficiaries to feed geo-tagged and pictorial updates and provide feedback on the quantitative and qualitative aspects of implementation. An example is the mobile application for Mission Antyodaya and the mobile application for PMAY (Gramin) - Aawas Mobile Application. This data set is indirectly crowd sourced information that can be used to assess the physical and fiscal progress of various programs and schemes in rural parts of India.

Using crowd sourced data for GPSDP and VPS

Stakeholder meetings and FGDs are primitive forms of citizen engagement and data sourcing. These are now facilitated by technology and digital platforms. Citizen science and E-participation for development planning is the new way of engaging citizens in planning and capitalising on social capital for socio-economic planning. Data crowd sourcing can be leveraged through several web-based data-entry forms and online social networking sites. The data especially seeks to map citizen experiences and tacit spatial knowledge useful for the preparation of GPSDP and VPS.

The process involves:

- Identification of target population/ community/group/stakeholders
- Reaching out to them through internet/e-platforms and receiving consent to participation
- Preparation of questionnaire/opinion form/optical mark recognition (OMR) or optical character recognition (OCR) sheet or any other digital response format
- Recording responses received
- Processing/analysing responses received into meaningful inferences.
- These inferences/inputs are further incorporated to the socio-economic and physical land-use-infrastructure planning proposals in the GPSDP and VPS.

7.3.3 Digital software applications for data collection and management

Apart from the GOI initiatives and techniques of data collection, there are several private android and iOS based mobile applications that are being used to collect information and conduct fieldwork. Many have been recently promoted by the GOI and several developed by private players are available for usage. There are many open source, free downloadable web-based applications that may be used keeping in mind their data privacy and data policies.

7.4 Satellite imagery and Maps

7.4.1 Various Scale of Maps corresponding level of details

The scale of map will differ according to type of map and the information required from the map. Following are the list of the maps to be prepared for the Gram Panchayat Spatial Development Plan:

Table 7.2: Scale of Map of GPS

Map	Information	Scale
Regional Map	Location of Village in District/Block	1:50,000 -1:1,00,000
Gram Map Panchayat	No. of Villages in a panchayat and adjoining areas showing rivers, roads, railways, administrative boundary of panchayat, abadi area of villages and location of various facilities	1:20,000 -1:50,000
Abadi area map	Inhabited area of the villages	1:5000 -1:10000
		1:500 (when SVAMITVA Land Parcel Maps- LPM available)
Layout map of village	Layout of residential location area of village and location of the various facilities.	1:5000 minimum
Land-use map of village	Land -use	1:5000 or more
Infrastructure Layout maps	Maps illustrating the layout and spatial distribution of infrastructure on the	1: 500 to 1:5000

7.4.2 Map checklists

Table 7.2 shows the maps required for GPSDP, the information it intends to provide, and its sources from where to avail it. **Appendix 7.1** gives the Map Information Check list in details.

7.5 Procedure of Collecting Data

Procedure to retrieve data by permissions, which is not available in the public forum are given below:

7.5.1 Toposheets

Unrestricted topographical/ city guide maps published by Survey of India are available for sale. The standard topographical maps on scale 1:25000 and more published for selected villages are useful for rural development plan purpose. All the topographical maps along the external boundary/coastline of India, as indicated in the Topo Index map of Survey of India are categorised as restricted maps. The restricted category maps can be procured by State and Central Governments/Private

Individuals / organisations/commercial firms by following a prescribed procedure. Private individuals and organizations / commercial firms can also obtain restricted maps with prior approval from Ministry of Defence through the State Government to whom they should apply.

7.5.2 Aerial photography

The available information regarding area of interest, its scale and cost rates can be obtained from Surveyor General's Office, Dehradun or the Directorate of Survey (Air), New Delhi. Survey of India (Sol) has a dedicated web portal for presenting the meta data information available with Sol from various aerial photography tasks commenced. Web Aerial Photography Transaction Registry (APTR) provides transparent indenting process based on instructions issued by Ministry of Defence. Indentor can obtain the existing photography by marking the area of interest on 1:250,000 scale topographical map, indicating purpose, identifying the type (B&W, colour, colour infrared), scale and the photographic product

required (contact prints, enlargements, mosaic, etc.). If the existing photography does not cater to the requirements of indenter, process for fresh aerial photography can be initiated. The National Government agencies, which provide fresh aerial photography, are:

- Indian Air Force (through Survey of India)
- National Remote Sensing Centre, Hyderabad
- Air Survey Company, Calcutta.

For indenting fresh aerial photography the indenter may approach any of the flying agencies with specific information. The indenter may mark the limit of the area to be photographed on 1:250,000 scale toposheet if photography is required on scale smaller than 1:20,000 and 1:50,000 scale toposheet if photography is required on scale 1:20,000 and

larger and apply with the specific requirements mentioned for the procurement of the existing aerial photography.

7.5.3 Satellite Imagery

National Remote Sensing Centre, Hyderabad is the nodal agency for supply of current and archived satellite data products from all contemporary satellites namely Oceansat-1, Oceansat-2, Resourcesat1, Cartosat-1, Cartosat-2, Resourcesat-1 and from older satellites like, IRS-IA, IRS-IB, IRS-IC, IRS-ID, IRSP3. These can be processed to various levels and supplied on photographic media or on digital computer compatible media. Satellite data (processed and raw), aerial products, visualization services can be assessed from the NRSC Data Centre, Hyderabad. Standard Satellite Data provided by NRSC (as on 2014) is presented in the Table 7.3.

Table 7.3: Satellite Imagery

Sensor	Product	Scale (Accuracy)
HIGH RESOLUTION		
PAN(1m)	System corrected Geo-referenced Mono (9.6Km X 9.6Km)	10.(100m)
	Ortho Kit with RPC AOI	11. (100m)
PAN-A/F(2.5 m)	Geo-reference Mono (27.5Km X 27.5 Km)	12. (250 m)
	Stereo Ortho Kit (27.5Km X 27.5 Km)	13. (250m)
	Ortho Corrected (7.5'X7.5')	25,000 (25m)
LISS-4MX (5m)	Standard (23.5 KmX 23.5 Km)	14. (500 m)
	Standard Full Scene (70 Km X 70 Km)	15.(100m)
	Full Scene Ortho Reflected (70 Km X 70 Km)	16.(10m)
MICRO WAVE (RISAT)(1m - 50m)	Standard RISAT SAR	17.
MEDIUM RESOLUTION		
LISS-III (24m)	Standard Full Scene 141 Km X 141Km	250,000 (500 m)
	Full Scene Ortho Rectified 141Km X 141 Km	18. (24m)

Sensor	Product	Scale (Accuracy)
AWiFS (56m)	Standard Full scene 740 Km X 740 Km	19. (500 m)
	Full Scene Ortho Rectified 740 Km X 740 Km	20. (56m)
	Standard Quadrant 370 Km X 370 Km	500,000 (500 m)
	Quadrant Ortho Rectified 370 Km X 370 Km	21. (56m)
LOW RESOLUTION		
OCM (360m)	Full scene (1420Km X 1420Km)	22. (1.5 Km)

Source: National Remote sensing centre quoted in URDPFI Guidelines,2014

7.5.4 Geological Survey of India

To assess the meta-database of Geo-environmental studies for various villages in India, with interpretation of geomorphology, hydrology, geological structures and tectonic data from Geological Survey of India, Rural Local Bodies and its representatives can approach Ministry of Mines and GSI with their specific requirements.

7.6 GIS Based Gram Panchayat Spatial Development Plan

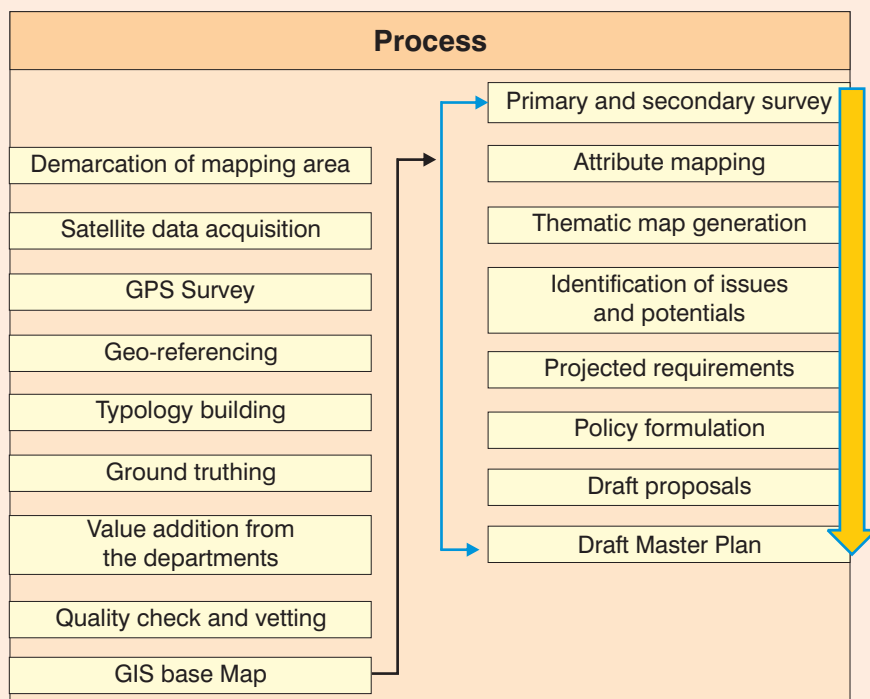
Rural areas development plan formulation and implementation requires a methodological framework for spatial planning. For the resource-based development of rural areas, a Panchayat-level integrated spatial participatory planning is the need of the hour. Spatial planning involves making decisions based on the spatial patterns and processes such as distance, location, neighborhood and proximity of various natural resources, infrastructural facilities, human activities and welfare activities in a set of terrain conditions. It is essential for a planner to understand the patterns of land use and land cover with social structure and to identify local resources and amenities. In the entire process of village development plan formulation starting from preparation, approval and finally its implementation on ground an enabling

environment is required, where one can geo-visualize, analyze and monitor the implementation status in a transparent way. Such an enabling environment will act as a tool in crafting the strategic guidelines at the Panchayat level for a holistic development of the region.

GIS shall be used for the preparation of spatial plans for panchayats. GIS along with the interface of Remote sensing will add to availability of various information at village level which will facilitate spatial planning in rural areas. Annexure 5 mentions the case study conducted by NIRD, which can be referred for the preparation of GIS based Gram Panchayat Plans.

Remote sensing and GIS technologies play a key role here, right from generating and integrating geospatial information, to presenting on a user-friendly and interactive map. A map depicts the terrain, natural resources and human activities along with infrastructure facilities as an integrated view, which is the base for spatial thinking and further decides on intervention required and forming planning strategy. It helps to make informed decisions and subsequently the informed investments at the Panchayat level for effective and transparent planning, implementation & monitoring of center- or state-sponsored schemes.

Figure 7.2: Process of using GIS in GPSDP



Source: Formulation of GIS based Master Plan for AMRUT Cities, Town and Country Planning Organisation, Ministry of Urban Development, GoI, November 2015

7.6.1 SVAMITVA platform for spatial planning

As illustrated in section 2.7.5 SVAMITVA platform provides GIS based LPC (Land Parcel Maps) and built environment profile on a scale of 1:500 for village inhabitation areas. The scheme readily provides spatially mapped and linked revenue (property) information for the built-up in the inhabited rural areas. Standardisation of GIS database for the following datasets is the focus of the scheme:

- i. Cadastral
- ii. Transportation
- iii. Hypsography or Terrain
- iv. Hydrology
- v. Habitation
- vi. Drainage
- vii. Land Use or land Cover (LU/LC)
- viii. Point of Interest

This information available is suggested to be used in the preparation of base map on which

the land-use and infrastructure plans under the GPSDP and VPS can be prepared. A detailed aspects of SVAMITVA is given in Appendix 2.1b.

7.6.2 Bhuvan platform for Spatial Planning

An enabling environment named Bhuvan Panchayat Portal is developed and hosted by NRSC (ISRO) under the project named 'Space-based Information Support for Decentralized Planning (SIS-DP)'. The web-portal integrates geospatial layers derived from space-based inputs in a web-GIS framework with interactive modules like Area Profile Report Generation, Asset Mapping, Activity Planning and Implementation-Monitoring for facilitating effective developmental planning in the light of Village Developmental Plan.

a) Database Available

The following are the database available on Bhuvan Panchayat Portal:

- **Satellite imagery:** An ortho-corrected high-resolution satellite imagery

database (fused product of Cartosat-1 and LISS-IV imagery) is generated for the entire country to act as a base layer for further mapping.

- **Thematic data:** Overlaid on the base layer, various thematic layers (such as land cover, drainage, transportation and slope layers) are prepared at 1:10,000 scale for the entire country.
- **Legacy data:** Soil information layer, groundwater potential, forest boundary, water-shed boundary, wasteland information and slope class layer
- **Cadastral data:** Prepared at 1:4000 scale for five priority States
- **Administrative boundaries:** Village, Panchayat, Intermediate Panchayat, District, State, Parliamentary and Assembly Constituency
- **Asset Data:** A continuously growing national inventory of geo-tagged community assets along with their photographs and related attributes is available on the Portal for its utilization in developmental planning. The inventory is crowd-sourced for citizens/PRIs/facilitators to map assets through Bhuvan Panchayat Asset Mapping Mobile App.
- **Non-spatial data:** In addition to the geospatial layers, the project database comprises village amenities, demographic and climatic data integrated with spatial database.

Following are the points worth mentioning in terms of database:

- **Periodicity of the satellite data:** There is a provision to update the satellite data every two years in order to facilitate regular monitoring of progress as per village.
- **Accessibility of the datasets:** All the datasets are available in public domain

and viewing them on Portal does not require any registration.

b) Geo-visualization facility

Geo-visualization in its entirety encompasses search, access, visualize, analyze, understand and use the spatial and associated non-spatial data. The default window of the Portal contains a map-viewer that enables the geo-visualization of satellite imagery (along with other geo-spatial layers) that may be zoomed up to Panchayat / Village level. The left pane in the default view of the Portal gives options to visualize or hide various geospatial information layers.

Several navigation tools, measurement tools and personalization tools are also provided to facilitate geo-visualization.

c) Interactive modules for planning needs

Towards the aim of facilitating the preparation of resources-based village developmental plans using space-based inputs, several specialized sets of functions are created, which may be used as tools for information extraction, analysis and updation along with its utilization as per the planning requirements. Following is a detailed description of each of such modules, as to what their capabilities are and how they can be used.

d) Automated area profile report generation module

This module integrates the spatial and non-spatial data for the selected area and delivers a ready-to-use profile report in a professional format with various maps, statistics and graphs. The selected area, part of an administrative unit, is spatially identified by a unique code. The demography and climate datasets are linked with the spatial datasets through this unique code.

The data is retrieved and presented using spatial queries exploiting join and aggregation operations. In a nutshell, for the desired area, this

module presents a resource inventory on natural resources and available manmade community assets along with information on disaster-prone locations and other major issues/constraints with its priorities. The following points are worth mentioning regarding this module:

The module is interactive: Information can be updated from the user side as well. It facilitates assimilation of crowd-sourced information which may be considered more near to ground reality.

The following are the components of this module:

Identification details: This component provides administrative details of the selected area. Contact details of the key persons at various administrative levels are also provided so as to facilitate communication with the governing bodies. A table has also been given to highlight the on-going schemes along with its potential beneficiaries and money allocation details for a quick overview of development activities under progress in the selected area. This data is useful to locate any area and to decide the ongoing as well as future development activities.

Climate data: It provides information about statistical average of rainfall, temperature, and humidity over desired area and time frame. This data is averaged in two ways: grid-wise and district-wise.

Major issues and constraints of the area: It describes the problems and limitations in the area that require immediate attention. The development of an area depends on many factors such as its geographical location, governing authority, public participation, funding through various development schemes and their monitoring etc. Requirements for development would be different for each administrative unit (district/block/village). To begin and assess any development activity in any area, it is necessary to have an inventory of both existing and required facilities/amenities. This will help to decide the type of development activities which

can be undertaken, and the same can be proposed and subsequently communicated to the higher authorities to get required sanction. Many of the issues listed here may find its origination at the Panchayat level discussions by the villagers during Gram Sabha meetings.

Priorities of the area: This component provides a list of significant activities that needs to be taken up on priority in the area. This list may point out all the gaps in developmental activities; however, the governing body needs to identify crucial and important activities which should be taken up immediately. Usually many applications for different schemes and activities proposed by local bodies are submitted to PRI heads, but a priority list of activities will enhance the focus of governing bodies to felicitate the important process.

Ongoing activities: This component highlights the ongoing activities under various schemes in an area. An inventory of existing activities under different schemes, its functioning authority/department, allocated budget, its period, and status are very important data for planning and decision making. PRI has to assess the development status of selected area using this data, and thus can further refine the ongoing development activities.

Village and Town Directory-2011: This component provides primary census abstract with village & town directory of the area as per Census-2011. It gives insight into socio-economic information in the form of tables and charts. Many development schemes are based on socio-economic profile of an area. These schemes are introduced to bring gender and economic equality and also to improve literacy, health as well as overall behavioral and social development. To introduce such schemes and assess such activities, primary demographic data of an area is the foremost requirement. This component also facilitates governing body to modify the dynamic demographic details of selected area. These changes can be seen on

portal in yellow column as well as in print format area profile report in tabular representation with starred mark.

Village Amenities Directory-2011: This component provides the information of Village Amenities at the village level; the data has been compiled from Census of India 2011. It provides the detailed information for Educational, Medical, Drinking Water and Other facilities. For grassroot level planning, this data will be reliable and basic source for developmental activities.

House Listing & Housing Census Schedule-2011: This component provides House Listing & Housing Census Schedules according to Census of India 2011. It gives the details of households by condition, predominant material, ownership status, and other facilities in the form of tables and charts. Broad idea can be obtained about the status of the basic facilities available such as source of drinking water, lighting, house condition, transportation, possession of assets etc. This information is needed to plan and manage these amenities effectively in an area. Presently, these data are available at the district level only.

Mapping of vulnerable areas: Vulnerable areas are defined as areas which are susceptible to the disaster and damage. Vulnerability mapping will help people to depict the threats in that place and manage their infrastructure and asset according to the same. Any area may be subjected to many natural calamities due to its varying terrain and climatic conditions. This increases the disaster risk and exposing the assets of the administrative unit to become vulnerable to these risks. Lack of information in this regard may lead to failure of the development plans and activities. This component provides the details of vulnerable areas, type of disasters occurring in that area, the status of risk prone infrastructure, coping mechanisms and available disaster risk reduction measures in the area.

Asset mapping module

Asset mapping is an activity to spatially identify the village amenities which are valuable to the community. Towards an effective planning and development at grassroots level, awareness of the assets available in the region is a pressing need; hence creation of a spatial digital inventory of assets is initiated and facilitated through Bhuvan Panchayat. Assets inventory is the compilation of different types of assets which are created / being created under various schemes of Government of India, States and Communities by themselves to facilitate the local population. Bhuvan Panchayat identifies 271 different types of assets which are grouped into 3 major categories as follows (for complete list refer to the important document named Classification of assets in Bhuvan Panchayat):

Civic Amenities/Infrastructure:	226 Asset types
Governance Assets:	35 Asset types
Productive Assets:	10 Asset types

The asset mapping module facilitates:

Geo-visualization of assets: Assets that are already mapped can be viewed interactively overlaid on satellite imagery.

Mapping assets: It allows users to spatially mark assets directly in the map-viewer window along with entering its associated attribute information in attached form field (Figure 7.3, 7.4,7.5). Although, a dedicated asset mapping mobile app is developed for GPS-based mapping of assets from the field.

Query assets: Planning in an area of interest essentially requires knowledge of information at hand. Questions may be posed as to "what all assets are in the area", "where are secondary schools located", etc. This module facilitates such queries to be answered. This allows information from the assets data to be converted into valuable knowledge of desired area.

The following are the points worth mentioning regarding asset mapping module:

Participatory approach for mapping assets: Considering the requirement of enormous efforts toward creation of a national inventory of assets at Panchayat/village level, a participatory approach through crowd sourcing is followed. Through the asset mapping mobile app linked with the Portal, any registered citizen can easily map assets from the field using his/her smartphone. To start through, under another project of ISRO, named 'Empowering Panchayati Raj Institutions Spatially (EPRIS)', efforts are being made to map assets of around 10% of the Gram Panchayats in the country, on a pilot basis, using Bhuvan Panchayat platform.

Bhuvan Panchayat asset mapping mobile app: It is an android-based mobile application for facilitating asset mapping directly from the field with geo-location, asset photograph and associated attributes. The app is freely

downloadable from the Portal. It requires a simple first time registration after which user can start mapping assets. The mapped assets are uploaded to the Bhuvan servers and are also linked to the Portal.

Moderation of uploaded asset data: In order to avoid junk information (which is often possible when the system is crowd-sourced), validation/moderation steps are adopted by facilitating intervention by the concerned PRIs. For this, provisions are made for creation of separate PRI logins. Assets are considered validated after a simple approval of mapped assets from PRI logins. Further, to distinguish the assets mapped by the citizens and PRIs two different presentation schemes (icons) are designed.

Assets identified from satellite imagery: A few clearly distinguishable assets can be directly fetched from the associated thematic maps which are prepared overlaid on satellite imagery. Such assets directly get appended to the spatial inventory.

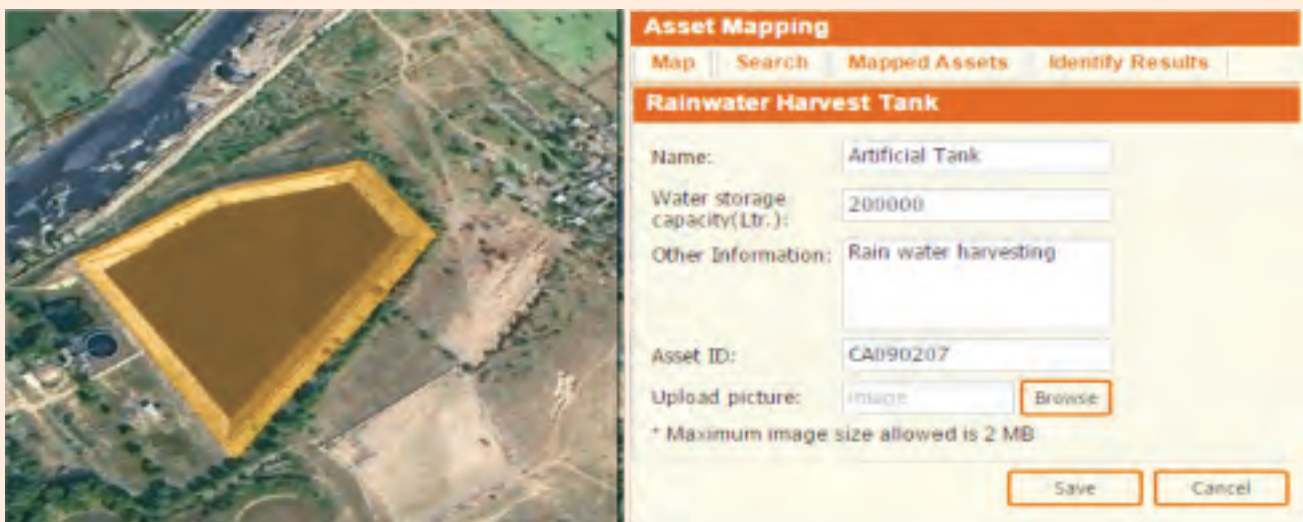
Figure 7.3: Snapshot of a marked asset (point) with attribute form



Figure 7.4: Snapshot of a marked assets (line) with attribute form



Figure 7.5: Snapshot of the marked assets (polygon) with attribute form



Activity planning module

This module is designed to provide an enabling framework for planning developmental activities under various Centre and State Governmental Schemes at the Gram Panchayat level. All 29 functions entrusted to the PRIs under the XI schedule are categorized and compiled into five major sectors comprising land and water development activities, productive activities, civic amenities and infrastructural development activities, social welfare activities and governance activities. This module facilitates the involvement of the common man in the local developmental planning. Any registered citizen can propose activities under the schemes in the

Gram Panchayat of his/her area and this can be viewed, modified and consolidated successively at all three tiers of PRIs.

The following points are worth mentioning regarding activity planning module:

Spatially enabled process of activity planning: The user is given an option to geo-locate the plan as point, line or polygon. Once the Polygon is drawn, a form appears for the user to fill necessary information like activity title, cost, duration, and details of the activity. A user may attach any supporting documents to justify his/her plan. Once all the compulsory fields are filled, user can save the activity.

Support of geo-spatial layers while planning:

Spatial and non-spatial information assistance can be availed while planning by overlaying the required thematic layers and existing assets layer available on the left pane as base on his/her area of interest.

Participatory approach while planning:

The Portal provides an effective approach in local planning as citizens can participate in planning activities. 'Draft plans' from the citizens would be available for consolidation to Sarpanch. This will facilitate PRI heads in submitting the 'Panchayat plan' without biasing and conflicts. However, the role of Panchayats at all three levels (Gram, Intermediate and District Panchayats) will remain significant towards the consolidation of activities planned by the citizens. Although, citizens can track the activity planned by him/her to know its current status as approved or pending for approval.

Separate logins for citizens and PRIs: The Portal have provisions for separate user accounts which helps in distinguishing citizen inputs from plans formulated by PRIs.

Facilitating consolidation at three levels by PRIs:

The citizen plans in draft mode are automatically forwarded to concerned PRI accounts for consolidation and approval. The versatility of this module can be understood as the plan is passed through various levels of Panchayat system. Under PRI accounts, provisions are made for consolidation of plans with accepting, rejecting or editing facilities. The geometry and associated information of plans can be modified as desired by PRIs.

Incorporation of various Central and State Government Schemes:

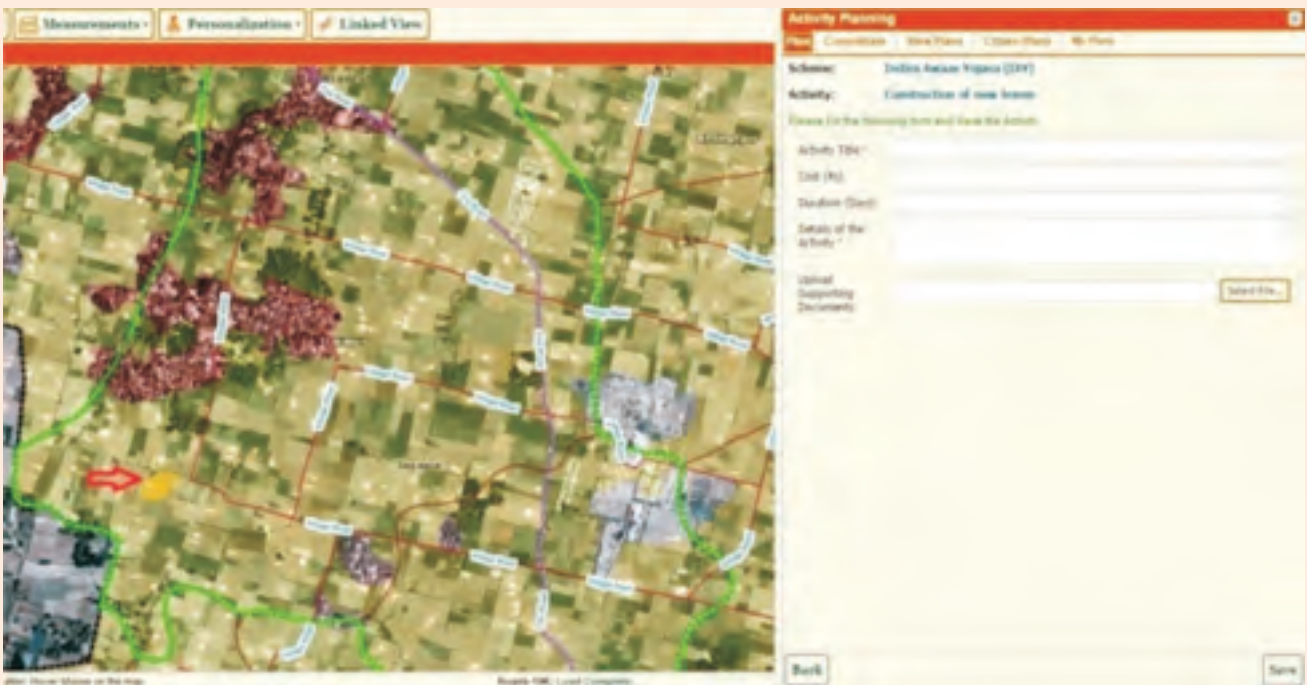
The Portal serves for planning of developmental activities through various flagship schemes of Govt. of India and other State-specific schemes which can be continuously updated. Activities from each scheme are enlisted to facilitate sectoral plans.

Figure 7.6: Activity planned as line feature

Activity Planning			
Plan	Consolidate	View Plans	My Plans
Activities Planned by me			
<input checked="" type="checkbox"/>		Activity	Activity Status
<input checked="" type="checkbox"/>	1	Activity Name: Construction of Road Details: 20 feet broad Metal road Panchayat: Lolawas Planned by Ionawas (Citizen User) on 2015-09-15 11:38 Last updated on 2015-09-15 11:38	Pending



Figure 7.7: Activity planned spatially as Polygon feature



Implementation and monitoring module

Once the plan is finally approved by District Planning Committee and ready for implementation, an interface is required which may help in monitoring of approved and ongoing activities. To address this requirement, Bhuvan-panchayat portal is facilitated with 'Implementation and Monitoring' module. This module helps PRIs in tracking the progress of work undertaken against activities and sub-activities planned by citizens under various schemes. PRI heads at all the three levels can update the status of percentage completion of any ongoing activities. Once this status achieves 100 %, the activity is listed as completed activity.

Online monitoring facility: The synoptic view provided by satellite imagery offers technologically the most appropriate method for quick and reliable mapping and monitoring of various natural resources both in space and time domain. In order to facilitate monitoring the progress of ground works physically, there is a provision to periodically update the satellite imagery dataset every two years. With the launch of Cartosat-2 C & D and Cartosat-3, the spatial resolution of the satellite images will be getting to a finer level of upto 0.25 m. The ongoing works can also be photographically mapped using GIS in conjunction with mobile based technologies.

7.7 Use of Planning Analysis

One of the most essential purposes of rural planning is resource management. In order to achieve optimisation it is important to measure the availability in present and the need in future of each resource. The purpose is to provide for the required in optimal quantities and of standard quality. To measure for the above, projections are an integral part of the analysis process of rural spatial planning.

The following four types of projections are important:

- Population projections

- socio-economic projections
- Infrastructure projects/provisioning
- Land requirements
- Fiscal projections

The quantum and character (composition of population) of the population growth decides the quantum and scale of infrastructure required. Accordingly, the land and capital required for the provisioning is calculated and thereafter planned for.

It is recommended that the above projection be forecasted for at the following levels:

- District
- Tehsil
- Rural clusters
- Gram panchayats

7.7.1 Techniques of population analysis

To project the population of rural settlements, the following factors are of prime importance. Growth rates should be justified by closely reading into the following:

- Birth and death rate
- fertility rate - age, sex, geography specific
- mortality rate-age, sex, geography specific
- morbidity rate-age, sex, geography specific
- migration rate-age, sex, geography specific Projections should be then used to estimate:
- Population size
- Population composition - w.r.t age, sex, caste, religion, language, location etc.
- A projected Age-sex pyramid
- Geographic distribution of population-density

Various population projection techniques are available. Each suits a specific context and must be applied accordingly.

1. **Mathematical methods (M)** like Arithmetic Progression and geometric increase population projections and moving average forecasting methods. These rely on time series data for natural population growth rate and assume migration, fertility rate, birth rate etc as constants.
2. **Growth component methods (G)** makes separate projections for birth, death, fertility, mortality and migration rates as per age-sex and individually projects to sum up the total projected population. Proportion methods help disintegrate cumulative regional population projections across constituent geographical units. Once we are not knowing the details of population details in terms of its birth, death, informalities etc at the village level, it is suggested to take up proportional level. Proportional method can also be used from the already projected population by Government of India through various secondary sources such as Niti Aayog (erstwhile Planning Commission) or from UN agency projected for India, States, etc.
3. **Economic method (E)** takes into consideration the push and pull factors affecting the economy and demographic characteristics and composition. A shift-share analysis method and an induced population analysis methods include the effect of industry, local competitiveness and other dynamic factors into consideration.

The sectoral shift especially in peri-urban areas, projections on census town population, and corridor areas, it is better to take the economic projections as this is more realistic to capture the increase in its population and its distribution. It is also possible to get inter- Census details of the workers through National Sample Survey Organisation, Government of India through Annual Survey of Industries (ASI) and Employment-Unemployment Survey given by the NSSO.

For selection of population projection method, it is recommended to use the following as per village categorisation.

Table 7.4 Population Projection and Typology of Villages

Population size	Metro region area (peri-urban)-villages	Agro- climate region (villages)	Hill area	Vulnerable/disaster area (villages)	Corridor villages (villages) – industrial corridors/ other NH/SH/ district roads	Census towns CTs	Villages in the interior villages (> 50-100 km from a town)
Very large villages	E	G	G	E	E	E	G
Large villages	E	G	G	E	E	E	G
Medium villages	E	G	G	G	G	G	A
Small villages	E	A	A	A	A	A	A

7.7.2 Scalogram

Rural settlements and their growth is intricately intertwined with the regional dynamics. It is recommended to map the hierarchy of the settlement in concern with respect to its larger region. Essentially, rural spatial planning has to respond to the regional significance of a rural settlement.

There are several techniques that may be used for mapping the settlement hierarchies. To name a few prominent ones are:

- Composite functional index Method
- Scalogram Method
- Sociogram Method
- Bi-sectional Method

These techniques are useful in measuring the centrality and distribution of various services/amenities/facilities across the settlements across the region in concern. These techniques may be used at the following levels:

- District
- Tehsil
- Rural clusters
- Rural (if it has got many hamlets)

The most commonly used technique, the Guttman Scalogram is used to rank settlements as per the highest occurrence and then weighted as per the social, economic, physical, administrative and environmental functions. These indicators are composed of several parameters deemed necessary for analysis. Each indicator and respective parameters are assigned weightages by the use of Delphi technique. A weighted composite index method is used for the analysis.

The settlements are scored on the basis of the values obtained by the settlements on the basis of facilities available in each settlement.

The result obtained may be categorised as:

- Base Villages - dependent settlements
- Service villages - with lowest order services and providing for the base villages
- Growth nodes - intermediate settlements
- Growth centres- higher order settlements

The influence area of each is predefined and the analysis is accordingly spatially interpreted.

A sample of the technique is provided below for reference, sourced from available <http://www.nzdl.org/gsd/collect/hdl/index/assoc/HASHbaea.dir/80166e09.gif>.

7.7.3 Sectoral analysis and projection

All sectors under consideration must project the following:

- socio-economic projections
- Infrastructure projects/provisioning
- Land requirements

A benchmarking approach defining thresholds is recommended to be adopted for calculations based on the suggested infrastructure norms and standards as defined in section 5.0.

7.7.4 Spatial analysis and Projections (Land use, housing and other uses)

Land-use and housing projections should be calculated on total population based upon the standards and norms defined in section 5.0.

CONSOLIDATION OF GRAM PANCHAYAT SPATIAL DEVELOPMENT PLANS

8.1 The Village Planning Scheme (VPS)

The need for VPS:

Rural land parcels in India are highly fragmented and irregular in shape. As illustrated in section 3, several villages in India are under tremendous pressures of urbanisation, market forces and land speculation. Land consolidation acts (*Chakbandi*) of individual States are presently being used for readjustment of landholdings into regular rectangles admeasuring one acre each. However, the progress on its implementation in States (apart from only a few) has been slow and the expected value addition has been meagre. Only plot-reconstitution is not sufficient for rural liveability upgradation. The rural land consolidation exercise does not suggest improvements to the built-up *abadi* (rural inhabited) area and does not provide for its expansion and infrastructural provisioning. It is thus suggested to adopt an intermediate level of spatial planning specifically focussing on village *abadi* areas and expansion area, referred to as core zone and buffer zone on the Bhuvan Panchayat Portal (see section 8.3)

Scope and methodology:

Aim: The overarching aim of a VPS is local resource optimisation, to provide for sustained economic growth and improve physical living conditions, while retaining the rural character of the economy and the natural environment, including the village commons.

Taking the concept of Town Planning Schemes forward, it is recommended that villages especially categorised as lying in the influence zone of an economically stimulated or environmentally sensitive urban centre (detailed

in section 3.0) prone to appropriation, may be considered for a Village Planning Scheme (VPS). VPS are suggested to be the precursor to a GPSDP. VPSs are anticipated to be useful in preparing villages transforming into 'urban villages', engulfed by rapidly urbanising and sprawling urban areas.

A VPS is more than a plot reconstitution instrument. In a VPS, a village planning area is delineated for a planning period, the original irregular plots are reconstituted into regular, planned plots. For very large and large villages, the VPS may be further zoned at the village ward level and hamlets. For small villages, a group of villages may be treated as a cluster for planning purposes. The population projections and resource calculations are to be accordingly made, and corresponding spatial requirements to be planned on a proposed land-use plan. The plans prepared in the process should also include provisioning and augmenting economic, physical, and social rural infrastructure, with all basic amenities and utilities in the Abadi area.

Importantly, VPS are also an opportunity to provide green infrastructure aiming at building self-sustaining resilient villages equipped with State-of-the-art technologies of the future.

The output of a VPS exercise should include:

- A reconstituted plot layout plan
- A proposed land-use plan to suit the purpose of the exercise as per village categorisation
- Local village development control regulations
- State owned plots available for building activity/use/lease/sale in the open market

- Infrastructure layouts and provisioning plans
- Amenities and utility spatial distribution maps
- A digital integration roadmap to feed into the Village Information System

Augmenting the built environment with infrastructure and planning for future spatial requirements, positively affects land values. The land-use plan ensures space allocation for revenue generating uses and simultaneously restricts speculation and encroachments. By doing so, the value of the final plots enhances, and in-turn benefits the participating land/property owners. RLB's also can assess spatial resource mobilisation capacities to harness the optimum of the market forces.

Village common lands (within and outside abadi area) are a potential land bank. Gram Panchayats as per respective State village common land related legislations, exercise differential levels of power to tax, use, dispose, gift, sell, exchange, or lease off lands for the benefit of the inhabitants of the village. Benefits may be re-settlement, lease out land to landless for cultivation and many more (**Refer Important Document on The Punjab Village Common Lands (Regulation) Act, 1961** given in MoPR web site). The revenues accrued from the above common lands is credited to Panchayats concerned.

It is suggested that VPSs may be deployed to take stock of the inventory of such land banks, configure land value capturing propositions through projectization and maximize the benefits of these common land banks. However, care must be taken to balance environmental and social impacts. This especially may be a solution to an inevitable pressure of sprawling real estate development pressures on villages in the periphery of metropolitan areas. Tools like Transferable development rights, Developer exactions, tradable development rights may be opened on underutilized village commons.

Where the direct benefit is monetary, the indirect benefit is safe-guarding appropriation of private property and creation of hyped land value bubbles.

Data:

- A VPS may use the spatial data available from Swamitva Scheme on a base map of 1:500.
- For socioeconomic planning, the NIC & Gram Manachitra data as illustrated in the earlier sections may be useful.
- Community participation and VPS- VPSs are predominantly to be grassroot level, localised, participatory scheme. Since most of the land in rural India is under private ownership, it is advised:
 - o To involve community in the making and implementation of schemes.
 - o It is imperative to the success of the scheme to acknowledge community dynamics through community involvement.
 - o Therefore, a physical primary survey is a compulsory pre-requisite.
 - o First-hand data should be crowd sourced, collected using citizen sciences and methods like participatory mapping techniques.
 - o It is recommended to use volunteered geographic information (VGI) systems to source information and use map-based crowd sourcing platforms to process data spatially.
 - o Special Gram Sabha meetings may be scheduled to crowd source tacit knowledge and social capital of the village residents.
- Information so collected from primary/ secondary and digital sources should be spatialised and interpreted as thematic maps, later to be shared, discussed, and debated with village residents and rural administration.

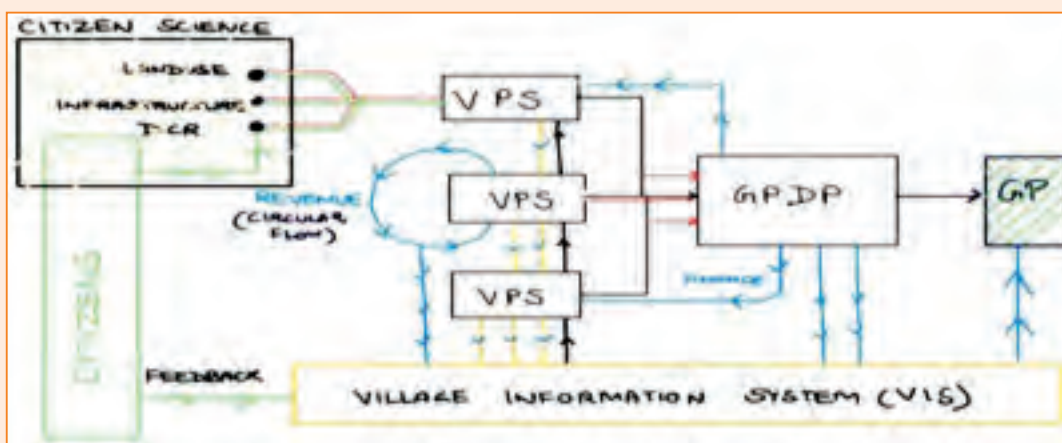
- Every VPS is suggested to have a slogan or a catchphrase to support its campaigning in the village.

These frequent grassroots interactions encourage a sense of belongingness in the stakeholders towards the plans prepared.

Governance and finance is recommended that a supporting legislation be enacted by each State to provide for a unified Land-use and Zoning

regulations (Similar to the Unified Land-use Zoning Regulations for Master Plans in The State of Punjab, 1995⁴). The most significant component of this legislation is to define permissible and conditional land-uses in use zones predefined (Refer to the Important Documents given list: on Unified Land-use Zoning Regulations for Master Plans in The State of Punjab, 1995).

Figure 8.1 Governance & Finance



For implementation of VPSs, to ensure absorption and utilization of local resource and financially strengthen VPSs, it is advised to link NAREGA and other employment generating schemes with VPSs projectization.

It is suggested to link VPS with GPSDPs and plan a VPS for a ten-year horizon, to be evaluated every 5 years and monitored annually for implementation. Gram Panchayats to be empowered to be a part of the planning process and facilitate citizen's participation in the plan formulation and monitoring.

A Village Information system may be integrated with VPS for evaluating and monitoring implementation. Various mobile applications for crowd-sourcing citizen's demands and feedback may be deployed to feed into the VIS for effective and transparent planning and governance of the

plans prepared. The Gram Panchayats must be empowered to circulate the earned revenues into the development of the same VPS boundary. Revenue may be used for capacity building and technological enhancements through equipment procurement. Importantly, VIS should be leveraged to spatially monitor fiscal allocations and utilization.

Benefits of VPS:

- Rural employment generation through VPS projects
- Control of Rural areas under market speculation and land sharks/predators
- Clear Property/title/land records
- Safeguarding environmental degradations
- Safeguarding illegal growth and building activity

⁴Unified Land-use Zoning Regulations for Master Plans In The State of Punjab, 1995 is enforced only in Master plan areas, however, here the suggestion is to adopt similar zoning guidelines for rural areas notified under the Act.

The rural planning exercise shall be carried out at Gram Panchayat Level, where each Gram Panchayat may have group of villages. The spatial development plans should consider the needs and requirements of each village. This approach can be adopted through assigning locational significance to each facility, which can be achieved through mapping exercises. The locational attribute to a facility would help to comprehend the usage and area served by the same facility rather than concern for just a mere presence of the service. District Planning Manual, 2008 has elaborately mentioned about the consolidation of Rural and Urban Plans into District Plans based on sharing of common resources. The District Planning Manual acknowledges the missing spatial planning approach in rural areas and has also suggested the way in which consolidation of plans could be carried out.

8.2 Spatial planning

Spatial planning involves management of space. It is not just 'land use management', but a

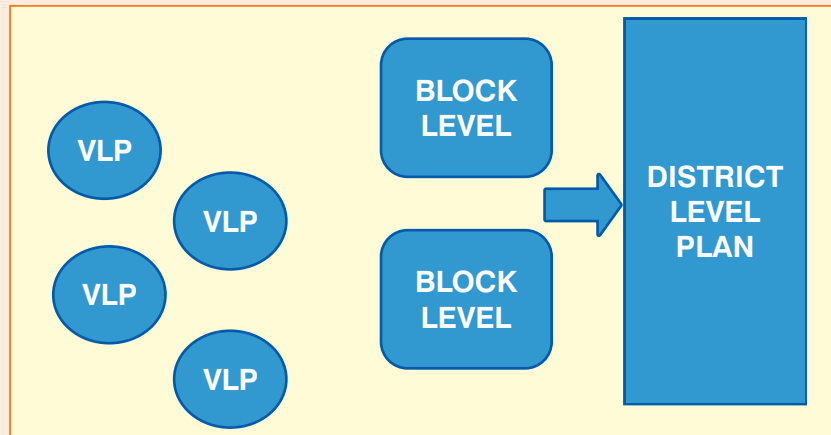
planning with a vision for holistic development that takes into account the combined effect of spatial patterns and processes. It is a kind of territorial management with focus on the spatial relations within and around territories. Bhuvan Panchayat platform brings spatial planning deeply embedded in governance systems at all the three tiers of Panchayati Raj. It helps in guiding for land use decisions considering the pattern of resource mobilization and resource allocation. It is a single window interface providing an information system and decision support system along with facilitating spatial developmental planning. shows categorization of spatial activity plans in a Gram Panchayat based on their distribution with respect to major settlement concentration – Core zone, buffer zone and outer zone.

RADPFI guidelines suggests consolidation of various village level plans to Gram Panchayat Spatial development plans which should be further consolidated into Block level plans for integrated development of the region.

Figure 8.2. Village Planning Scheme for Various Categories of Villages

Suggested thematic focus of VPS for various categories of villages							
Refer to section 3.2 for rural classification							
Note: The overarching aim of a VPS is local resource optimization to provide for sustained economic growth and improve physical living conditions, while retaining the rural character of the economy and the natural environment, including the village commons.							
Population size	Metro region area (peri-urban)-villages	Argo-climate region (villages)	Hill area	Vulnerable/disaster area (villages)	Corridor villages (villages)-industrial corridors/other NH/SH/district roads	Census towns CTs	Villages in the interior villages (> 50-100 km from a town)
Very large villages	A	B	C	D	E	A	F
Large villages	A	G					
Medium villages	G	H	G	G	G	NA	G
Small villages	G		H				H
Legend							
High priority							
Medium priority							
Low priority							
A	To plan for high urban influence and harness revenue generation opportunities, while safeguarding land speculation and environmental degradation						
B	A climate sensitive rural development plan to optimize local resources under population growth pressure						
C	A climate sensitive rural development plan to harness and optimize globalization pressure of tourism industry						
D	To plan for climate friendly and disaster resilient rural institutions, economy, and spatial development						
E	To plan for a linear form of highway urbanization and harness revenue generation opportunities, while safeguarding land speculation, environmental degradation and to safeguard negative externalities of the adjoining corridors						
F	To be planned for self-sufficiency, spatial equity, and infrastructural equity for large rural population						
G	A climate sensitive rural development plan to harness and optimize local resources and restrict land speculation						
H	Local resource optimization and enhancement of economic activities						

Source: By the Authors, 2021

Figure 8.3: Consolidation of Gram Panchayat Village Plan


VLP-Village level spatial, Each Village may have several Hamlets and this has to be consolidated too for infrastructure provision.

8.3 Spatial Consolidation of Plans

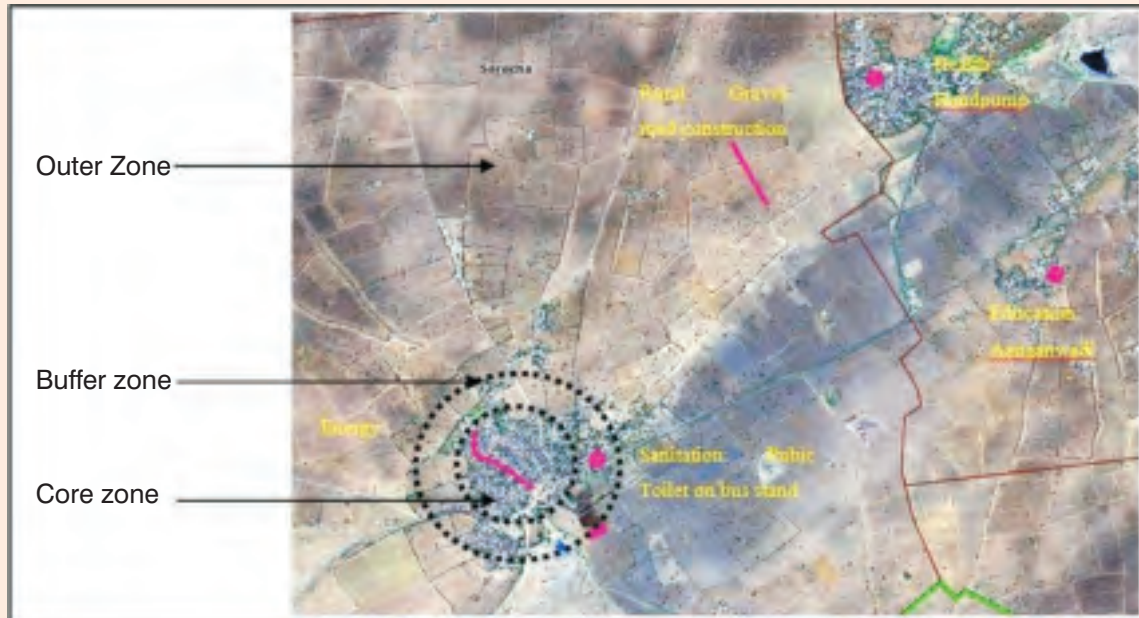
Spatial consolidation of plan depends upon a very intensive participatory planning process in which the ward members within the villages have to canvas the people for the benefits of consolidation of land for the provisions of infrastructure and land value addition. A decentralized setup has to be done by the Gram Sabha along with the local elected representatives in which all the ward and other leading eminent persons within the villages and NGOs, if they are around, to give the people knowledge of the land consolidation and its positive effects. They are the draft development plans which successively ascend to the sub-district and district levels. Ideally, the ascending plan should finally speak about local necessities and simultaneously be in communion with the vision strategic plan of the region or State. Spatial depiction of such plans helps in reducing spatial disparities. Framework of spatial strategic planning should be inter-linked at all the three tiers of Panchayati Raj. Bhuvan Panchayat provides a platform for such spatial consolidation and interlinking.

The national spatial strategy should incorporate policies for industrial location and development, employment generation, human settlement pattern, and structure and infrastructure development, for both rural and urban areas. The State spatial plans should be prepared by taking into account demographic and economic potentials, broad land use configurations, infrastructure requirements, and project implementation schedules. Each district should prepare a District Development Plan that integrates the plans for its constituent urban and rural areas as well as the sectoral allocations for various schemes under the purview of existing district agencies (Source: Chapter 11, Eleventh Five Year Plan Document).

8.4 Integration of Spatial plans with Sectoral Plans

The sectoral plans prepared by various line departments for infrastructure planning and social development of the village which needs to be considered and integrated during the preparation of Gram Panchayat Spatial Development Plan. Usually, the plan prepared by the departments such as PWD, electricity, irrigation department.

Figure 8.4: Categorization of spatial activity plans



(Source: Bhuvan Panchayat Portal)

Spatial planning when integrated with the sectoral planning is called as 'spatial strategy'. Spatial planning has the power of integration with individual sectoral plans. For example, the infrastructural development plans when integrated with the land use maps, gives a spatial way forward for urban extensions considering the fact that as far as possible, primary agricultural land should not be utilized, instead, endeavors should be towards using the degraded land. Another example can be of keeping provisions for green belt near the settlement clusters, in order to dilute the indiscriminate urban sprawl. At the sub-district scale, the provisions of rural hinterland around cities and towns can be planned so that ecology of the sub-district is preserved. A check can also be made to growing sizes of settlement areas by having a proper spatial planning for areas near

rivers, their flood plains and other natural drainage systems. Proper maintenance of the land title records is also a major thrust area where spatial planning plays an important role. The pattern of population concentration in large cities reflects spatial polarization of the employment opportunities. The Portal helps future investment in a more spatially informed way. Its aim is to bring a clearer spatial dimension by integrating various policy sectors like infrastructure, industries, economy, energy, health, education, transport, tourism, etc.

To achieve this Village Planning Scheme and to provide resource mobilization is important for the Gram Panchayats. They do get resources from the Central and State Finance Commissions and how to use it for spatial planning is given in the next Chapter IX.

RESOURCE MOBILISATION FOR PLAN IMPLEMENTATION

The 73rd CAA carried out in 1992 by the Union Government envisaged vastly enhanced expenditure responsibilities for the village panchayats in the country. However, it had not made any specific assignments of taxes to these bodies to meet their enhanced expenditure. It had been left to the state legislature to authorise village panchayats to collect taxes, duties, tolls, and fees or to assign such taxes to them and also to provide grant-in-aid to them. Though the state legislature was competent to do this even before the constitutional amendment virtually none of the States took initiative in this matter.

The enlarged responsibilities of village panchayats fell into two main categories namely (1) the traditional responsibilities which these bodies had been performing before the constitutional amendment and (2) responsibility conferred on them by the 73rd amendment covering both Plan and non-Plan activities. The traditional functions were funded by revenues raised by the panchayats supplemented by grants from the State government while the new additional responsibilities were to be financed by resources available to the State government.

Gram Panchayat for the development of villages depends entirely upon the grants and funds from the state government and through the centrally sponsored schemes. However, there may be certain sources through which a Gram Panchayat can raise its revenue to facilitate the development of the villages. It is seen that panchayats located close to urban areas enjoy better amenities in terms of health, education, and communication compared to other panchayats selected for the study. This has an impact on the working of these panchayats and also on their capability for mobilising resources internally.

The main sources of income of the panchayat may broadly be classified under four heads: Tax revenue, Non-Tax revenue, Grants and Loans. Under tax revenue, main sources are: Own taxes, Assigned taxes, and Shared taxes. Own taxes are those assigned to the panchayats and collected by them. The entire proceeds of own taxes are appropriated by the panchayat. Assigned taxes are those assigned to the panchayats, but collected by the State and given to the local bodies after deducting the cost of collection. Shared taxes are levied and collected by the State, but a portion is shared with the local bodies. Non-tax revenue consists of licence fees, market fees, contributions, and deposits. Grant component is a transfer from the State government, which may be either tied or untied. Loans are conspicuously absent in most cases and constitute a negligible portion of the total receipts.

9.1 Fifteenth Finance Commission

The main objective of fiscal transfer is to bring about progressivity; or, in other words, equality in the fiscal strength of the panchayats earning different levels of income. To achieve this objective, the mechanism of transfer should be used in such a way that panchayats with lower income should get higher transfers from the State. In other words, to achieve fiscal equalisation across the panchayats there should be an inverse relationship between per capita own revenue and per capita grants.

The XIV finance Commission mandated to recommend measures needed to augment the resources of Panchayats and Municipalities with the help of State's supplements, based on the recommendation of State Finance Commission (SFC) and recommended assured transfers to

local bodies for planning and delivering of basic services smoothly within the functions assigned to them under relevant legislatures.

Vertical Devolution to Panchayat

Table 9.1 Flow of funds from Central divisible pool to Panchayats

Finance Commission	Assigned to Panchayats. Rupees in Crores
FC X	4,380
FC XI	8,000
FC XII	20,000
FC XIII	63,015
FC XIV	2,00,292
FC XV	2,36,805

Source: Report XV Finance Commission

Note: distribution amongst the States is with a weight of 90 per cent on population and 10 per cent on the area of the States.

Table 9.2 Distribution of grants between RLBs and ULBs

	RLB:ULB
2021-23	67:33
2023-25	66:34
2025-26	65:35

Source: Report XV Finance Commission

Basis of Horizontal Distribution

The FC-X distributed its award exclusively on the basis of population (based on the 1971 Census). The FC-XI assigned a weight of 40 per cent to population (1991 Census), 10 per cent to area and 20 per cent to distance from highest per capita income. The FC-XII retained the weights used by FC-XI for each of these three criteria but used the 2001 population data for distribution. The FC-XIII increased the weight attached to population to 50 per cent and retained the weight assigned to area at 10 per cent. While they retained the weight assigned to distance from the highest per capita income at 20 per cent for urban local bodies, for rural local bodies this was

reduced to 10 per cent and new criteria-proportion of scheduled caste and scheduled tribe population - with a weight 10 percent was introduced. Apart from these three common criteria, others like index of decentralisation, revenue effort, index of deprivation, index of devolution and Finance Commission grant utilisation index have been used by different Finance Commissions. In the distribution of grants, factors such as population, area and deprivation related indices consider the resource needs of the States. Other criteria such as index of decentralisation, index of devolution, revenue mobilisation linked the quantum of grants to the efforts of States to decentralise or to empower the local bodies.

The FC-XIV uses only population and geographical area as the Criteria for Distribution of Grants to States for Local Governments. The same criteria are retained by the FC- XV too. Grants by the FC-XIV and FC- XV are divided into unconditional basic grants and conditional performance grants (for duly constituted gram panchayats, the ratio between the unconditional basic grant and conditional performance grant was 90:10 as per FC-IV). To qualify to receive performance grants all rural local bodies must ensure web-based availability of both provisional accounts of the previous year and audited

accounts of the year before previous as entry level condition. Moreover, the Gram Panchayats will have to show an increase in their own revenues over the preceding year as reflected in the audited accounts.

Basis of Intra-Tier Distribution

In the XV FC report it is recommended that all tiers in the Panchayat- Village, block and district are to receive the grants, based on the accepted recommendations of the State Finance Commission.

Table 9.3: The broad ranges to conform

Range for distribution	Gram Panchayat	Block Panchayat	District Panchayat
Minimum	70%	10%	5%
Maximum	85%	25%	15%
Note: Subject to the percentages adding up to 100			

Source 1: Information sourced and quoted as is from the Fifteenth Finance Commission report 2021-26, Volume I October 2020

- It is recommended that grants shall be distributed to even those areas which are not required to have panchayats (Fifth and Sixth Schedule areas and Excluded Areas) to augment the resources available for providing basic services by their respective local level bodies.
 - To ensure constitution and effectiveness of State Finance Commissions, the XVFC mandates states to formulate one, failing which, March 2024 onwards the grants for 2024 to 2026 must not be released for the non-compliant states.
- Recommendations of XV Finance Commission⁵**
- The XV Finance Commission has recommended:
- It is recommended that for the five-year award period (2021-22 to 2025-26) grants should go to all the three tiers of Panchayati raj institutions.
 - It is recommended that grants shall be distributed to even those areas which are not required to have panchayats (Fifth and Sixth Schedule areas and Excluded Areas) in order to augment the resources available for providing basic services by their respective local level bodies.
 - Basic Grant to Panchayats for delivering Basic services especially water supply, sanitation including septic management, sewage and solid waste management, maintenance of community asset, roads, footpaths, street lightening, burial and cementation grounds and other basic services as per 11th schedule.

⁵Information sourced and quoted as is from the Fifteenth Finance Commission report 2021-26, Volume I October 2020

Table 9.4: Distribution of Basic grants and tied grants

40% of the total Grants to RLBs	untied	To be used for: 29 functions/subjects of the 11 th Schedule (except salaries and establishment costs) Expenditure for account auditing by external agencies as approved by State government.
30% of total grants to RLBs	tied	Drinking water Rainwater harvesting Water recycling
30% of total grants to RLBs	tied	Sanitation Maintenance of ODF status Including management and treatment of household waste, human excreta, and fecal sludge management

Source: Report XV Finance Commission

Eligibility for Performance Grants for Gram Panchayat:

1. Gram Panchayat will have to submit audited accounts that relate to year not earlier than two years preceding the year in which Gram Panchayat seeks to claim the performance grant
2. web-based availability of both provisional accounts of the previous year and audited accounts of the year before previous as entry level condition
3. The Gram Panchayats will have to show an increase in their own revenues over the preceding year as reflected in the audited accounts.

FFC has further recommended that book of accounts prepared by the local body should distinctly account own taxes, assigned taxes, devolutions and grants and grants for any functions assigned by state or centre. This may be added to the Budget of the Gram Panchayat as suggested to be prepared in Chapter 2.

It is desirable that 2% of the total funds transferred to Gram Panchayats to be used for preparation of Gram Panchayat Spatial Development Plan.

9.2 Financial Plans for Rural Areas

Every Gram panchayat shall have and maintain its own fund to which shall be credited:

- a. All moneys received by the panchayat from the Government by way of grants, loans, advances, or otherwise.
- b. All development charge or other charges or fees received by the Panchayat
- c. All moneys received by the gram panchayat from any other source.
 - Budget of the Gram Panchayat

Every Gram Panchayat shall prepare a budget document in such form and at such time every year as may be prescribed by the rules, a budget in respect of the financial year next ensuring, showing the estimated receipts and expenditure of the panchayat and shall forward to the DPC such number of copies thereof as may be prescribed by rules.

- (1) Every panchayat shall maintain proper accounts and other relevant records and prepare an annual statement of accounts including the balance sheet in such form as the Government may by rules prescribe.

- (2) The accounts of every Gram Panchayat shall be subject to audit annually by the District Planning Committee of the State and any expenditure incurred by DPCs in connection with such audit shall be payable by the state.
- (3) The accounts of every Gram Panchayat as certified by the DPCs or any other person appointed by DPCs in this behalf together with the audit report thereon shall be forwarded annually to the Government and the Board.
- (4) The DPC shall prepare for every year a report of its activities during that year and submit the report to the Government in such form and on or before such date as may be prescribed by rules, and the Government shall cause a copy of the Report to be laid before the State Legislature.
- (5) Every Gram Panchayat shall prepare for every year a report of its activities during that year and submit the report to the Government and the Board in such form on or before such date as may be prescribed by rules.

Table 9.5: Format of Balance sheet/Budget for rural areas

Particulars	Actual for the year 2014-2015	Budget estimates for the year 2015-2016	Actual for the year or revised estimates 2015-2016	Budget estimates for the year 2016-2017
OPENING BALANCE	-	-	-	-
Revenue Receipts				
Capital receipts				
Total				
GRANT TOTAL				
Revenue Expenditure				
Capital expenditure				
Total				
CLOSING BALANCE				
REVENUE RECEIPTS				
Grants and Funds				
Tax Revenue Property/Chulha tax/other taxes				
User Charges (if any)				
Sale and hire Charges				
Rental Income				

Particulars	Actual for the year 2014-2015	Budget estimates for the year 2015-2016	Actual for the year or revised estimates 2015-2016	Budget estimates for the year 2016-2017
Other Income				
REVENUE EXPENDITURE				
Establishment				
O&M				
Administrative				
CAPITAL RECEIPTS				
Grants Contribution and specific Purpose				
Deposits Received				
Deposits Work				
Other Liabilities				
CAPITAL EXPENDITURES				
Fixed Assets				
Loans Advances and Deposits				

*The additions and subtractions may be carried out as per the Panchayats' revenue and ex- penditure heads.

9.3 Spatial Budgeting INPUTS REQUIRED

Budgets are intrinsically tabular data and are rarely represented and interpreted spatially. Looking at tables, it is easy to comprehend the per capita allocation and utilization figures, however hard to understand the per unit area distribution of allocation and utilization of funds spread across jurisdictional and administrative boundaries. The need being addressed here is that of knowing fiscal inequality on space and aiming at equitable spatial distribution and efficient utilization of funds.

Spatial budgeting involves projects to be mapped spatially and respective budget allocated to be simultaneously geo-located. This information is then overlapped with population density and area attribute data. Processing this information, thematic maps are generated to indicate the resource rich and resource deficient

pockets. Spatial budgeting also includes preparation of decentralized estimated budgets and collating them spatially. For example, village wards may submit their estimated budget for a plan period. RLBs may individually collate data which may further be collated at the three tiers of PRIs and represented spatially spread across rural administrative boundaries for consideration.

RLBs are recommended to map the following temporally and spatially:

- own source revenues
- performance based grants- CFC/SFC
- basic grants- CFC/SFC
- any other direct/indirect source of funds
- sectoral annual expenditure/grant utilisation
- project wise annual expenditure/grant utilization

- MP/MLA Local area development funds allocated and utilized
- Sector-wise: revenues, grants, and expenditure
- Others

Note: It is useful to map the above at village ward level. If a village is not divided in wards. The GP may choose to zone the village in relevant pockets based on any suitable criteria proposed in the GPSDP. The above information may then be synchronized with GPSDP proposals and surplus and deficiencies may be mapped. It is thus recommended to map sector wise, ward wise budget estimates, budget allocations and

utilization figures spatially. The exercise can be conducted on an annual basis simultaneous to the fiscal cycle of the RLB. Moreover, to even enhance the output of the exercise, citizen feedback and monitoring systems may be introduced to make the process of budgeting participatory.

Data sources for spatial budgeting:

E-Gramswaraj <https://egramswaraj.gov.in/> is the website by the MoPR which provides the tabular textual data of the CFC and SFC allocation of grants across RLBs. The following portals provide vital information in addition to budget documents, that may be spatially mapped to evaluate fiscal efficiency of RLBs.

Table 9.6: Applications and their description

S.No.	Applications	Description
1	Priya-Soft https://accountingonline.gov.in/	Captures details of receipts and expenditure through voucher entries and automatically generates cash books, registers etc.
2	Plan Plus http://planningonline.gov.in	Helps in preparation of perspective, annual and action plans of Panchayats, Urban Local Bodies and related departments.
3	National Panchayat Portal (NPP) http://panchayatportals.gov.in/	Dynamic web site for each panchayat in sharing information in public domain.
4	Local Government Directory http://lgdirectory.gov.in/	Takes all the details of local governments and provides them with a specific code. Provides maps of Panchayats along with Assembly and Parliamentary constituencies.
5	ActionSoft http://reportingonline.gov.in/	Assists in monitoring physical and financial outcomes / benefits under various programs.
6	National Property Directory (NAD) http://assetdirectory.gov.in/	Keeps records of assets created / maintained; Helps avoid repetition of tasks.
7	Area Profiler http://areaprofiler.gov.in./	Provides a description of the geographical, demographic, infrastructural, socio-economic and natural resources of a village / panchayat. Provides universal database for planning of all regional programs and details of elected representatives etc

Source: <https://panchayat.gov.in/pes-applications>

Expenditure data may be sourced from the online available tabular data on audited accounts and be spatially mapped.

Table 9.7: Fiscal data decentralisation and mapping

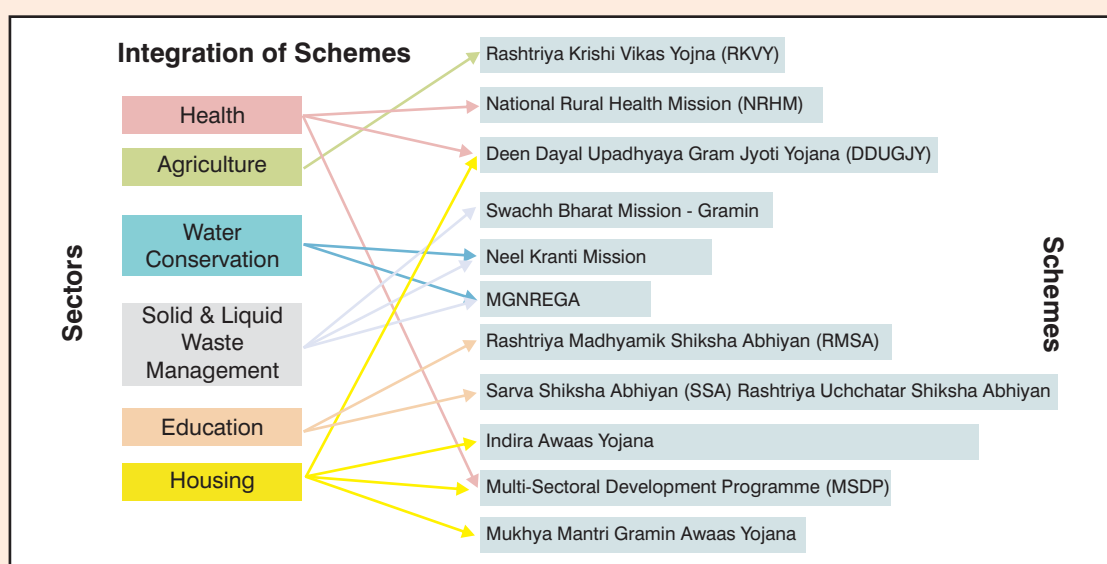
	Rural ward boundary	Abadi area (inhabited area) *	GP boundary
Hamlets	-	-	X
Small villages Gram Panchayat	-	-	X
Medium villages Gram Panchayat	X	X	X
Large villages Gram Panchayat	X	X	X
Very large villages Gram Panchayat	X	X	X
Block Panchayat	Data to be spatially disintegrated and distributed in the various constituent GPs		
District Panchayat			
*	Applicable only when the GP is further subdivided into rural wards. GPs with no wards, may choose to also divide their boundaries into zones for fiscal analysis.		

Convergence with central rural schemes

The main source of revenue of Panchayat is grants from centre or state and hence the Gram Panchayat Spatial development Plan shall be in line with the existing schemes and allocation of funds to rural areas. Following are few centrally sponsored schemes for rural area through which funds can be drawn for various development in rural areas, according to projected requirements.

- Mahatma Gandhi National Employment Guarantee Act -Rural employment
- Sarva Shiksha Abhiyan - Education
- Pradhan Mantri Gram Sadak Yojana - Rural roads
- National Health Mission - Healthcare
- Integrated Child Development Scheme - Child development
- Indira Awas Yojana -Rural housing
- Mid-Day meal Scheme - Nutrition
- National Rural Drinking Water Programme - Water

Figure 9.1: Schemes/reforms clubbed sector wise



Source: https://panchayat.gov.in/documents/20126/0/BILKISGANJ_Madhya+Pradesh.pdf/b00c+c5ba-3f74-259e-cbd6-31e740270a15?t=1610691838167

9.4 Linking budget with the GPSDP

The RLB's five-year budget is suggested to be linked with the total budgetary requirements of the GPSDP. The annual plans prepared under the GPSDP should be synchronized with the assigned budget as recommended by the prevalent CFC and SFC. Proposed project costs under annual plans should be mapped against available annual grants and own source revenues available. Funds available under any other reform/policy/scheme should be converged to understand the quantum of funds available annually. It is further recommended to spatio-temporally geo-locate fund allocation against utilization on a VIS. This shall facilitate spatial budgeting and monitoring.

9.5 Role of GPs in resource Mobilization

Rural resources for the purpose of development planning, can be of the following types (as adopted from GPDP 2018 guidelines)

- Financial, Social, Natural and Human

Financial resources mobilisation: To harness the performance-based grants, it is imperative for RLBs to plan for increase in economic activity and revenue generation. Spatial planning led by a land-use plan (as driven by GPDP and VPS), supported by a socio-economic plan are integral to a RLB's fiscal health. GPSDPs can plan for avenues of revenue generation and facilitate enhancement in budget sizes of RLBs. Moreover, GPSDPs are intended to facilitate the integration of various public schemes and project proposals and to channelize the dispersed funds and towards a statutory growth plan. The objective is to minimize duplication, fragmentation, and wastage. Spatial plans with proposed land-use shall provide for identification of new growth drivers and augment the existing ones to ensure revenue realization. Moreover, GPSDP shall provide clarity on size, location, quantity, and quality of projects to be

executed and thus reduce ambiguity on the size of budgetary requirements.

Resource availability and utilisation mapping on a real time basis is imperative to a transparent healthy fiscal growth. It is therefore recommended:

- **SDI:** Spatial Data infrastructure framework (as illustrated in section 11.5) to be widely used for the purpose of real time resource mapping.
- **Land:** Land in India is largely privately owned and highly fragmented. Since majority rural residents are unaware of the real estate development dynamics, many times they are exploited and cheated into unfair deals. Especially the land of villages in the influence areas of peri-urban and metropolitan areas are subject to speculation by land mafia and land sharks. It is thus recommended that GPs actively monitor and participate in new and innovative Land Value Capture (LVC) mechanisms with various development partners. Land may be looked at as a resource and as an asset to be lever - aged for revenue generation. Village planning schemes may be mobilised for this purpose. Landowners may be promoted as partners in the development.
- Blue and Green infrastructure is suggested to be augmented with technology to be harnessed for revenue generation.
- Villages in clusters to encourage, harness and enhance inter-village/ intra village resources.
- GPs must participate in competitions, ratings etc. conducted by Ministry of Rural Development, Ministry of Panchayati Raj and many others.
- **Networking:** Villages in India have a very high rate of out-migration. Some of the

migrated workforce acquires economically relevant skills and work in urban areas. It is recommended that the GP establishes a connection with this migrated human resource using social networks and network with them to contribute to capacity building and training initiatives. These efforts can be in addition to the public led capacity building and vocational programs.

INSTITUTIONAL SUPPORT MECHANISMS AND CAPACITY BUILDING

10.1 Rural Administration- Institutional Structure and Functioning

Planning function is a continuous process and the planning department's work continues from plan preparation to plan processing, enforcement implementation, plan detailing, review and then plan formulation and so on. The plan formulation, implementation, monitoring, and review exercises must be statutorily prescribed in the State acts and completed within the specified time frame as schedule. In the context of these requirements institutional set up has a vital role.

An Institutional framework is required for convergence of Gram Panchayat Development Plan (GPDP) and Gram Panchayat Spatial Development Plan (GPSDP) for prioritizing and preparing the working plans at GP level. The successful implementation of the development plans would depend on the degree of participation of various stakeholders including beneficiaries (local community). The framework highlights the inclusion of all the stakeholders in preparation as well as implementation to have equitable sharing of benefits from development through efficient use of resources. Prioritizing the activities to be undertaken as per the development plans and avoidance of sectoral overlapping/ duplication in allocation of work and funds is the focus of this framework.

The lowest level is Ward Sabha (WS) wherein all the inhabitants of the ward would participate to discuss the need based on both GPDP and GPSDP. The WS would regularly meet at the time of preparation of spatial plan (GPSDP) to discuss their needs for communicating the same to the team involved in Plan preparation. The WS would

be presided by the Panch of the ward. Community Based Organizations (CBO) such as Mahila Mandal, Self Help Groups, Parents Teachers Association, Marginalized Groups etc. would also conduct meeting to discuss the inputs to be given at the time of Spatial Plan preparation as per the needs. A prioritized consolidated list of work will then be prepared at the Gram Sabha level based on need assessment by both the groups (WS and CBO).

For the implementation of the prioritized consolidated list of work, sector wise Working Group (WG) will be formed. These working groups will essentially consist of one representative official from the line department, one from the each from the CBO groups and one retired eminent person of Gram Sabha area in addition to one RDA(Rural Development Assistant) from Panchayati Raj department at District or Block level. The Sachiv (secretary) of the GP will be the convenor of these Working Groups and Sarpanch the chairman. The inclusion of officials from the line department would help in avoiding the duplicity of allocation of work and funds. This will further help in consolidating funds allocated under various schemes for the sector.

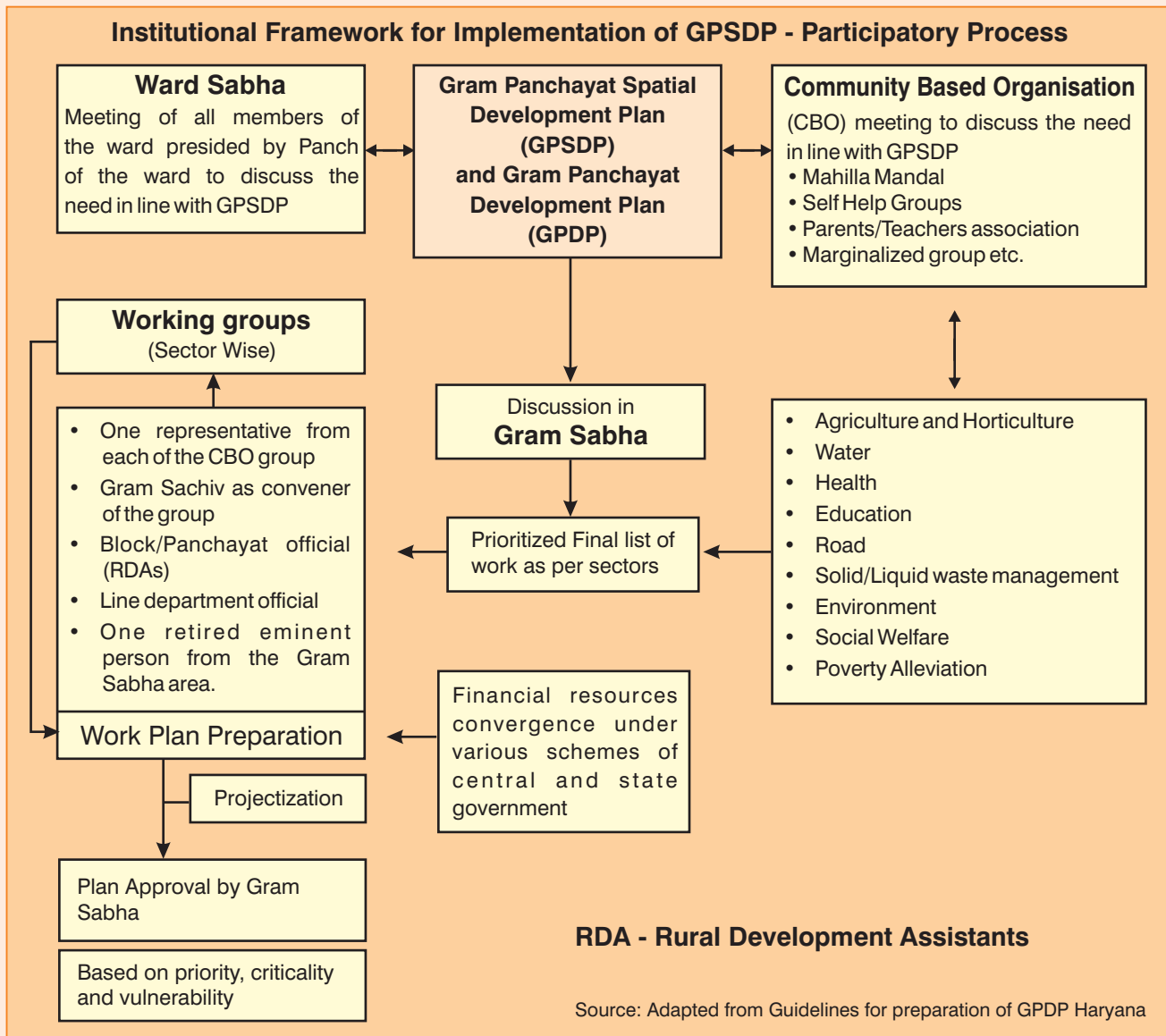
These groups will then identify projects to be undertaken for the GP and get it approved from the Gram Sabha. The GS will then get it appraised for its validity, feasibility, and impact analysis from the Gram Panchayat Sub-Committee (GPSC) before proceeding for administrative approval of the same from the Panchayati Raj department/line department.

The District Panchayati Raj department would appoint an official / officials from the field of

Spatial Planning for inclusion in the committee approving the projects submitted for administrative approval from the GS. Under institutional mechanism and capacity building as suggested by JS MOPR, under Shyama Prasad

Mukherjee Rurban Mission and Panchayati Raj, spatial planning in rural areas as highlighted, the notification, plan preparation, plan approval and enforcement mechanism for all the States and the various sections and clauses of each of the States is given in Appendix 10.1 in detail.

Figure 10.1: Institutional structure and functions for implementation of GPDP and GPSDP



10.2 Gram Panchayat Spatial Changes-73rd CAA / Rules

The 73rd CAA is instrumental in decentralization of the planning process in India. The Article 243 (G) of the Indian Constitution empowers PRI's for

planning and executing the schemes of economic development and social welfare including 29 subjects listed in XIth Schedule (Development and Panchayats Department, Haryana, 2018). District and Gram Panchayat level economic and social welfare development

plans are being prepared but spatial component in terms of land use planning is missing. The rural plans having emphasis on sectoral planning with a goal of socio-economic development completely overlook the locational aspects of the projects resulting in inefficient use of resources (Reddy, 2019).

The land use planning for gram panchayats in the form of GPSDP provides a spatial plan for realizing the economic development, social justice and environmental conservation through participatory process.

The 74th CAA also highlights the importance of spatial aspects in district planning for integrated development. Andhra Pradesh District Planning Committees Act, 2005 (as per article 243 ZD of the Constitution) emphasize that committees in consolidating the Draft Development Plan for the district would give due regard to "matters of common interest between the Panchayats and Municipalities including spatial planning, sharing of water and other physical and natural resources, the integrated development of infrastructure and environmental conservation".

10.3 System Support for Planning and Implementation

To operationalize the entire planning and implementation process at the Gram Panchayat level, a strong administrative arrangement about System Support is needed to be put in place. Besides human resource, technological and knowledge support, this arrangement shall include specific executive orders on technical, administrative and financial sanctions, procurement system by the Gram Panchayat. Since the Gram Panchayats are adequately empowered vide Article 243G of the Constitution with regard to preparation of an inclusive development Plan for Social Justice and Economic Growth. Fifteenth Finance Commission recommendations also maintains that the Gram Panchayats assume its legitimate role of approving Gram Panchayats Plans &

mobilize the resources at its disposal for effective implementation of the respective Gram Panchayats Plans. Acknowledging the need to translate the ideas and aspirations of the stakeholders as reflected in the Plan document into tangible outcomes, it is imperative that both the planning & implementation stage of the project receives undivided support of all manners of resources like Human Resource, Technological Resource, infrastructural resource, Data resource, etc. Towards this end, therefore the Gram Panchayats will optimally utilize the services of the manpower deployed both from State level rural Development department and all the Line Departments.

The work profiles of some of the functionaries or Technical Support Group (TSG) are detailed below.

10.3.1 District Town and Country Planning Departments (TCPDs)

1. Gram panchayat planning would be moderated and assisted by the town and country planners at the district level.
2. Subsequently rural Development assistants are needed to assist spatial planners with the ground level work.
3. District level vision exercise as well as consolidation of the urban and rural plans in relevance to the state and district vision.

10.3.2 Rural Development Assistants (RDA)

1. Development Administration: RDAs are responsible for assisting in the planning, implementation and monitoring of all developmental schemes of the State Government, Government of India and the Panchayat level.
2. Assist the Town and Country Planner at the District and Block level.
3. Assistance for village library: Government can establish village libraries in the Panchayat Ghars of all

Gram Panchayat Units which they are to maintain.

4. Election related work: Election related work like delimitation of GPUs, preparation of electoral rolls, verification of polling stations, duties of polling officers and other related duties like counting, etc. which requires a very high sense of responsibility and accountability.
5. Monitor e-Panchayat activities.

10.3.3 Gram Panchayat Planning Committee

1. It would constitute of competent Urban/Rural/Environmental/Regional Planner, Rural development Assistants, Gram Sachiv, Patwari, Gram panchayat members, resource persons from the rural schools and health centres and official associated at rural level from the line departments.
2. The Gram Panchayat planning committee would together aid, assist and contribute through participatory planning tools a comprehensive Gram Panchayat Spatial Development Plan (GPSDP) formulation in consultation with the Gram Sabha.
3. The spatial plan would follow the spatial budgeting at the district and block level for various sectoral schemes of development.

10.3.4 Linking RURBAN with Gram Panchayat

Most of the rural areas in India are present in group of settlements which are contiguous to each other. Such cluster of settlements often have potential for economic growth and possess locational and competitive advantages. These clusters are recognized by the government of India as 'Rurban clusters' under the Shyama Prasad Mukherji Rurban Mission in 2016. The cluster is formed from geographically contiguous villages having population of about 25000 to 50000 in plain and coastal areas and

with a population of 5000 to 15000 in desert, hilly or tribal areas. For practical applicability, clusters are formed by convergence of administrative units of Gram Panchayats lying in a single block/tehsil for administrative convenience.

The aim of the mission is to preserve and nurture the essence of the rural community life with focus on equity and inclusiveness without compromising with the facilities perceived to be essentially urban in nature (Ministry of Rural Development, 2016). The mission focuses on simulation of economic development, provision of basic services and formation of planned clusters. This cluster approach constitutes both Socio-economic & Infrastructure planning component as well as initiation of spatial planning. As a component of spatial planning, structure plan or land use plans are prepared for the RURBAN cluster along with the mechanism for implementation. These plans were prepared based on the planning norms laid down in the State Town and Country Planning Acts/similar Central or State statutes as may be applicable for the State.

The spatial plans prepared for the cluster of Gram Panchayat's should follow the land use allocations and other planning norms as per the categorization of villages in Chapter 3 of this guideline.

10.4 Convergence and support for plan monitoring and evaluation

Convergence with programmes of Ministry of Rural Development and other Central Ministries and state government programmes and programmes of donor agencies is essential for developing synergies. Involvement of PRIs and Gram Sabha's in plan implementation and building interactive platforms between PRIs and SHGs/Federations for mutual support is essential. Following partnerships are important for monitoring and evaluation of plan.

- i. Partnership with NGOs and Civil Society Organizations (CSOs) to tap their areas of strength and experience.

- ii. Partnership with academic and training institutions, public, private, and cooperative sectors

10.4.1 Institutional

As per current development planning process, different interdependent institutions work independently leading to overlapping similar developmental activities. As suggested in section 10.1 and section Figure 10.1 earlier, the working groups at GP level having representatives from line department and official from Block/Tehsil rural development can club all developmental activities for that sector under different schemes in one package.

10.4.2 Spatial and sectoral

The decentralized governance empowers development from grassroot level to District level. There should be spatial planning integrating various sectors at each of the level for holistic and integrated development. Though, plans are prepared based on sectors at each level but lack spatial plans to interlink at grassroot level. There should be convergence of spatial planning with sectoral planning to reduce the disparities. Spatial plans can be prepared in the form of land use plans, infrastructure plan, spatial distribution of demographics and economies, etc. both for urban and rural areas. They can be integrated at district level for the preparation of District Development plan. These plans can be integrated with 29 sectors identified in the Eleventh schedule for preparation of Gram Panchayat Development plan.

10.4.3 Fiscal and budgets

There are different schemes and policies which target a single sector resulting in allocation of different budgets for one single sector. They also need to be converged to form a collective budget for specific sector during a fiscal year.

10.5 Capacity Building

In order to implement the Participatory Planning

for development of Gram Panchayats, capacity building is one of the important tools at all levels. The training strategy includes building capacities of all the stakeholders including Empowered Committee at State Level, Resource Groups at Panchayat level, other institutions etc. Training Strategy would be to provide training in cascading mode i.e. building capacities at SIRD level, then at District and block level, so as parallel trainings could be done in shortest possible time. 3 percent of the Basic Grant to Gram Panchayats to be earmarked for Capacity Building

10.5.1 Capacity Building Framework

Key Stakeholders

At State Level

- State PR & RD Officers at State Level
- Administrative Secretary + Senior Level Officer of Line departments
- State Resource Group including Universities representatives, Academician, NGOs, Subject Experts, UNDP Consultants, etc.
- Faculty of State institutes of Public Administration, Scientists from Krishi Vigyan Kendra, Public Relation Officers etc.
- Accredited or Private Training agencies to be identified.
- Mobile resource teams to be identified At Training Institute
- Faculty of SIRD.
- Resource Persons of SIRD at District Level
- Deputy Commissioners + Additional DCs + Senior Level Officer of Line departments
- District PR & RD Officers at District Level
- District Resource Group including Universities representatives, Academician, NGOs, Subject Experts, UNDP Consultants, etc.

At Block Level

- State PR& RD Officers at Block Level
- Block Level Officers of Line departments
- Block Resource Group including Local institutions, Eminent Retd. Personnel, NGOs, Subject Experts etc.
- At Gram Panchayat (Sensitization)
- Elected Representatives and Panchayat Functionaries
- Special Gram Sabhas, Camps, Seminars etc. for mass awareness of citizens.
- Resource Persons of SRLM
- Resource Persons of MGNREGA
- Resource Persons of Housing For All Scheme.
- Resource Managers of Rurban Mission.
- District Project Managers (Digital India)

b) **Selection and Capacity Building of Resource Persons**

- Proposed resource persons in place with orientation towards imparting training.
- Capacities of the proposed resource persons can be honed through 2-3 day State Level
- Workshop to be held at SIRD. MoPR to provide training support.
- Information Education and Communication activities fund of RGPSA can be used.

c) **Developing Training Modules and Materials**

- Model Training Modules to be provided by MoPR.
- Customization of Training Modules in local language by SIRD
- Training Management Portal would be used for design of modules etc.
- Handbooks, CDs, CBTs, PPTs would be prepared by SIRD

10.5.2 **Infrastructure and logistics**

- SIRD training facilities would be used for orientation programmes of Master Trainers.
- Training programs of District, Block and Gram Panchayats would be held at district and block.

10.5.3 **Monitoring and Ensuring Quality**

- Empowered Committee at State Level would do overall monitoring. Monitoring Module (IT based) would be developed.
- SIRD would monitor the training programs and report to Empowered Committee.
- Training Management Portal of Panchayat Enterprise Suite (PES) for monitoring.
- State Resource Group would do the Training Need Assessment at regular intervals to review and revise training modules, processes etc.

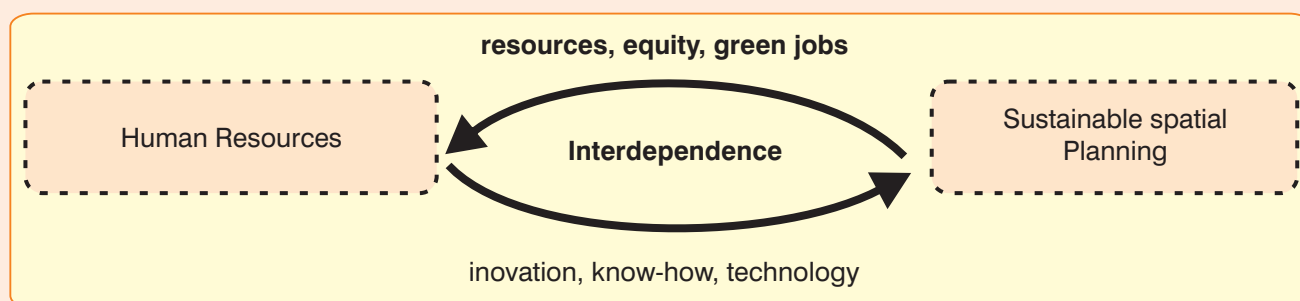
10.5.4 **Human Resources Development for Sustainable Spatial Planning**

Human resources are an integral part of any development planning and is well recognized in all the international and national agendas targeting sustainable development. The decentralized planning under PRIs is about participatory planning at all stages of plan formulation, preparation, implementation etc. To have an active participation and constructive contribution from stakeholders in all stages at various levels, there is an urgent need to empower human resources at the lowest level. The two-way relationship between human resources and spatial planning is highlighted in the Figure 10.2. At a lowest level to prepare people centric spatial plans, the role of each and every person directly or indirectly getting affected by the plan is important but often the involvement is just a formality as they are not empowered to express their ideas. Their involvement in mobilizing other resources like

land and funds is important for the successful implementation of spatial plan prepared with their active participation. The training programs are to be conducted for all residents of the Gram Panchayat area to identify the potential for involvement in various activities under different

stages of work plan. In addition, special training programs for representatives of people particularly of the beneficiary groups, women's groups, youth, socially disadvantaged groups, NGOs and community-based organizations is required for GPSDP formulation and implementation.

Figure 10.2: Relation between human resources and spatial planning



The Rural Development Assistants (RDAs) as mentioned in sub-section 10.3.2 in addition to local community living in the Gram Sabha area are an important human resource for bridging the gap between spatial planning and socio-economic planning for rural areas. RDAs are to be trained for understanding the intricacies of Sustainable Spatial Planning. The training modules should emphasize on responsible use of available natural resources alongside socio-economic development planning. RDAs should be apprised of all new national and international agendas as discussed in Chapter 6 along with new technological advancement needed for achieving sustainability in all the planned interventions. The greater number of RDAs are to be appointed to provide assistance to Gram Panchayat in taking decisions related to approval of plan and subsequent implementation and monitoring.

10.6 Grassroot level governance

10.6.1 E-Governance

E-governance becomes necessary to enhance grassroots development. It promotes

participatory, transparent, responsive, and inclusive democracy. People can approach their elected representatives of Gram Panchayat and access basic social services with the help of Information Communication & Technology (ICT). This should be enabled in every Gram Panchayat to ease the implementation process of Rural development.

E-Governance is the provision to the people of government resources and information through electronic media (usually Information Technology). It is considered the safest way to implement e-governance because it is effective, swift, participatory, open, and accountable while disseminating information to the public while carrying out government activities at the same time. E-Governance usually falls under three sections:

- E-administration, which is aimed at improving government processes especially in the public Sector
- E-services, aimed at improving the delivery of public services, for example, providing public documents online (such as birth certificates, etc.)

- E-Democracy which is aimed at involving greater participation by the public in the decision making process of a country

Governance is a larger term that describes and measures the effect of technology on political practise and governance and partnerships between public servants and society, such as dealings with elected authorities or external organisations, such as non-profit agencies, NGOs or business agencies of the private sector. E-Governance includes a set of required measures for the creation and management of government institutions to ensure the effective delivery of e- government services to the general public (OJO & Sunday, 2014).

Approaches to 'ICT in Government' People have approached the governance of ICT from the point of view of satisfying the relevant prioritised needs. It is also high time to look for the techniques that persons follow in the government process to consider the use of ICT. It is possible to group these methods into three groups.

Organisational Approach: Whenever governance is addressed, it encompasses institutions that strive at handling natural, material and human capital for people's well-being and at the optimum level as well. An organisation, in turn, becomes a 'knowledge' centric feature. In an institution, there are devices for the accumulation, preservation, distribution and use of information to accomplish its objectives. Besides, academics such as Karl Deutsch, Talcott Parsons etc. have strongly assumed that an institution requires a contact network for its operation, whether it be human networking or mechanical networking. But ICT is concerned with the use of effective, responsive, quick, transparent and faster rates of governance in an enterprise (governing institutions).

Functional Approach: It is possible to recognise the implementation of ICT in government as a 'enabling' technology to boost the efficiency of

governing institutions. ICT is active in government in two ways: (i) for vital public products and resources development processes such as information distribution, authentication and licensing processes that are re-engineered and stream-lined for its citizens, and (ii) To simplify the procedures of the internal 'back office' such as accounting, preparation processes, etc. that are active with the organization's internal work. The use of ICT in governance is therefore directed at providing fast, effective and productive services to the public organization's citizens and internal staff management.

Social Justice Approach: In the governance process, another approach leans towards ensuring social justice and encompassing the disadvantaged parts of a community. The expanding use of ICT will theoretically build systems of information and control that increase accountability in governance. Online access through ICT to alternate information outlets also ensures that government censorship can be circumvented by the press. Where institutions are inefficient rather than disciplined and administration is messy, individuals find their own solutions. Additional groups, e.g. To take the slack and void governance, NGOs and civil society move in. ICT is an important instrument that will create stronger networks of civil society that are more educated and drawn together, and enable these communities to participate in growth more effectively (Verma & Kumari, 2010).

10.6.2 Citizen Science

Citizen participation is a way of promoting redistribution of power and emphasizing on the importance of human and social capital. In the context of rural area, citizen participation and demand for public goods remain important as very few resources are available in remote locations, and the quality of governance often depends on citizen involvement. ICT holds great promise for enhancing democracy in rural areas, providing people with faster, real-time capacity to

involve themselves in democratic initiatives and affect local governance (Belden & Birner, 2017). Besides practicing democracy, implementing projects with citizen scientists presents the opportunity to educate citizens about conservation issues, correct misconceptions, and gain public support for the agency or organization, and educating the community about conservation issues, and promoting land stewardship. Since citizens come from a wide variety of backgrounds and areas of expertise, projects can provide the agency staff with the opportunity to learn from knowledgeable citizens.

Effective citizen science programs share three main characteristics: a proper training program, scientific accuracy, and a quality control program (Holden, 2007). Open data initiatives along with e-public participation is a way to co-produce the data and create a baseline as well as keep updating the data set with the temporal changes. This will enable a multi-level partnership and advocacy measures will ensure the public engagement for better data-driven decision-making (Habitat, 2016). Building on these, new and improved measures for better service delivery and solutions for good governance can be recommended. This overall process can ensure the integration of citizen science data streams into the planning practice.

OPERATIONALIZATION OF RADPFI GUIDELINES

11.1 Adoption of RADPFI Guidelines for Spatial Development Plan preparation and linking with GPDP

Gram Panchayat Spatial Development Plan (GPSDP) has no significance if it does not get implemented on ground. In the Planning Process in our country, excellent ideal plans were construed but these could not see the implementation stage due to numerous factors both local, socio economic, demographic, area and topography related, fund related issues, lapse in programmes and policies and a host of other related issues over period.

Spatial planning for development is an envisioning process which requires a sound assessment of the ground realities and provides options for sustainable development within demographic, physical, socio economic, jurisdictional, and financial aspects. The focus is on spatial dimension as all development efforts have direct impact on the use of the land and different development projects need to be coordinated and integrated within a desirable spatial frame. The process of spatial planning is dynamic and needs to address the emerging problems of the human settlements. The formulation of the revised RADPFI Guidelines 2021 addresses the present challenges of rural spatial growth and development, plan preparation process and implementation and attempts to standardise and simplify the guidelines required for planning in the country.

The norms and standards prescribed by revised RADPFI Guidelines 2021 are in the form of a suggested model, which may be adopted by the State Governments in accordance with their local conditions. State Town and Country Planning Departments have been preparing

Development plans for urban areas based on from UDPFI Guidelines, 1996 and subsequently URDPFI Guidelines, 2014. The 'Country planning' which has always remained absent in practice from the various Town and Country Planning Acts as well as by state level agencies is now being given impetus through the 'RURBAN mission' and adoption of new and updated State Town and Country Planning Acts and by the upholding of spatial norms by the RADPFI Guidelines.

The norms and standards are in slight variance to the urban norms and standards; but as stated in the URDPFI guidelines, 2014; the norms of both can be adopted by the respective state governments as well as can evolve its own but on a precondition of not violating the minimum standards given in the guidelines.

11.2 Implementation of Projects/ Schemes

It is essential that the Gram Panchayat Spatial Development Plan (GPSDP) should be time bound, has clear cut outcomes, address the needs and priorities of the communities and area, enhance resource conservation, bring in sustainable development of the area.

The pre-implementation stages of GPSDP consist of the following major components:

- (a) The date on which the GPSDP gets formulated considering various parameters specified in the Plan.
- (b) The dates on which the sanctioning authority, whether it is the State Government or the Central Government (as the case may be) will be ready with the formal sanction separately in respect of each of the schemes/projects, whether

it is in the agriculture, irrigation, electrification, education, road connectivity, health infrastructure and delivery, social and economic sector schemes, need based and region-specific schemes, communication, agro processing, rural industries etc.

- (c) The dates on which GPSDP is launched for the schemes/projects by the Gram Panchayat.

After these critical landmarks are determined, under the pre-implementation stages of each of the projects/schemes, the Panchayat will start implementing GPSDP with an obligation and adhere to the timeline as broadly suggested in the GPSDP.

- (i) In order to ensure that the timeline is strictly adhered to, the delegation of authority and responsibility of the Gram Panchayat be considerably enhanced and entrusted to Gram Panchayat Members for implementing the schemes/projects etc. included in the GPSDP.
- (ii) After determining the exact date of physical startup of the projects, a simple graphical PERT network with clearly mentioning in local language preferably on a wall of the Panchayat Building or a separate cement board for transparency and ensuring participation of the local people.
- (iii) Before a project is included in the GPSDP and later on taken up for implementation, a very detailed examination of the scheme/project be undertaken. Detailed site investigations, geological investigations, resource endowment, technology assessment, SWOT analysis etc. should be undertaken in all cases. Expenditures on these investigations are very necessary and should be sanctioned liberally.
- (iv) With regard to critical projects in the field of rural industry, electrification, irrigation,

communication, road connectivity, drinking water and sanitation, rural housing, education and health, etc. a good deal of study like exact location, accessibility, serviceability, adequacy, judicious use, conservation of NRM, choice of technology, social cost benefit etc should be analysed and implemented in a simplified and expeditious manner.

- (v) As unutilised funds have to lapse towards the end of the financial year, the possibility of funding on a long term basis, for at least in critical sectors, will have to be examined as against the present system of annual funding. This will avoid delay in the implementation of projects.
- (vi) Gram Panchayat responsibility for the implementation of the Plan should result in a sense of involvement in fulfilling of the Plan targets. The existing procedure would need a very careful examination so that proper formulations are drawn up quickly, and implemented.
- (vii) When the project is undertaken, and even before the first phase of the project has been completed, expansion schemes have been introduced with the result that neither the objectives of the first phase were achieved, nor the various expansion projects which are loaded on to the original projects are productive, resulting in time and cost overruns. It would, therefore, be imperative that no expansion projects should be taken up unless the original project is completed, and is fully stabilised, and has given the desired results both regarding the physical and fiscal performance.
- (viii) The Planning process at District and Block Level is fairly stabilized and there is a need to improve the plan process and project implementation at GP level. Though recently GPDP and SAGY are aiming towards improving the planning

scenarios considerable strengthening is required at the GP level and RADPFI is expected to address these issues.

11.3 Monitoring of Implementation

1. The GPSDP implementation by the Gram Panchayat would also need to effectively monitor with a view to ensuring that for each scheme various targets relating to time and cost, generation of services, social and economic benefits relating to the individual projects through the rural industries, agricultural, primary education, irrigation, drinking water and sanitation, rural roads connectivity, primary health or any other sector of the rural economy are achieved.
2. Implementation of the GPSDP has to be very effective, and for this task, various line Departments concerned at the Block and District level of the concerned states have to be strongly geared up and quarterly or six-monthly reviews with regard to the implementation of the GPSD Plans.
3. Planning at the local level has an important role to play in investment decisions in agriculture, minor irrigation, animal husbandry, fisheries, marketing and processing, cottage and small scale industries, local infrastructure and social sector services including water supply, housing, health, education, sanitation, roads and local transport, which should be made area specific at the grass root level based on local environments, physiography demographic profile, socio economic aspects and potential for growth and fuller employment. It is envisaged that if the Block Level Planning is strengthened, the technical manpower could help in not only scientific plan formulation but also in the effective plan implementation of the programmes for the faster development of the rural area optimizing the use of local endowments, integrating the GPSD plan objectives and local needs.
4. The GP level plans would need to be in harmony with the Block and District level Plans. The investment decisions at the local level would need to consider the effects of Central/State Plans in that area and of neighbouring localities. The cluster of GPs as rural areas and propensity to develop faster, is intended to be the primary area for GPSD local planning. Area specific development programmes will help deal with the problems of regional imbalances and intra-regional variations. The GPSD planning projects would require specific technical skills and manpower resources within a framework of guidelines formulated at the local level. Thus, strengthening the planning machinery is imperative for promoting location-specific area plans for rapid development.

11.4 Machinery for Planning

1. There is technical manpower shortage at GP level or even Block level, particularly in core sectors like agriculture, drinking water and sanitation, irrigation, agro processing, rural roads, education and health and social services sectors. A GPSD project need techno-economic feasibility and social costs benefits.
2. The Block Planning machinery would need to be strengthened in the areas where deficiencies exist with regard to their role in supervising project implementation of the GPSD Plan projects. It would be desirable that the Block Planning agencies co-ordinate effectively with the Gram Panchayat in respect of formulation and implementation of the Plans.

11.5 People's Involvement in Planning and Implementation

1. Apart from decentralisation of the administrative machinery and provision of adequate coordinating mechanisms at the local level, it will be necessary to ensure that at every stage of planning and implementation there is full participation and involvement of the people. Allocations or public funds for schemes in these sectors, whether by the Central or the State Governments are based on certain patterns of funding designed to achieve the targets of the Plan. The selection of the specific tasks, however, is governed by local conditions and in as- signing priorities it might be necessary to involve both the Gram Panchayat and Block Panchayat at the local level as well as the representatives of people particularly of the beneficiary groups, women's groups, youth, socially disadvantaged groups, NGOs, and Community Based Organisations (CBO) for implementation of the GPSDP in consonant of its objectives and spirits at local level.
2. The institutional mechanism for this purpose will need to be adapted to changing requirements. The Panchayati Raj institutions should be strengthened to become institutions of democratic management of rural development both at the block and GP levels. Some State Governments have already established systems where at the Block level the development work is entrusted to Block Level Technical and administrative Officials for effective implementation. The block and GP level representative institutions will, however, have to give adequate voice in their affairs to the weaker sections of the society who are the major beneficiaries of the programmes for development. The welfare of women and

their economic emancipation should receive special attention.

3. Special emphasis would need to be placed on involving the youth at GP level. More imaginative ways through skill development, employment, upgradation of their technical skills, exposure for new innovations and rural technologies, opportunities in service sector, IT based tools and new way of eLearning and distance learning methods to be evolved, for tapping the potential and idealism of the youth for constructive action in rural areas. Through participation of the youth, women, farmers, artisans, handloom and khadi workers, disadvantages groups etc., several development activities could be initiated towards addressing the needs for energy, housing, basic needs, drinking water and sanitation, farming technologies, employment, social security, education and health, income generating activities etc., under the purview of the RAD Plan implementation.

11.6 Human Resource Requirement

1. Manpower requirement require careful review at GP level so as to bring about a hybrid approach with tapping technical manpower from PMKSY, Agriculture, MGNREGA, PMGSY, PMIAY etc and tapping the guidance of Block level technical functionaries, to keep a judicious mix for a sustainable approach. Staff posted in tribal, hill and backward regions require attention so that competent technical staff can be given skill upgradation and behavioral modification for improved performance in the GPSD Plan implementation in such regions. Project based and part-time employment of locally skilled people, retired block level functionaries, NGO technical staff, CBOs, or through training, capacity building and hand holding of the

Panchayat functionaries, involving local educational and social organisations, women's groups, farmers organisations etc., can render maximise benefits from existing institutions for accelerating the development of rural areas, under RADPFI. Volunteerism, entrepreneurship, CSR, PP activities to be developed to be of backbone support agencies in rural areas.

2. Inadequacy of adequate administrative framework at Block and GP level is a major challenge in the promotion of basic amenities like housing, education, health and communication, accessibility, drinking water and sanitation, employment, economic activities etc., for rural area development in terms of growth and economic development. Though the GP is the nodal agency to implement the GPSD Plans, Block level technical personnel should give their technical advise and support in the implementation of the Plans, for which the job profile of the Block functionaries may be redefined and made broad based.

11.7 New Roles and Functions of State Rural/Panchayati Raj Departments

Article 243-G of the Indian Constitution provides that, by statute, the States/UTs can confer on the Panchayats the rights and powers necessary to allow them to act as institutions of self-government and to prepare and execute plans for economic growth and social justice, including those relating to matters referred to in the Eleventh Schedule. In compliance with Article 243- H of the Constitution, the State Legislators were empowered to pass legislation: (i) to allow the Panchayat to levy, raise and pay certain taxes, duties, tolls and fees; (ii) to transfer certain tax- es, duties and tolls levied and paid by the State Government to the Panchayat; (iii) provide for the granting of assistance to the

Panchayats from the Pooled Fund of the State; and (iv) provide for the creation of such funds to the Panchayats for the credit of all money earned by or on be- half of the Panchayats and for the withdrawal thereof.

11.8 Information System, Database for Implementation

1. A detail computer-based information systems for data storage, retrieval and processing of all Government Departments and sectors, both State and Central are being available and are in use in the country up to GP level. For most of the Central Schemes, the data is being updated on daily basis. A dedicated data capturing framework in the NIC to be developed for computerized desktop based, tablet based and mobile based updation on the progress of implementation of works under GPSD Plans.
2. Dash Boards in the NIC RADP MIS to be evolved to show the progress of work and also help monitoring and timely completion of the works, as per the GPSD Plans.
3. GIS based asset monitoring and updation through photographs, positional coordinates with details of the asset created, beneficiaries etc., to be uploaded on daily basis by the various technical personal available in GP level under Central and State level and through that of Block level.
4. Crowd sourcing of information on GPSD Plan implementation would give a fillip to the faster progress of works under GPSDP in rural areas.
5. Social media networks to be extensively used for knowing the views of the stake holders in the progress monitoring and implementation issues for timely resolving the same for effective implementations.

6. Village Information System (VIS) as elaborated in section 7.3 of Chapter 7 can be used for systematic creation of data base through Drone survey, Crowd sourcing and application of other digital data collection Techniques.

11.9 Training

1. Training, capacity building and hand holding is an essential component of the GPSD Plan implementation for all GP functionaries, Block functionaries, youth, women's groups and other stake holders in rural area. Training need to be organized at local level in simple manner in local language with instruction manuals to be available pictorially for easy understanding. Section 10.5 of Chapter 10 elaborates on the capacity building of key stakeholders and highlights the role of SIRD in facilitating training programmes.
2. Training to be implemented on Mission Mode to make the GPSD Plans effectively implementable for bringing faster development and addressing the priorities and needs of the targeted rural areas and hence the training need to be area specific with special skills like hills, disaster prone, tribal areas, coastal, drought prone etc.
3. The existing Block and GP technical Staff under various State and Central development schemes to train, sensitise and familiarise the stake holders for operating in a mission mode approach.

Social Audit

1. The Social Audit dimension should be an integral part of the GPSD Plan implementation in rural areas. All the processes and methodologies followed under MGNREGA may be followed for GPSD Plans also for standard practice and for taking advantage of the local

people's familiarizes and that of the Gram Panchayats.

2. The observations and feedback from the Social Audit should be rolled back to GPSD Plans for scientific, need and priority based, implementable, plan implementation to derive optimum benefits to the rural areas and people.

11.10 Spatial Data Infrastructure (SDI) for villages

Spatial Data Infrastructure (SDI) is a collection of technologies, policies, institutional arrangements, financial and human resources to facilitate availability, access, and effective utilization of spatial data. The Spatial database allows a range of functions for storing, processing, analyzing, and visualizing real world data (Sarkar, 2018).

In India, for most of the districts, the village wise digital database is available for census data, biophysical and socio-economic dimensions, with NIC District Centers in different database formats. However, village-based spatial data infrastructures are not available with the rural extension community in the districts for taking decisions on various rural development schemes (Adinarayana et al., 2004). SDI through GIS helps in understanding and visualizing the complex interrelationship between physical, biological, cultural, economic, and demographical considerations around specific resources (Sarkar, 2018). This allows for an integrated analysis and transfer of data into required information not only for spatial plan preparation but for monitoring and management of the resources also.

The SDI collated from various sources are to be available at various levels such as district, block, and GP for plan preparation and projectization. The District Panchayati Raj departments are to take responsibility for creating a web data base and link it with Village Information System(VIS).

11.10.1 Spatial Budgeting through participation

Objectives of the Budget for Gram Panchayat is to forecast future developmental activities as per the GPDP and avoid losses due to non-utilization of annual funds. Budget stimulates the thinking in advance for directing the funds effectively. Assessing progress of projects under designated sectors and sub sectors spatially is important to know the extent of work done with in the plan period. Thus, can become a guiding factor in allocation of funds judiciously targeting the actual beneficiaries.

After convergence of all the budgetary provisions for a particular sector under various schemes, it is important to link the budget assigned with the spatial mapping of stipulated work for the projects. The available funds are to be allocated as per the need and rationale for the investment in a particular project in a particular locality of the GP. The spatial coverage of the project when compared with the existing conditions as highlighted through Spatial Development Indicators (SDI) and reflected in GPSDP would highlight the deficit areas in actual need of the work. The detailed allocation of the budget covering spatially the monthly targets would help in identifying such deficit areas. It would further help in monitoring the achievements of the annual plans spatially.

The phase wise spatial development suggested in the GPSDP can be linked with the budgeting based on exploration through participatory process as suggested in Chapter 9 (under section 9.3). The sectoral convergence of financial resources can be discussed in the sectoral working groups meetings for the deficit in budget. The deficit amount can then be discussed in Ward Sabha and Community Based Organizations meeting (Figure 10.1) and can have consensus on ways of generating resources through contribution. Since, the projects were conceived based on the wish list provided by them and in accordance with the

plan (GPSDP) they were part of at the time of preparation, members will be get encouraged to contribute for realizing their dreams.

This can further be strengthened through developing their understanding for sustainable spatial planning as discussed in section 10.5.2 by training programmes. They need to know the linkages between wellbeing, livelihood, and conservation of natural resources. How exploitation of natural resources would deprive the future generation from earning their livelihood. Similarly, how infrastructure planned in certain way would improve not only their quality of life but of their future generation too.

11.11 Recommendations

11.11.1 DTCPs/ Town and Country Planning Departments

The town and Country Planning at district level mainly focus on planning of urban areas within its region. There is no inclusion of countryside as well as block at district level in its functioning. However, Madhya Pradesh has included Janpad Panchayat at block level under Panchayati Raj institution. It is the regulating body acting as an intermediary between Gram Panchayats at lower level and Zila Panchayat at district level. Hence, there is a need for an intermediary governing body for integration of village level planning with district level planning. Integration of Sectoral Plans with Master Plans, GPSDPs and GPDPs with provision of notification of the same is needed. Development Authority at district level should be doing all GPSDP for each of the GP's under their jurisdiction. The pool of functionaries from town planning, NRSC and NIC departments is required at a district level for guiding the overall integrated spatial development of districts.

The DTCPs/T&CPs have to develop GPSDP as per revised RADPFI guidelines 2021 for all rural areas within their planning limits (Master plan area) till the transition of such place takes place as urban areas. The DTCPs/T&CPs should also make provision for the development of

infrastructural facilities within the urban villages within the respective urban areas. The Revision of Model Town and Country Planning Law is to be undertaken keeping in view the emerging issues and dynamism of rural spatial planning. TCPO and Planning institutions together may attempt this exercise as a follow up of the URDPFI and RADPFI Guidelines.

State Governments should review and where necessary amend the respective District Town and Country Planning Acts and related laws of the State Government to minimize inconsistencies and contradictions and inadequacy in to propel integrated spatial and sectoral planning in rural areas. The district T&CP Acts could direct the public participation at pre planning and post draft plan formulation stage and the time period for approval of development plans. The amendments are suggested to be referred from the Model Town and Country Planning Law and Model Municipal Law by the Central Government revision.

The relevant state level acts to be considered for revision can be looked up in table number 10.2 of the URDPFI Guidelines 2014.

- States need to proactively amend their T&CP Acts to incorporate the provisions of 74th CAA on the lines of Bihar and Kerala.
- States also need to amend Building Regulation as per the directions of Ministry of Urban Development
- Efforts to be made to operationalize the MPC and DPC with appropriate role of T&CP Departments.
- Any future amendments to be need based with wider stakeholder consultations.
- Regulatory framework to be reengineered which ought to be people's friendly and with an enabling environment in a time bound and transparent manner.

- Revision of Model Town and Country Planning Law to be undertaken keeping in view the emerging issues and dynamism of spatial planning.

11.11.2 Local Bodies/Development Authorities

The local bodies in all the three tiers of PRI's have a significant role in realizing on ground, the linkages of Spatial plans with GPDP and other rural development schemes. Village Planning Schemes (wherever feasible) as suggested in Chapter 8 (section 8.1) are the first level of deliberations followed by Gram Panchayat Spatial Development Plans at a Gram Panchayat level. The cluster level plan development for zoning of land use within the block is the second level. In the case of RURBAN mission the cluster level plans have already been prepared and are being implemented. The cluster level plan is local context specific as elaborated in section 3.2 under categorization of villages. This will depend on type of resource sharing discussed in chapter 6 (section 6.4.2) for developing Regulations in terms of drainage basins, Green Corridors and Energy Use. It is important to integrate the three 'Fs' i.e., functions, funding's and, functionaries at cluster level. Pooling of functionaries as per their function (role/ specialization) for example one town planner is must at a cluster level for spatial integration of all development planning. Planning at district level linking all urban and rural settlements would be the third level. The district planning authority will develop land use zoning regulations collating the inputs from all other two levels.

11.11.3 Modified State Town and Country Planning Acts

Chapter 2 highlights the salient features of modified State Town and country planning acts and elaborates on how these acts have widen the ambit of spatial planning to the rural areas or Gram Panchayats. The list of modified State Town and Country Planning Acts is appended in Appendix 2.2.

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1.1 : 73rd Constitutional Amendment Act - XI Schedule: Classification of Functions Listed in the 11th Schedule

CORE FUNCTIONS

- Drinking water
- Road, culverts, bridges, ferries, waterways, and other means of communication
- Rural electrification, including distribution of electricity
- Health and sanitation, including hospitals, primary health centers, and dispensaries
- Maintenance of community assets

WEFARE FUNCTIONS

- Rural housing
- Non-conventional energy sources
- Poverty alleviation programme
- Education, including primary and secondary schools
- Technical training and vocational education
- Adult and informal education
- Libraries
- Cultural activities
- Family welfare
- Woman and child development
- Social welfare, including welfare of the handicapped and mentally retarded
- Welfare of the weaker sections, and in particular, of the Scheduled Castes and Scheduled Tribes
- Public distribution system

Agriculture and allied functions

- Agriculture, including agricultural extension
- Land improvement, implementation of land reforms, land consolidation, and soil conservation
- Minor irrigation, water management, and watershed development
- Animal husbandry, dairying, and poultry
- Fisheries
- Social forestry and farm forestry
- Minor forest produce
- Fuel and fodder
- Markets and fairs

Industries

- Small-scale industries, including food processing industries
- Khadi, village, and cottage industries

Note: The Eleventh National Finance Commission gave these classifications to the functions enumerated in the 11th Schedule. However, Spatial Planning especially land use planning is not listed in the XI schedule.
 Source: Alok, VN (2013), p. 29

Appendix 1.2

1.2 : Major Policy Aspects of Panchayats in India

Year	Aspect
A) Pre-Independence	
1857	The aftermath of Mutiny saw severe financial stress. Fiscal Decentralisation was considered one of the solution for India.
1870	Lord Mayo's Scheme of fiscal administrative devolution. Enactment of Bengal Chowkidari Act.
1882	Lord Ripon's Resolution on Local-Self Government.
1907	The Royal Commission on Decentralisation was constituted.
B) Post-Independence	
1948	Gram Swaraj (Self-Rule)
1957	Balvantray G Mehta Committee – Brought out the three tier District, Block and Village level structure with devolution of powers to pancha-yats.
1963	K. Santhanam Committee:- Limited Revenue raising powers to pancha-yats to raise revenue and setting up of State Panchayati Raj Finance Cor-porations. - This was a prelude to setting up of State Finance Commit-tees later.
1978	Ashoka Mehta Committee:- District as the Administrative Unit in the Panchayati structure and two-tier panchayats be created as District and Block levels.
1985	G.V.K. Rao Committee:- Recommended the establishment of Block De-velopment Office (BDO) to plan, implement and monitor rural develop-ment programmes.
1986	L.M. Sanghvi Committee:- Gram Sabha should be the base of decentral-ized democracy.
1993	The 73 rd Constitutional Amendment Act:- Part IX of the Constitution was inserted to XI Schedule that enumerated 29 matters for Panchayats. Dis - trict, Block and Village levels were established under the Constitution. Expected to have decentralized planning process, empowering the Gram Panchayats.
1996	PESA:- Powers of Self-Government were extended for Tribal Communi-ties in 'Fifth Schedule' areas.
2004	Creation of the Ministry of Panchayati Raj in India.
2009	13 th Central Finance Commission:- Recommendation of share for Pan-chayats in the Union Revenue Divisible Pool. A major landmark for finan-cial devolution.
2016	Shyama Prasad Mukherji RURBAN MISSION (SPMRM) – 4 Pillars: - Spatial Planning platform, Knowledge Platform, Expression of Interests (private sector participation through Atma Nirbhar Bharat Package), and RURBAN-SOFT a geo-tagging of all assets constructed under the RURBAN MISSION.
2019	MANCHITRA – National Informatics Center's spatial planning applica-tion
2020	Survey of Villages and Mapping with Improvised Technology in Village Areas (SVAMITVA) – Property Cards/Title deeds to the property owners.

Source: Modified from Nath VK (2013) & Updated from various ministries, Gol.

1.3 : 73rd Amendment in Various Selected States of India

Andhra Pradesh

The Andhra Pradesh Panchayati Raj Act 1994 became on May 30, 1994. Subsequently many amendments and rules were carried out. One of the salient feature is the preparation of spatial planning where in the gram panchayat to mandal to district level, there is a hierarchy of planning regulations for construction and layout plan within the Panchayat Raj and Town and Country Planning Act (amendment in AP Gram Panchayat Land Development (layout and Building) Rules, 2002). "In Andhra Pradesh, the Gram Panchayats have to perform 12 obligatory functions and 27 optional functions, apart from the 29 subjects mentioned in Schedule I of the Andhra Pradesh Panchayati Raj Act, 1994 which is a replica of the Eleventh Schedule. The Mandal Parishads in the state have to perform functions specified in Schedule I of the Act besides functions mentioned in Schedule I of the Panchayati Raj Act under 4 broad items

(i) Community Development (ii) Animal Husbandry and Fisheries, (iii) Agriculture, (iv) Health and Rural Sanitation (Vittal, C.P 1988). The irony is that even after holding elections to Panchayati Raj bodies in the state, powers and functions were not transferred to the PRIs to the desired extent let alone financial resources. The State Assembly has amended the Andhra Pradesh Panchayati Raj Act to provide for depositing all funds received by the Panchayats under the Jawahar Rozgar Yojana(JRY) and the Employment Assurance Scheme (EAS) in the nationalized banks, cooperative banks or postoffices".(IGNOU: Gyangosh: Unit 13 :- site reference:- <http://egyankosh.ac.in//handle/123456789/48130>).

Bihar

Though the Bihar Panchayati Raj Act came into force on August 6, 1993, election to all the three tiers of PRIs has not been conducted so far. Acts and Rules are amended over a period of time. In fact, the Town and Country Planning modified in 2014 gives the provision of rural area planning.

Gujarat

The Gujarat Panchayati Raj Act became effective from August 26, 1993 and modified in 2017 (which goes to the extent of cluster approach at gram panchayat level). On the other hand the Town and Country Planning Act of 1976 is a pioneering one, that permitted to go in for Town Planning Scheme, in which the general population can pool their land resources to get the support of the government for infrastructure in a given area. In Gujarat, Features of 73rd and 74th Amendment the powers and functions were assigned to the PRIs in a big way. The state government has transferred all the developmental machinery to the District Panchayat and below i.e., Taluk Panchayats and Gram Panchayat. The Gram Panchayat has powers to impose about 20 different taxes and fees and the Taluk Panchayat has powers to increase the taxation rates of Gram Panchayats.

Haryana

Haryana and its erstwhile Punjab Act, is so far the best in detailing out the Panchayati Raj Act as well as supporting Acts. Haryana Panchayat Act came in to existence in 1994, and added to this in February 2021 too that ensured 50% reservation for women in Gram Panchayats. The Haryana State has its Village Common Lands (Regulation) Rules, 1965 that

regulates the public land within the Gram Panchayat area. So far as Haryana is concerned, the elections to all the three-tiers were conducted in December- January 1994-95. The State Government has delegated more powers to the PRIs. These include control and inspection of the schemes and programmes launched by the Departments of food and supplies, Education, Public Health, Women and Child Welfare, Agriculture, Horticulture, Animal Husbandry, Forests, etc. besides the schemes of the Panchayat Department. Gram Panchayats provide all details of income and expenditure incurred on various schemes on a board known as 'Vikas Patt' put up at each Panchayat.

Karnataka

Karnataka was the first state to pass the new legislation on April 7, 1993, which became effective from April 30, 1993. Prior to that during the period of Late Chief Minister Hegde, Zilla Parishad system came into picture that brought in too many innovative changes. These include representation of NGOs, eminent persons within the Zilla as members to guide the vision for the District. A Review Committee, popularly known as the Nayak Committee, was appointed by the State Government to look into issues and problems viz. a weak gram Sabha, bureaucratic dominance in Panchayati Raj administration at different levels, devolution of powers and functions between and among the tiers, absence of provision for Nyaya Panchayats, accommodating different reserved categories as chairpersons in a term of Five years. Besides, the Government is also thinking to come out with a bill on Naaya Panchayats and the District Planning Committees will be operating the way it is envisaged in the Constitutional Amendment so as to lead to genuine decentralized planning. Though progressive in many aspects, the spatial planning at gram panchayat level still stagnating due to the explicit legislation for this.

Kerala

In Kerala, the new Panchayati Raj system came into operation from September 30, 1995. The Government on August 17, 1996 formally inaugurated the People's Campaign for the Ninth Plan. Under this process, people are to be mobilized through the local bodies in all stages of development planning from formulation, implementation to maintenance. The Town and Country Planning Act modified in 2016, brought in District Decentralised Planning guidelines and provided a Handbook to all the villages and urban areas for integrated District Decentralised Plan. It has spatial, fiscal and targets from village to district level.

Madhya Pradesh

In Madhya Pradesh, against 29 subjects, 23 subjects are reported to have been transferred to the PRIs. The remaining items are with the concerned departments requiring necessary action in this regard. The State Government is not able to channelise funds beyond what it receives from the centre for JRY and EAS even after setting up SFC. The Town and Country Planning Act of the state brought in amendments to add Special Area Development Authority (SADA) for various urban areas. However, for rural areas there is no spatial plan or infrastructure plan.

Maharashtra

In Maharashtra, every state had District Plans but this was concentrated for urban centers/city only. Rural areas are devoid of any Master Plans. Maharashtra was having an act way back since 1959 and continues to change the Act through amendments many times (latest being in 2020). It is necessary to bring in regulations for rural areas for peri-urban areas of Maharashtra as this the state which had highest percentage of urban population. Interestingly, in the urban areas within a District, especially for District Head Quarters, the local authority request the Town and Country Planning Department of the

State to prepare the City plan under the Act. Similar work can be formulated through institution within the Integrated District Plan.

Odisha

Odisha has been the first state to implement 33 percent reservation of seats for women in Panchayats, having 2, 500 representatives in the Panchayats. A unique provision of Odisha Gram Panchayat Act states that if the Gram Panchayat Sarpanch elected or nominated is not a woman, the office of Naib-Sarpanch will go to a woman. In Odisha, the Panchayats are having effective role in socio-economic development. Though the state is having more than 82% of its population in rural areas, still devolution and decentralization does not exist for spatial planning/land use planning for rural areas and corresponding regulations have been be incorporated.

Punjab

The Punjab Panchayati Raj Act 1994 and amended in 2018. It has incorporated Village Common Lands (Regulation) Rules, and also brought in Building Bye Laws for rural areas. Under the Regional and Town Planning and Development Act, Punjab also regulates the peri-urban and highway corridor act that controls the land use in rural areas adjoining the urban centers. In fact, some of the acts such as Regional and Town Planning Act, Panchayat Act defines the villages, based on distance from the urban centers, corridors, etc. The Village Common Land Regulation is to suppose to regulate the forest, agriculture and other green areas including water bodies.

Uttar Pradesh

URP Gram Panchayati Act 1947 and amended in 1994 and subsequently modified several times to make the rural development progressive. Subsequent Rules and Regulations such as in 2008 brought in Building Bye Laws that controls the building construction in rural areas. The Urban Planning and Development Act, Industrial Development Act and Special Area Development Authority, 1985 brought in changes in the peri-urban areas but not much empowered the Panchayats as for as spatial planning is concerned.

West Bengal

In West Bengal, panchayats with a wide range of new functions in education, health and rural electrification sectors. It also ensures health and education. However, spatial planning except in the case of Kolkata Metropolitan Regio, where in the Gram Panchayat planning is being monitored by KMDA, other areas do not have that liberty to prepare spatial plans.

1.4 : List of Partner Institutions along with Shortlisted Panchayats and State Representatives

1	2	3	4	5
S. No.	State and Name of Institute	District and Gram Panchayats with Population	Contact Person	State Represented by
1	BIT Mesra, Ranchi Jharkhand	a. District: Ranchi; Gram Panchayat: Neori (Population: 8677) b. District: Bokaro; Gram Panchayat: Kanra (Population: 8352)	Dr. Satyaki Sarkar Head, Architecture Department	Ms. Shail Prabha Kujur Joint Secretary
2	Chandigarh College of Architecture Haryana	a. District: Ambala; Gram Panchayat: Mullana (Population: 4956) b. District: Ambala; Gram Panchayat: Pathrehi (Population: 5645)	Dr. Sangeeta Bagga Mehta Principal	Sh. Veenus Nathalia Nodal Officer (RGSA & e-Panchayat)
3	Bharati Vidyapeeth College of Architecture, Pune Maharashtra	a. District: Pune; Gram Panchayat: Rajuri (Population: 9411) b. District: Pune; Gram Panchayat: Belhe (Population: 8352)	Prof. B. H. Sutar Principal	Sh. Eknath Gagare Deputy Secretary
4	IIT Guwahati Assam	a. District: Kamrup; Gram Panchayat: Bongsor (Population: 8500) b. District: Kamrup; Gram Panchayat: Saraighat (Population: 8005)	Prof. T. G. Sitharam Director	Sh. Arup Pathak Joint Director
5	IIT Roorkee Uttarakhnad	a. District: Dehradun; Gram Panchayat: Chharba (Population: 7268) b. District: Haridwar; Gram Panchayat: Belada (Population: 7185)	Dr. Ajit K. Chaturvedi Director	Sh. Manoj Kumar Tiwari District Panchayat Raj Officer
6	School of Planning & Architecture (SPA), Bhopal Madhya Pradesh	a. District: Sehori; Gram Panchayat: Bilkisganj (Population: 6408) b. District: Vidhisha; Gram Panchayat: Murwas (Population: 5271)	Dr. N Sridharan Director	Sh. Pradhyuman Sharma Additional Director

1	2	3	4	5
S. No.	State and Name of Institute	District and Gram Panchayats with Population	Contact Person	State Represented by
7	NIT Raipur Chhattisgarh	a. District: Raipur; Gram Panchayat: Silyari Khurd (Population: 6963) b. District: Raipur; Gram Panchayat: Sankara (Population: 4987)	Prof. Debashish Sanyal Head Associate Professor	Sh. Dinesh Chandrakar, Deputy Director
8	School of Planning & Architecture, Vijayawada Andhra Pradesh	a. District: Krishna; Gram Panchayat: Raya- napadu (Population: 3504) b. District: Krishna; Gram Panchayat: Telapro-lu (Population: 8984)	Prof. Dr. Minakshi Jain Director	Ms. J. Aruna, CPPRD
9	Sir J. J. College of Architecture, Mumbai Maharashtra	a. District: Kolhapur; Gram Panchayat: Borwade (Population: 6240) b. District: Ahmednagar; Gram Panchayat: Guha (Population: 5213)	Shri Rajiv Mishra Principal	Sh. Eknath Gagare Deputy Secretary
10	IIT Kharagpur West Bengal	a. District: Jhargram; Gram Panchayat: Kultikri (Population: 10,505) b. District: Paschim Madhipur; Gram Panchayat: Makrampur (Population: 22829)	Prof. Virendra Kumar Tewari Director	Sh. Debendu Das Special Secretary
11	D/o Architecture, NIT, Trichy Tamil Nadu	a. District: Tiruchirappalli; Gram Panchayat: N. Kuttapattu (Population: 5310) b. District: Tiruchirappalli; Gram Panchayat: Gundur (Population: 10386)	Ar. G. Subbaiyan Head	Sh. Manohar Singh Additional Director

1	2	3	4	5
S. No.	State and Name of Institute	District and Gram Panchayats with Population	Contact Person	State Represented by
12	CEPT Ahmedabad Gujarat	a. District: Junagadh; Gram Panchayat: Mendarda (Population: 15,776) b. District: Rajkot; Gram Panchayat: Virpur (Population: 11,178)	Shri R. Srivasthsan Principal	Sh. Ashok Kumar, Sharma, Addl. Development Commissioner
13	Dr. A.P.J. Abdul Kalam Technical University, Sec-11, Jankipuram Vistar, Lucknow Uttar Pradesh	a. District: Lucknow; Gram Panchayat: Bakkas (Population: 8171) b. District: Gautam Budh Nagar; Gram Panchayat: Mahiuddin Pur Kanawani (Population: 7080)	Contact No. 9414189254	Ms. Praveena Chaudhary Deputy Director
14	School of Architecture & Planning, Anna University, Chennai Tamil Nadu	a. District: Madurai; Gram Panchayat: Doddappaickanur (Population: 10,006) b. District: Madurai; Gram Panchayat: Nakkalapatti (Population: 9,402)	Ar. Ramee Maria Leonte Vedamuthu, Dean	Sh. Manohar Singh Additional Director
15	Manipal School of Architecture and Planning, constitu- ent unit of Manipal Academy of Higher Education (MAHE) Karnataka	a. District: Udupi; Gram Panchayat: Uppunda (Population: 11456) b. District: Udupi; Gram Panchayat: Shankarnarayana (Population: 5144)	Dr. Deepika Shetty Director and Professor	Ms. Priyanka Francis Commissioner

Source: Compiled from MoPR, 2021.

Appendix 1.5

1.5: Distribution of Area (Sq.km.) by Residence

SL.NO	States/UTs	No. of villages	Total	Rural	Urban	Area/Village
1	Jammu & Kashmir	6,652	222236	220990.1	1245.9	33.22
2	Himachal Pradesh	19,831	55673	55402.18	270.82	2.79
3	Punjab	12,729	50362	47847.4	2514.6	3.76
4	Chandigarh	24	114	4.47	109.53	0.19
5	Uttarakhand	16,805	53483	52581.08	901.92	3.13
6	Haryana	6,955	44212	42235.92	1976.08	6.07
7	NCT of Delhi	165	1483	326.44	1156.56	1.98
8	Rajasthan	41,353	342239	335606.04	6632.96	8.12
9	Uttar Pradesh	107,440	240928	233365.71	7562.29	2.17
10	Bihar	45,113	94163	91838.28	2324.72	2.04
11	Sikkim	452	7096	7057.75	38.25	15.61
12	Arunachal Pradesh	4,065	83743	NA	NA	NA
13	Nagaland	1,315	16579	16335.52	243.48	12.42
14	Manipur	2,391	22327	22147.5	179.5	9.26
15	Mizoram	817	21081	20494	587	25.08
16	Tripura	870	10486	10094.12	391.88	11.60
17	Meghalaya	6,023	22429	22146.11	282.89	3.68
18	Assam	26,247	78438	77178.12	1259.88	2.94
19	West Bengal	40,783	88752	83632.59	5119.41	2.05
20	Jharkhand	32,615	79716	77467.12	2248.88	2.38
21	Odisha	51,352	155707	152355.34	3351.66	2.97
22	Chhattisgarh	20,308	135192	131810.3	3381.7	6.49
23	Madhya Pradesh	55,392	308252	300505.59	7746.41	5.43
24	Gujarat	18,544	196244	188840.46	7403.54	10.18
25	Daman & Diu	23	111	56.38	54.62	2.45
26	Dadra & Nagar	70	491	445.3	45.7	6.36
27	Maharashtra	43,722	307713	298628.75	9084.25	6.83
28	Andhra Pradesh	28,123	160205	156085.73	4119.27	9.50

SL.NO	States/UTs	No. of villages	Total	Rural	Urban	Area/Village
29	Karnataka	29,483	191791	185783.46	6007.54	6.30
30	Goa	359	3702	2903.14	798.86	8.09
31	Lakshadweep	24	30	8.05	21.95	0.34
32	Kerala	1,364	38852	31253.2	7598.8	22.91
33	Tamil Nadu	16,317	130060	116427.97	13632.03	7.14
34	Puducherry	92	490	335.44	154.56	3.65
35	Andaman & N.Is	547	8249	8211.08	37.92	15.01
36	Telangana	640867	114840	111104.77	3735.23	4.84
	India	6,652	3287469	3101505.41	102220.59	33.22

Source: Census of India, 2011

Note: The sum of rural and urban area does not tally with the total area, as the bifurcation of rural and urban area is not given for the state of Arunachal Pradesh.

Appendix 1.6

1.6 : Average Rural Population per village

State	Rural Population (2011)	No. of Villages	Average Rural Population per Village
Jammu & Kashmir	9108060	6,652	1,369
Himachal Pradesh	6176050	19,831	311
Punjab	17344192	12,729	1,363
Chandigarh	28991	24	1,208
Uttarakhand	7036954	16,805	419
Haryana	16509359	6,955	2,374
NCT of Delhi	419042	165	2,540
Rajasthan	51500352	41,353	1,245
Uttar Pradesh	155317278	107,440	1,446
Bihar	92341436	45,113	2,047
Sikkim	456999	452	1,011
Arunachal Pradesh	1066358	4,065	262
Nagaland	1407536	1,315	1,070
Manipur	2021640	2,391	846
Mizoram	525435	817	643
Tripura	2712464	870	3,118
Meghalaya	2371439	6,023	394
Assam	26807034	26,247	1,021
West Bengal	62183113	40,783	1,525
Jharkhand	25055073	32,615	768
Odisha	34970562	51,352	681
Chhattisgarh	19607961	20,308	966
Madhya Pradesh	52557404	55,392	949
Gujarat	34694609	18,544	1,871
Daman & Diu	60396	23	2,626
Dadra & Nagar Haveli	183114	70	2,616
Maharashtra	61556074	43,722	1,408
Andhra Pradesh	56361702	28,123	2,004
Karnataka	37469335	29,483	1,271
Goa	551731	359	1,537
Lakshadweep	14141	24	589
Kerala	17471135	1,364	12,809
Tamil Nadu	37229590	16,317	2,282
Puducherry	395200	92	4,296
Andaman & Nicobar	237093	547	433
India	833748852	6,40,867	1,301

Source: Census of India, 2011

Appendix 2.1a

2.1 a Brief Shyama Prasad Mukherje RURBAN MISSION

Shyama Prasad Mukherjee RURBAN MISSION (known as SPMRM) is a 'Core' Centrally Sponsored Scheme with an aim to create 300 rural growth clusters across the country. SPMRM was launched by the Hon. Prime Minister on February 21st , 2016 with a Mission period of Five Years. The period of the Mission was extended till 31st March, 2021 and extended further for two years upto 31st March, 2023 to complete all the identified works.

SPMRM is designed to deliver catalytic interventions to rural areas experiencing rapid growth. SPMRM provides for Critical gap fund up to Rs.30 Crores per cluster for Non-Tribal cluster and up to Rs.15 Crores per cluster for Tribal and Hilly State Clusters. SPMRM intends to develop 300 rural growth clusters across the country in a time bound manner. SPMRM cluster focus selecting interventions from the 21 desirable components depending locally felt need which includes basic, social, economic, digital amenities.

SPMRM intends to develop 300 rural growth clusters across the country in a timebound manner out of which 292 clusters are already in different stages of development. Out of 292 clusters, 290 Integrated Cluster Action Plan and 281 Detailed Project Reports have been approved by the component Committees. A total investment of Rs.27,776 Crores (including Rs.20,958 Crores Convergence and Rs.6,818 Crores of Capital Grant Funding) is approved in these clusters out of which expenditure worth Rs.11,267 Crores (41%) is done.

The Ministry of Rural Development is taking steps to expedite Mission's on-going progress. Ministry has received requests on several forums and communication and many States and elected officials to allocate more RURBAN Clusters. Ministry is taking steps towards launching Phase II of the SPMRM with 1000 clusters.

To take the initiative forward learning and experiences of the PRI members and grass root officials have been taken into consideration and bottom-up approach towards Cluster Development is being taken, which also includes the following:-

Strategic Planning of the Mission is based on Four Pillars:-

i. Spatial Planning Platform

Spatial planning is an activity aimed at integration of the spatial dimensions for the sectoral plan through land-based strategies, regulations on land use. Spatial planning requires in-depth study such that the comprehensive advantage and multiplier effects of the Clusters is highlighted. For preparation of Spatial Plans, a robust Spatial Planning platform is to be developed. The platform will serve as a digital interface for getting baseline data and cluster land suitability; land use, economic activity planning etc. It is proposed that DoRD in coordination with MoPR and Meity will support the Shyama Prasad Mukherji Spatial Planning Platform (SPMSPP) for Rural India with public interface. Based on the business allocation to MoPR, DoRD and Meity respective domains of Planning, Development and ICT platform would be integrated to support the SPMSPP. Spatial Planning Platform is in testing stage and pilot spatial plan for three rural cluster is under progress. These are Shamlaji in Gujarat, Nbhoypur in Tripura and Singarayakonda in Andhra Pradesh. In addition to this, outcome of Spatial Plans recently prepared by the different institutes of repute, sponsored by the MoPR will form the basic to carry out the task forward.

ii. Knowledge Platform

This would be a learning management platform and will ensure that the support and guidance to cluster and GPs is provided through virtual and in-person interface in the appropriate regional language. It will curate and organize training and innovations - gather knowledge, provide learning opportunities, assess training needs, and include curriculum and training modules in form of videos, handouts etc. The Centre for Transforming Rural areas is being planned at NIRDPR. Plan preparation requires experts from various fields like Rural and Regional Planners, Rural Management experts, GIS specialist convergence specialists, etc. Hence 'MENTOR INSTITUTE's' like IITs, NITs, Institute of National repute etc having expertise in planning, architecture, engineering, etc are being on boarded for each State. 28 State/UT's have already on-boarded their mentor institute.

iii. Expression of Interest

As per highlighted focus on private sector participation in Atma Nirbhar Bharat package, SPMRM division intends to invite Expression of Interest (EoI) from international organisations, foundations promoted by corporate houses, non-governmental organisations, NRIs/PIOs/OICs for bridging the knowledge/technology gap and bringing in techno-managerial expertise, bridging the public service delivery gap in the RURBAN Clusters. This step would result in private sector partnership with the government in the economic development capacity building and creation of livelihoods in RURBAN Clusters.

iv. RurbanSoft-PFMS Integration & Geo - Rurban App

Real time progress is being captured under the Mission through RurbanSoft (a MIS platform under SPMRM). RurbanSoft has been integrated with PFMS to capture real time financial progress. All States/UTs are targeted for onboarding PFMS Integration by 31st March 2021 . As per current status, 28 States/UTs have already on-boarded payment through RurbanSoft PFMS integration. An app for Geo-Tagging of the all the assets being constructed under the Mission has been launched in February 2020. States have made steady progress and out of total 67,888 works, 19349 works under RURBAN have been geo-tagged by February, 2021 .

Appendix 2.1b

SVAMITVA SCHEME

Survey of Villages and Mapping with Improvised Technology in Village Areas

One of a kind initiative set to transform rural India, enabling villagers to use property as a financial asset for taking loans and other financial benefits.

Transformation of the villages & the Panchayats by ensuring the basic quality of life in the villages is the need of the hour. An economic boost in the villages is also germinal to India's vision of achieving global power status.

Survey of rural land in India for Settlement and record of rights had last been completed many decades back and moreover, ABADI (inhabited) area of villages were not surveyed/ mapped in many States. Hence, in the absence of a legal document, the owner of the property in the rural areas are not able to leverage their own property as a financial asset acceptable by the banks for the purpose of providing loans and other financial assistance. In most states, survey and measurement of the populated areas in the villages has not been done for the purpose of attestation/verification of properties. Therefore, to provide the legal right of the property to the household owner, there is a need of leverage latest Drone survey technology.

SVAMITVA (Survey of Villages and Mapping with Improvised Technology in Village Areas) scheme has been launched by Hon'ble Prime Ministry on National Panchayati Raj Day, 24th April, 2020 with a resolve to enable economic progress of Rural India by providing "Record of Rights" to every rural household owner with issuance of legal ownership cards (Property cards/Title deeds) to the property owners. This would facilitate monetization of rural residential assets for credit and other financial services.

Scheme is a reformative step towards establishment of clear ownership of property in rural inhabited ("Abadi") areas, by mapping of land parcels using drone technology with the collaborative efforts of the Ministry of Panchayati Raj, State Revenue Department, State Panchayati Raj Department and Survey of India. This is the first ever such exercise to carry out Property survey of all villages across the country.

Phase I - Pilot Scheme (April 2020-March 2021): Covers approx. 1 lakh villages of States of Haryana, Karnataka, Madhya Pradesh, Maharashtra, Uttar Pradesh, Uttarakhand, Punjab, Rajasthan, Andhra Pradesh and establishment of 210 CORS in the state of Rajasthan, Punjab, Haryana, Madhya Pradesh.

Phase II (April 2021 - March 2025) - Complete survey and establishment of 357 CORS across the Country.

OBJECTIVES OF SCHEME



BROAD LEVEL IMPLEMENTATION FLOW OF THE SCHEME

- i. Signing of MoU between Survey of India and respective State Governments
- ii. Identification of villages to be surveyed during Pilot Phase
- iii. Sensitisation of GPs/villages
- iv. Demarcation of abadi area and chunna marking of rural properties
- v. Large scale mapping of rural abadi area using unmanned aerial vehicles/drones
- vi. Creation of maps
- vii. Ground verification of maps by drone survey teams
- viii. Correction of maps - post ground verification
- ix. Inquiry Process
- x. Generation of final Property Cards
- xi. Uploading of the Property Cards on digital platform.



Establishment of CORS network is one of the components of the SVAMITVA Scheme. CORS network supports in accurate Geo-referencing, ground truthing and demarcation of lands. /Department viz Revenue Department,

Gram Panchayat (GP), Public Works Department, Rural Development Department, Agriculture, Drainage & Canal, Education, Electricity, Water, Health etc. for the survey and implementing/using GIS based applications. CORS would be helpful in: -


- Facilitating development work in Gram Panchayats like road construction, Irrigation and infrastructure works etc
- Establishment of the precise State-wide reference frame for Large Scale Mapping (LSM) of all villages in states.
- Provide ground control points (GCPs) for drone flying for LSM.
- For updating the revenue/property ownership data by Revenue department in future for the village habited area.
- For ground validation of the existing natural & man-made features mapped in the LSM.
- To update the village database in future by respective line department or Gram Panchayat (GP) by capturing the accurate location of the newly created:
 - Road (internal or external) assets infrastructure.



- Water Pipeline
- Drainages, embankments (River or Protective)
- Sewerage, Waste disposal
- Water harvesting, water conservation
- Health
- Education
- Electricity
- Housing

Large Scale Mapping using unmanned vehicles/drones generates high resolution and accurate image base maps that would facilitate creation of the most durable record of property holdings in the rural abadi areas.

- Ortho-Rectified image (ORI) of better than ± 5 cm GSD in Geo-tiff format for each village habited area.
- GIS data base prepared on 1:500 scale on UTM projection and WGS-84 datum.
- DEM of ± 20 cm vertical accuracy for the village habited area.
- Hard copy maps on 1:500 scale for village and Land parcel map (LPM) on good quality 90 GSM paper along-with pdf copy for future printing purposes.



Benefits of SVAMITVA

Issuance of Property card	Minimise Property Disputes	Better quality GPDP
<ol style="list-style-type: none"> Villagers can easily avail Home / Property loans. Coverage of Properties by property tax. Automated Tax collection. Increase in liquidity of land parcels in the market Increase the financial credit availability to the village. 	<ol style="list-style-type: none"> Protection of Civil rights of villagers. Prevention of the encroachment by identifying public land. Exact area of revenue will be known Records and map for taxation of the village, construction permits etc. will be available at Gram Panchayat 	<p>Using the maps created under survey for preparing GPDP.</p> <p>Maps provide decision support system and helps in development and execution of planning activities.</p>

Appendix 2.1c

Geo Spatial based Decision Support System for Panchayats GRAM MANCHITRA

(<https://grammanchitra.gov.in/>)

Fifteen Finance Commission strengthen all the three tiers of Panchayats i.e. Gram Panchayats, intermediate Panchayats and zilla Panchayats. It is apt to ensure effective planning is done at all the 3 tiers. It became important to bring more accountability and transparency to the process for preparing GPDP, IPDP and ZPDP, which can be achieved by linking it with the Geographic information system (GIS).

Using spatial planning in self-governance can ensure openness and accountability in the functioning at all the levels. GIS can be used in a variety of ways for land use planning, including monitoring and inventory, resource evaluation and assessment, and more complex modelling and analysis which can be used for predicting impacts of policies or effects of change in land use.

It can facilitate the understanding of spatial aspects of social and economic development by relating socio-economic variables to natural resources and the physical world, providing a tool for targeting interventions and monitoring impacts on various scales over wide areas.

In this endeavour, GIS based tools essentially consisting of design and creation of spatial as well as attribute databases and integration of the same to facilitate the creation of various planning scenarios for facility planning and management, integrated with the priority and needs of the people, ensuring basic facilities, avenues for livelihood, and productive use of resources could be leveraged. In this regard, Gram Manchitra application developed by Ministry of Panchayati Raj (MoPR) as a single window spatial Planning application.

GRAM MANCHITRA APPLICATION

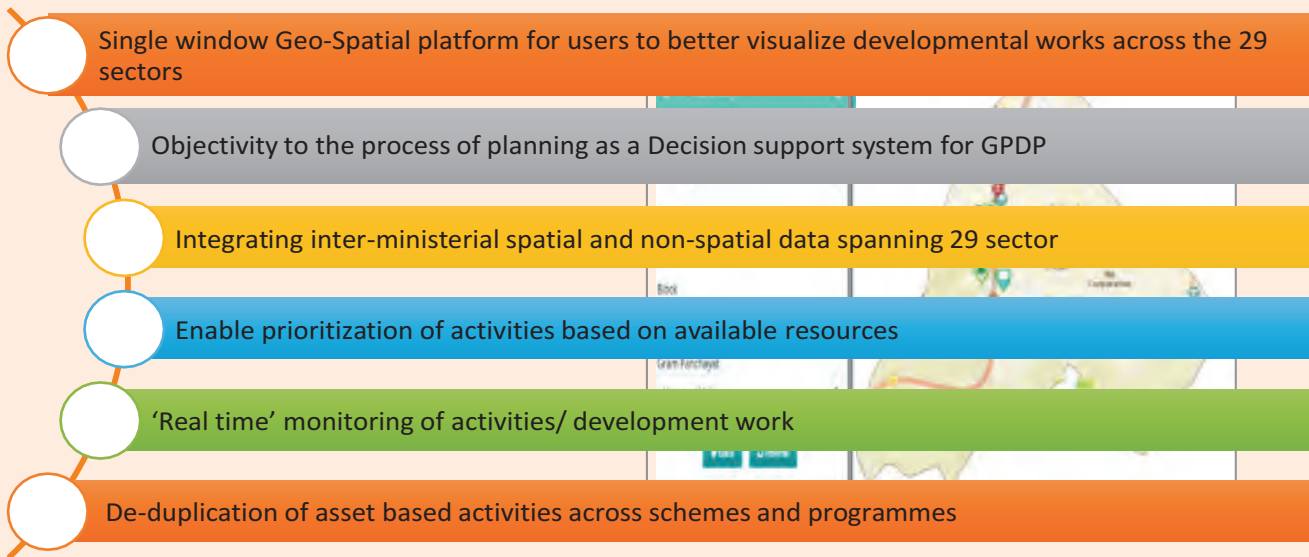
Gram Manchitra, spatial Planning application launched by Hon'ble Minister of Rural Development, Agriculture and Farmers Welfare & Panchayati Raj on October 23, 2019 on the occasion of National Panchayat Awards, 2019



Gram Manchitra, is a Spatial Planning Application for facilitating and supporting Gram Panchayat users to perform planning at Gram Panchayat level with the use of geonology. It provides a single/ unified Geo Spatial platform to better visualize the various developmental works to be taken up across the 29 sectors and provide a decision support system for Panchayat Development Plan.

OBJECTIVES OF GRAM MANCHITRA

The application is being integrated with spatial and non- spatial data from various Ministries viz.



District hospitals, Sub-district hospitals, CSCs, PSCs and sub centres (Ministry of Health and Family Welfare), Banking Amenities like Bank branches, ATM, banking correspondence etc. (Ministry of Finance), Postal Facilities (Ministry of Communication), Schools (Department of School education & Literacy), Fair Price Shops (Ministry of Consumer Affairs, food & Public Distribution), Drinking Water Sources (Ministry of Drinking Water& Sanitation) and MGNREGA assets data (Ministry of Rural Development). This Application is also linked with Socio-Economic Caste Census (SECC) report, Mission Antyodaya (MA) and MA gap analysis and Resource Envelope allocated to the Gram Panchayat. All this information is available in one window, which will support/assist the Gram Panchayat user in better visualization of works during planning.

'Real time' monitoring of activities/ development work implementation status and progress of execution of various schemes can be easily tracked. Analysis tools like proximity analysis, measurement tool, query, elevation profile, Panchayat Profile etc. have been provisioned in the application, to support the users for prioritizing the activities as per the available infrastructure. It would enable de-duplication of assets under various schemes/ programmes. Using spatial planning in local self-governance will also bring accountability, transparency, quality of service, pace of implementation, and efficient monitoring System.



Gram Manchitra would provide an opportunity to view the GIS maps (Village / Block/ District Map) on various parameters of Health, Education, and Population etc. This option will be helpful to view the developmental profile and plan for the unit accordingly.

Further, the Gram Mahchitra application would integrate the 1:500 scale maps prepared under the SVAMITVA scheme, which will improve manifold the ability of the Panchayats to plan interventions accurately.



BENEFITS

- i. Decision support system : Support in development and execution of planning activities.
- ii. Viewing and Analysis of Plan : Queries and analysis of the plan could be seen on the matic maps to show spatial features for easier visualization of the output and internalization of the same. This is especially useful in ensuring convergence of various activities and in knowing all the works that are being taken up in a certain geographic area within the Panchayats.
- iii. Performance Analysis : Performances based on selected indicators across district/ block / Gram Panchayat can be visualised on maps. This will help Panchayats to know about the best performance on any selected indicator
- iv. Enhanced citizen engagement : Most of the two way interaction with citizens will move to mobile channels resulting in less load on manpower intensive over-the- counter service delivery.
- v. Utilization of Resources and Infrastructure : Provide cost effective solution for utilization of resources and maximize the benefits.

Appendix 2.2a

2.2a : Constitution and Functioning of District Planning Committee (under 74th CAA)

1	2	3	4	5	6	7
S. No.	State	Legislative Provisions related to DPC	DPO Exists	Guidelines for Dist Plan	Functional	No. of DPC submitted Plan
	Andhra Pradesh	AP DPC Act, 2005	N.A.	Notified	N.A.	13 BRGF districts
2	Arunachal Pradesh	Order No.PR-23/2006	No	Not Notified	Not Active	N.A.
3	Assam	Sec.3 of APA, 1994; AP Rules 2002	N.A.	Notified	Not Active	N.A.
4	Bihar	Sec. 134 of Bihar PR Act, 1993	N.A.	Notified	Not Active	37
5	Chattisgarh	Chattisgarh DPC Rules, 2001	Yes	Notified	Not Active	6
6	Goa	Sec. 239 of Goa PR Act, 1994	No	Notified	Not Active	N.A.
7	Gujarat	N.A.	No	Notified	Not Active	N.A.
8	Haryana	Sec. 214 of Haryana PR Act, 1994	Yes	Notified	Not Active	5
9	Himachal Pradesh	Sec. 184 of HP PR Act, 1994	Yes	Notified	Active in 2 districts	2 BRGF districts
10	Jammu & Kashmir	District Planning & Development Board, actsas DPC	N.A.	N.A.	N.A.	N.A.
11	Jharkhand	Sec 123-130 of Jharkhand PR Act 2001	Yes	Notified	Not Active	19
12	Karnataka	Section 310 of PR Act	No	Notified	Active	29
13	Kerala	Sec. 53 of Kerala Municipality Act, 1994;Kerala DPC Rules 1995	Yes	Notified	Little Active	1 (Kollam)
14	Maharashtra	Maharashtra DPC Act, 1998	Yes	Notified	Active	35 (2 Urban)
15	Madhya Pradesh	MP DPC Act, 1995	Yes	Notified	Little Active	50
16	Manipur	Sec 96 of Manipur PR Act, 1995	No	Not Notified	Not Active	Nil
17	Odisha	Orissa DPC Act, 1998	Yes	Notified	Little Active	30

1	2	3	4	5	6	7
S. No.	State	Legislative Provisions related to DPC	DPO Exists	Guidelines for Dist Plan	Functional	No. of DPC submitted Plan
18	Punjab	Sec 214 of PR Act, 1994	Yes	Notified	Not Active	Nil
19	Rajasthan	Sec 121 of Rajasthan PR Act, 1994	Yes	Notified	Active	32
20	Sikkim	Sec 127 of SP Act, 1993	Yes	Notified	Not Active	Nil
21	Tamil Nadu	Sec 241 of TN Panchayats Act 1994	Yes	Notified	Little Active	28
22	Tripura	N.A.	Yes	Not Notified	Not Active	4
23	Uttarakhand	UK DPC Act, 2007; DPC Rules 2010	Yes	Notified	Little Active	13
24	Uttar Pradesh	UP DPC Act, 1999; DPC Rules 2008	No	Notified	Not Active	75
25	West Bengal	Sec 3 of WB DPC Act, 1994	Yes	Notified	Active	17
	Union Territories					
26	Andaman & Nicobar	N.A.	N.A.	N.A.	N.A.	N.A.
27	Chandigarh	Nil	No	Not Notified	Not Active	No
28	Dadra & Nagar Haveli	N.A.	Yes	Notified	Not Active	Nil
29	Daman & Diu	N.A.	No	Notified	Not Active	1
30	Lakshadweep	Sec 85 of Lakshadweep Panchayats Regulation 1994	Yes	Yes	Little Active	1
31	Puducherry	N.A.	N.A.	N.A.	N.A.	N.A.

2.2b : Town and Country Planning Act of selected States and its salient features

Town and country Planning Organisation (TCPO) formulated the Model Town and country Planning Law in the year 1960. This model Act was revised by TCPO in year 1985 "Model Regional and Town Planning and Development Law" to enact a comprehensive urban and regional planning legislation in all the States and UTs. It is in the form of guidelines which ensures better overseeing and coordination of planning with implementation, so that a single agency can perform both these functions. The law provides for the constitution of State Regional and Town Planning Board by the State Governments for the purpose of advising on the delineation of the region for the planned development.

Since the preparation of the Model Law, almost 3 decades back, many legislative and ideological changes have taken place in the developmental approach of Government of India. Also to incorporate the provisions of 73rd CAA, the Model law requires a revision in the spirit to up-hold Spatial Planning and Rural Development together with the empowerment of the Panchayati Raj system.

Rural Areas have always been out of any spatial planning guidelines or bye laws and development has largely been unregulated and haphazard. The need to regulate human habitations at the initial stage for a sustainable and better evolution of human habitat has been recently felt very strongly and it gets even more necessary to inculcate the provisions for Rural Development planning in the Town and Country Planning Laws of the state and the model law of the centre.

State Level Legal Framework and Rural planning- Overview.

Urban, Regional and Rural planning legislations controls the planning and development activity in a state, Some states have comprehensive Town and Country Planning legislation which provides for spatial and land utilization planning in Rural Areas.

The West Bengal Town and Country (Planning and Development) Act, 1979

The West Bengal Town and Country (Planning and Development) Act in Section 31-Land Use and Development Control Plan the [Land Use and Development Control Plan] may also

- Allocate areas or zones of land for use-
The existing and proposed lines of communications, including railways, transports, airports, canals and linkage between towns and villages
- Indicate, define or provide for-
The existing and proposed lines of communications, including railways, transports, airports, canals and linkage between towns and villages
- Locate cluster of villages and huts and designate land for hats, markets, cottage industry, livestock, pasture festivals, fairs, meals and like community facilities and conservation of trees and forests;

The Karnataka Town and Country Planning Act, 1961

Statement of Objects and Reasons

Act 11 of 1963: Physical Planning has to precede economic planning as otherwise cities, towns and

villages of our country will grow to unmanageable sizes without proper planning resulting in unhealthy surroundings.

Section 4A. Declaration of Local Planning Areas, their amalgamation, Sub-Division, inclusion of any area in a Local Planning Area.

- (1) The State Government may by notification declare any area in the State to be a Local Planning Area for the purposes of this Act, [or include within such local planning area, any area adjacent thereto, and on such declaration or inclusions] this Act shall apply to such area:

To create conditions favorable for planning and re-planning of the urban and rural areas in the [State of Karnataka], with a view to providing full civic and social amenities for the people in the State.

The Goa, Daman and Diu Town and Country Planning Act, 1974

(Act No.21 of 1975) [4th November, 1975] AN ACT

To provide for planning the development and use of rural and urban land in the Union territory of Goa, Daman and Diu and for purposes connected therewith.

Section 8. Functions and powers of Board.

- (1) Subject to the provisions of this Act and the rules made thereunder, the functions of the Board shall be to guide, direct and assist the Planning and Development Authorities, to advise the Government in matters relating to the planning, development and use of rural and urban land in the State, and to perform such other functions as the Government may, from time to time, assign to the Board.

Bihar Urban Planning and Development Act, 2012

Section 22: Contents of Development Plan-

The Planning Authority shall consider and incorporate, while preparing the Development Plan, such information and details including land use, Zoning Regulation, development control regulations, whether the Planning Area is a Natural Hazard Prone Area, within a time frame of twenty years or such extended period as may be specified by the Government:

- Prepare a topographical map for the Planning Area and also earmark lands fit for agriculture (wet and dry), and allied sectors like animal husbandry, dairy, poultry, horticulture, floriculture, forestry (including social forestry), urban agriculture and wasteland fit for various kinds of development;
- Identify and map the facilities at the level of village, block, city and district.
- Identification and demarcation of zones and sub-zones, within the holistic framework of the Development Plan.
- Collect, compile and update the information on natural and human resources and the demographic profile, for preparing the database at block, city and district level for decentralized planning.
- Modify, amend and consolidate the objectives and strategies made for five years or annual draft Development Plans of rural and urban areas, considering the overall objectives of development.

Kerala Town and Country Planning Act, 2016

The Kerala Town and Country Planning Ordinance 2013, got passed as an Act in 2016. The act states to-

To provide for the promotion of planned development and regulation of growth of urban and rural areas in the State with focus on scientific spatial planning and to secure to their present and future inhabitants, sanitary conditions, amenity and convenience and for other matters connected therewith or incidental thereto.

Preamble.- WHEREAS, it is expedient to provide for the promotion of planned development and regulation of growth of urban and rural areas in the State with focus on scientific spatial planning and to secure to their present and future inhabitants, sanitary conditions, amenity and convenience and for other matters connected therewith or incidental thereto.

Local Planning Area.- From the date of commencement of this Act, the area under the jurisdiction of a Municipal Corporation, Municipal Council, Town Panchayat or Village Panchayat shall be deemed to be a Local Planning Area, for the purposes of this Act.

Powers and functions of the Municipal Corporations, Municipal Councils etc. in relation to spatial planning.- Notwithstanding anything contained in the Kerala Municipality Act, 1994 or the Kerala Panchayat Raj Act, 1994, Municipal Corporation, Municipal Council, Town Panchayat or Village Panchayat shall have the following additional functions for the purpose of this Act, namely:

- (a) prepare or get prepared for the Local Planning Area or part thereof, -(i) a master plan, taking into account the Plans, if any, prepared under this Act which have relevance to the Local Planning Area; (ii) execution plans, taking into account the master plan and other Plans, if any, prepared under this Act which have relevance to the Local Planning Area;
- (b) implement all or any of the provisions contained in the Plans under this Act by formulating and executive projects, Land Pooling Schemes, Detailed Town Planning Schemes or otherwise;
- (c) formulate, promote, regulate and control land use and developmental activities in the Local Planning Area as per the Plans under this Act;
- (d) set up special function agencies, if necessary, for specific functions such as plan preparation, implementation of projects and guide, direct and assist such agencies on matters pertaining to their respective functions; and
- (e) perform such other functions as are supplemental, incidental or consequential to any of its functions and or as may be directed by the Government from time to time.

The Kerala Town and Country Planning Act is the most recent and updated with the spatial Planning and component for both Urban and Rural Areas. The act is ex- emplary in relation to the strengthening and emphasis it provides to spatial planning.

(Kerala Town and Country (Planning and Development) Act 2016; accessed, 19/07/2016;

http://www.townplanning.kerala.gov.in/ACTS_RULES/ACTS_RULES_01.htm)

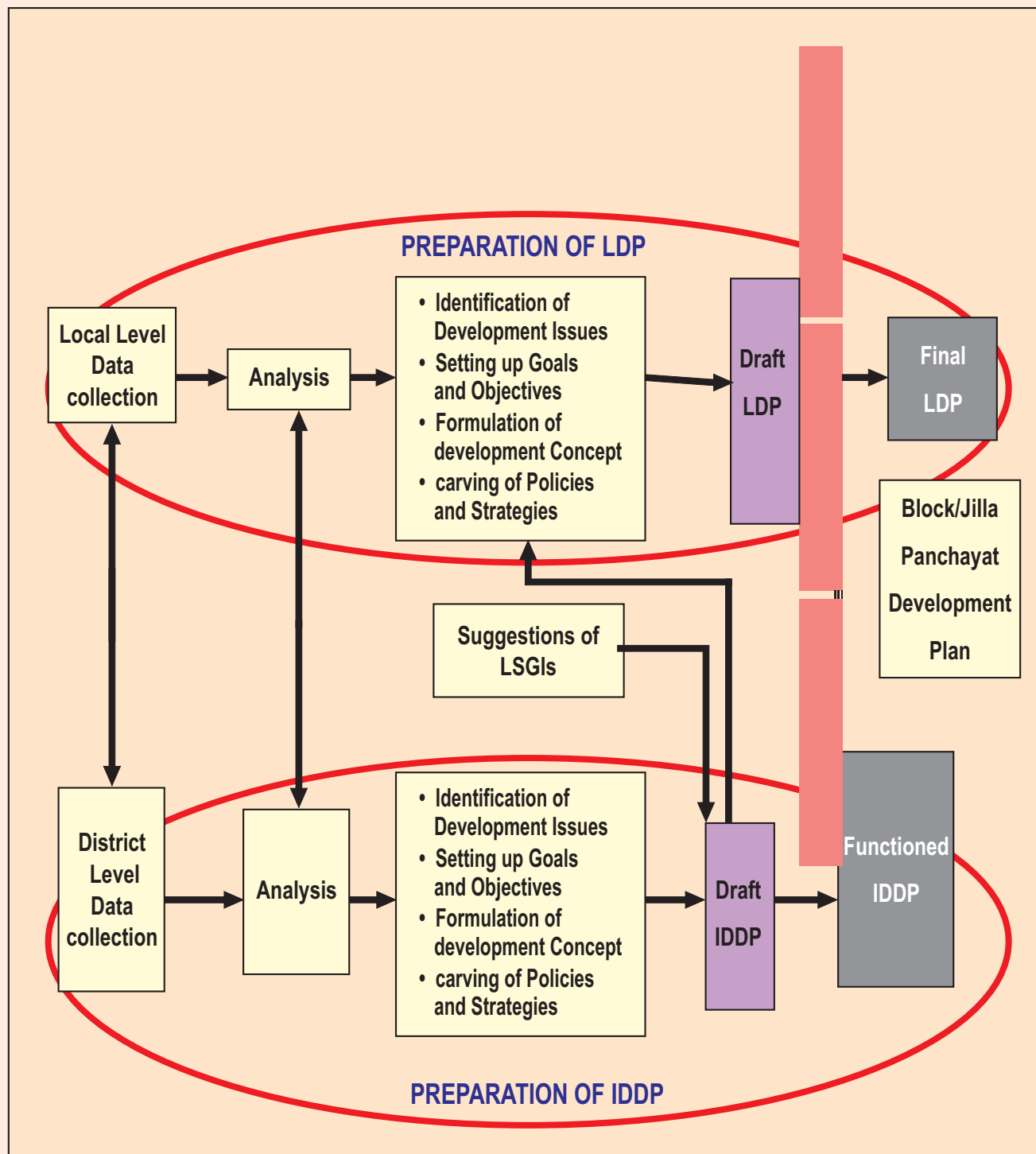
Appendix 2.3

2.3: Time Line, Activities of Local Development Plan (Gram Panchayat and District Level Plan Preparation), Town and Country Planning, Government of Kerala, 2016.

Activities for the preparation of LDP and IDDP-Schedule of time																												
		Months																										
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
A Preparation of LDP																												
1	Preparatory Works																											
	a. Collection of Cadastral map	■																										
	b. Scanning		■																									
	c. GPS Survey		■	■																								
	d. Georeferencing and joining			■	■	■																						
	Digitisation			■	■	■	■																					
2	Constitution of committee's Steering Comm, SIC	■	■	■																								
3	Capacity buildings-Trainings (SIC, ET, RP, Surveyor trainees)	■	■	■																								
4	Data collection			■	■	■	■	■	■																			
	a. Land use and socio economic survey			■	■	■	■	■																				
	b. Secondary data collection																											
5	Data compilation and data entry																											
	a. Vikasana report																											
	b. Data entry to prepare MT																											
	c. Land use map																											
6	Training for Local level analysis																											
7	Local level Analysis																											
8	Special Analysis																											
	a. 1st Stage																											
	b. 2nd Stage																											
9	Development concept, sectoral policies and strategies																											
10	Draft Report																											
B Preparation of IDDP																												
1	Training for District level officers																											
2	Sectoral Data collection																											
3	Data compilation																											
4	Data compilation																											
	a. 1st Stage																											
	b. 2nd Stage																											
5	Settlement studies																											
6	Spatial Analysis																											
7	Development concept																											
8	Sectoral detailing																											
9	Report																											
10	Seminar																											

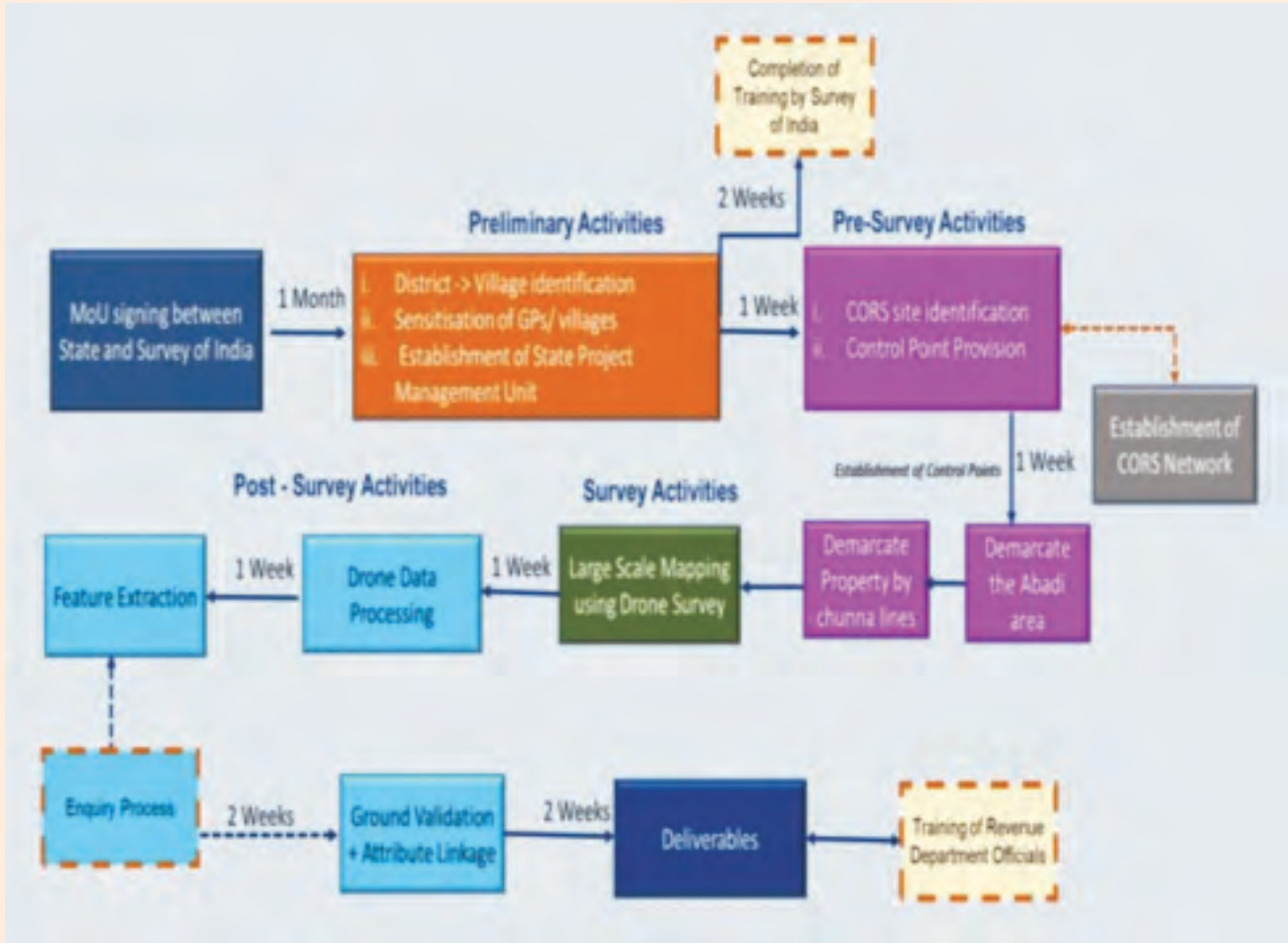
Source: Handbook of District Decentralized Planning, Town and Country Planning, Government of Kerala, 2016.

2.4 : Local Development Plan (Gram Panchayat Level) - Link of GP to District Level



Appendix 3.1

3.1 Implementation Process Flow - SVAMITVA



Appendix 3.2

3.2 Agro-climatic Regions/Zones in India

S.No.	Agro-climatic region s/zones	States represented
I	Western Himalayan region	Himachal Pradesh, Jammu & Kashmir, Ladakh, Uttarakhand
II	Eastern Himalayan region	Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, West Bengal
III	Lower Gangetic plain region	West Bengal
IV	Middle Gangetic plain region	Uttar Pradesh, Bihar
V	Upper Gangetic plain region	Uttar Pradesh
VI	Trans Gangetic plain region	Chandigarh, Delhi, Haryana, Punjab, Rajasthan
VII	Eastern plateau and hills region	Chhattisgarh, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, West Bengal
VIII	Central plateau and hills region	Madhya Pradesh, Rajasthan, Uttar Pradesh
IV	Western plateau and hills region	Madhya Pradesh, Maharashtra
X	Southern plateau and hills region	Andhra Pradesh, Karnataka, Tamil Nadu
XI	East coast plains and hills region	Andhra Pradesh, Odisha, Puducherry, Tamil Nadu
XII	West coast plains and ghat	Goa, Karnataka, Kerala, Maharashtra, Tamil Nadu
XIII	Gujarat plains and hills region	Gujarat, Dadra & Nagar Haveli, Daman & Diu
XIV	Western dry region	Rajasthan
XV	Island region	Andaman & Nicobar Islands, Lakshadweep

Appendix 5.1

5.1 Conventional Signs and Symbols given by The Survey of India

Roads, metalled : according to importance; distance stone	
Roads, unmetalled : according to importance; bridge	
Cart-track, Pack-track and pass. Foot-path with bridge	
Streams : with track in bed; undefined. Canal	
Dams: masonry or rock-filled; earthwork, Weir	
River dry with water channel; with islands and rocks. Tidal river	
Swamp, Reeds	
Wells : lined; unlined. Spring. Tanks : perennial. dry	
Embankments : road or rail	
Railway, broad gauge : double; single with station; under construction	
Railway other gauges : double; single with distance stone; under constrn.	
Light Railway or tramway, Telegraph line. Cutting with tunnel	
Contours, Cliffs	
Sand features (1) flate (2) sand hills (permanent) (3) dunes (shifting)	
Towns or Villages : inhabited : deserted. Fort	
Huts : permanent; temporary. Tower Antiquities	
Temple, Chhatri, Church, Mosque, Idgah, Tomb, Graves.	
Lighthouse, Lightship, Buoys : lighted ; unlighted. Anchorage	
Mine. Vine on trellis. Grass, Scrub.	
Palms : Palmyra; other. Plantain. Conifer. Bamboo. Other trees.	
Boundary, international	
Boundary, state : demarcated; undemarcated	
Boundary, district : subdivision, tahsil or taluk; forest	
Boundary, pillars : surveyed; unlocated; village trijunction	
Heights, triangulated : station; point; approximate	
Bench-mark : geodetic; tertiary; canal	
Post office. Telegraph Office. Combined office. Police station.	
Bungalows; dak or travellers; inspection. Rest-house	
Circuit house. Camping ground.	
Forest : reserved; protected	

6.1 Assigning weightages to Vulnerability Parameters for Spatial Mapping

Sl no	Weight-age	Parameters	Remarks
1.	4/100	Forest-Land Use change (Loss of canopy cover to <10%) or Reduction in forest / trees change	Demand for forest land for agriculture and other purposes including construction and housing.
2.	6/100	Regional Elevation	It is used to identify sites that are safe and not prone to landslides. It helps identify drainage patterns.
3.	5/100	Use of forest/ grassland/ natural vegetation/ flora/ fauna by community	Dependence on Forest, natural vegetation/ trees/ fauna by several communities for survival and livelihood, Occurrence of fire, Preponderance of invasive species.
4.	5/100	Forest Management/ natural habitat management	Marginalization of native biodiversity
5.	5/100	Current climate and variability change	Currently is not affecting the region but analyzing the situation, this might be a concern too.
6.	9/100	Geomorphology	Soil Erosion/ fertility of land for food production. Identification of sensitive areas like residual hills or degenerated top soil can affect use of land and its stability. Continuous rains and uprooting of trees leading to this issue of degeneration. Capacity to hold water or recharge groundwater etc. leads to capacity to have water resource.
7.	4/100	Green Cover	The relative or sure land area that is covered by forests/ trees. It refers to preservation of ecological services provided by trees and forest areas for human habitat. Be it reduction of heat island effect, purification of air, reduction of rain water run off, ground water recharge, stabilization of soil, medicinal value, food production etc.
8.	5/100	Slope Management	The improper modification methods adopted on original slope condition in hilly regions for the purpose of construction and widening of the road affects the stability of the cut slope
9.	9/100	Water management/ Catchment Area	The area from which rainfall flows into river, lake, or reservoir.
10.	8/100	Population density	The number of people impacted with any disaster or change can be quantified. population is an economic variable since people would spend to safeguard their property and homes.

SI no	Weight-age	Parameters	Remarks
11.	5/100	Social and cultural values	Threat to Significant place, people or structures. These are important for preservation of identity, local knowledge system, historic evidence and heritage of place.
12.	8/100	Pollution and contamination	Various sources of air, water and soil pollution which affects the consumption of natural resources for human habitat. The safety and health of the population is threatened and future of the settlement would be at risk.
13.	5/100	Marginalized population	Safety and welfare of certain women children threatened, habitat or way of life of certain local population threatened, income from certain occupation and skill sets threatened due to changes in the area.
14.	8/100	Sea-level variations (valid for coastal areas)	SLR causes inundation of coastal regions and thus increases the region's vulnerability to flooding resulted by tsunamis and storm surges. SLR influences physical parameters such as shoreline change, geomorphology, land use, land cover and ground water flow.
15.	8/100	Shoreline change rates (valid for coastal areas)	Shoreline change rates is observed to find the land erosion and accretion activities.
16.	5/100	Bathymetry (valid for coastal areas)	The predominant coastal processes which occurred in the area (erosion and accretion) can be visualized from the coast bathymetry. Slope characteristic of the near-shore is a significant parameter in determining the extent up to which the coastal land is at risk during tsunami and flooding from storm surges.
17.	5/100	Mean tide range (valid for coastal areas)	The vulnerability is more in those regions having a large tidal range
18.	5/100	Mean significant wave height (valid for coastal areas)	The wave energy, which drives the coastal sediments, is directly proportional to the square of wave height.

Source: Compiled and adapted from Invalid source specified. Invalid source specified. Invalid source specified. Invalid source specified.

6.2 Social, Economic and Environmental dimensions of Rural Resilience for Spatial Planning

S.No.	Parameters		Remarks
1	Regulatory	Environment	Regulations set by the government bodies (e.g. CRZ regulations) that help in biodiversity conservation and thus enhancing peoples' livelihood.
2	Conservation of Natural Resources		The natural resources (water, forests, land) and associated services (e.g. storm protection, erosion protection) on which resource-based activities (e.g. fishing, farming, etc.) depend.
3	Inclusiveness and empowerment	Social	Access to and participation in various groups or organizations. Peace and security in the area.
4	Community Capital		The human, natural, built, and social capital from which a community obtains benefits and upon which the community depends for continued existence. The sum of knowledge, skills and good health that help people to pursue various livelihood strategies and also accomplish their livelihood outcomes.
5	Institutional		All the policies, acts etc. made by the official bodies which helps in vulnerability reduction of the any community.
6	Connection and Caring		Helping each other and working together for solutions.
7	Information and Communication		Information and communication technology (for e.g. prior alert and warning) could enhance rural communities' disaster resilience.
8.	Economic empowerment through multiple income source and stable income throughout the year	Economic	The money that allows people to adopt various livelihood strategies. This could be in form of a regular source of income or savings.
9	Business Plans for local entrepreneurship and cooperative initiatives		The business plans of private companies that have an impact on rural peoples' livelihood.
10	Transformative potential and disaster recovery		The ability of people to quickly return to normalcy once any disaster occurs.
11	Housing/Infrastructure		The basic infrastructure which people utilize to function more productively.

Source: Compiled and adapted from Invalid source specified. Invalid source specified. Invalid source specified. Invalid source specified. Invalid source specified. Invalid source specified. Invalid source specified.

Appendix 7.1

7.1 Map Information Checklist

Features	Sub Categories		Sources
Physical	Physiography	Terrain(Hills, Plains and valleys)	Sol Toposheets Satellite Image Photo Mosaic from NRSC & Bhuvan (Resolution 30m, Height Accuracy 8 m), Aerial Photographs
	Water bodies/drainage	Rivers, Canals, Lakes, Ponds, Reservoirs, Tanks, Abandoned quarries with water, wells, Hot Springs	Sol Toposheets, Satellite Image Photo mosaic from NRSC & Bhuvan (1:50,000; for 2005, 2012), Aerial Photographs
	Ground water	Aquifers, Water Table, Fluctuation in Water Table	Sol Toposheets, Bhuvan Ground water prospects maps (1:50,000), Centre Ground Water Commission
	Geological Structure	Lineament, Fracture/ Fault line valley, Folds	Sol Toposheets, Satellite Image Photo mosaic from NRSC & Bhuvan (1:50,000), Geological Survey of India
	Soils	Types of Soils and depth of soil	Satellite Image Photo mosaic from NRSC & Bhuvan, Aerial Photographs, Geological Sol, District census handbook
Planning and Administrative	Administrative Boundaries	State, District, Block, Gram Panchayat, Village, Abadi Area/Lal Dora Boundary, Planning area Boundary of nearest city	Sol Toposheets, Census Atlas Maps, Maps Drawings from ULB, Revenue records, Municipal maps, State Remote Sensing Application Centre (SRSAC), Satellite Image Photo mosaic from NRSC & Bhuvan* (1:50,000),
	Location and Regional Setting	Location of Gram Panchayat/Villages in Regional Map	Sol Toposheets, Satellite Image Photo mosaic from NRSC & Bhuvan (Cities and Towns locations), Census Atlas maps, National Atlas and Thematic Mapping Organisation (NATMO), State Remote Sensing Application Centre (SRSAC)
History of Development	Settlement Morphology		Panchayat maps, Departmental Maps, Patwari Maps

Features	Sub Categories		Sources
Land-use Map	Abadi area		Land-use survey
	Agricultural land		Sol Toposheets Departmental maps Revenue records Satellite Imageries Aerial Photographs, Satellite Image Photo mosaic from NRSC & Bhuan (1;50,000; 2005-06, 2011-12),
Environmental and Ecosensitive Areas	Forest Boundary, Water Bodies, Hazard Prone Areas		Departmental Maps Maps and Drawings from ULBs Aerial Photographs
			CPCB (Zoning Atlas of Industries)
Socio economic aspects	Residential Segregation BPL households		Primary Survey
Housing	Type of Houses, Houses with IAY aid, Buidling age, Building Height, Buidling material		Primary Survey
Infrastructure	Water supply network		Primary Surveys, various concerned departments
	Sewerage and SWM		
	Waste treatment and waste dumping site		
	Telecommunication network		
	Educational / health institutes		
	Post office		
	Police station		
	Fire station		
	Socio cultural and religious centres		
Proposed plan of various sectors			

Source: Adopted from URDPFI Guidelines, 2014

PANCHAYAT RAJ ACT
Spatial Plan Preparation

Shayma Prasad Mukherji Rurban Mission

1. Summary

It was brought to notice of Rurban Division of Ministry of Rural Development that planning area notification executed under Town and Country Planning Act has an issue that once notified all building permissions, development permission is to be routed through an authority as designed by the norms and condition of the Act which is a body other than Panchayati Raj Institution. Since the intension of SPMRM was not to prepare master plan hence provisions of the other local acts applicable for rural areas were studied. In the 73rd amendment of the constitution, panchayats have given powers to prepare plans for economic development and social justice.

Possibility of getting Spatial Plan done from the Panchayat Act was studied in detail for all States and Union Territory. It was found that the act mainly advocates preparation of development plan or plan preparation or undertake regional planning. Hence on this basis feasibility of making plan prepared by panchayats a binding document was studied.

As understood that presently, for practical purpose the plans prepared for rural areas are in sectoral forms and spatial form is not included in aforesaid plan. However, we can prepare these plan spatially in a scientific manner which includes existing situation analysis of the region, demand gap assessment along with spatial development to be prepared.

Notification of an area is only explicitly mentioned in Haryana Panchayati Raj Act, 1994 which has provision for declaration of development zone. Enforcement Mechanism exist in the form of Standing Committee or district planning committee. For regulated development provision are mentioned in the Act however detailed norms for the same may be prepared which can be adopted by Rurban Cluster.

Spatial Plan preparation along with implementation through Panchayat Raj Act would be landmark event as it would be devolution of power. As per twelfth schedule the power of urban planning and land use planning including town planning was supposed to be with urban local body however the same has not happen till date. Spatial plan being prepared and owned by Rural Local body would set an example for even urban local body.

Andaman and Nicobar Island (panchayat) (Preparation of Electoral Rolls and Conduct Election) Rules, 1995 is available in the webpage of "current Panchayati Raj Act" of Ministry of Panchayati Raj website and does not detail out plan preparation. Same is the case with Daman & Diu and Puducherry.

2. Spatial Planning in Rural Areas

Spatial planning as an activity aimed at integration of the spatial dimensions of the sectoral plan through land- based strategies, regulations on land use. Planned development leads to efficient land use and natural resource management. Spatial Planning has always been a subject referred in the context of urban planning with few regional plan being prepared in India like NCR regional Plan.

Master Plan is generally prepared for the urban areas and GPs surrounding the notified urban areas. In this process rural areas are notified as part of the plan and mostly agriculture land use is changed which helps the nearby urban area to release its land pressure and congestion. In the master plan, abadi/ lal dora area remains congested with narrow lanes while agriculture land which lies outside the abadi/lal dora area receives all planned development.

Planning norms and conditions are very well laid down in urban areas and absent for rural areas. Planning has been mostly sectoral in rural areas and currently in piecemeal spatial plan for an individual sector has been tried out. Like in Pradhan Mantri Gram Sadak Yojana (PMGSY) road need is identified based on road network analysis with respect to important facilities like educational institution, health facilities etc. Similarly Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) geo - spatial plan is being prepared for water shed management. Both these activities do not address to the aspiration of the rural areas and touch upon a single component which is under the preview of their scheme and may not be helpful in reducing haphazard, unplanned growth of overall rural built up area.

This results that by the time rural areas gets amalgamated or notified as urban areas, it suffers from haphazard growth with little or no regulation on construction resulting in irreversible loss of natural resources. At times the lanes are so narrow that in times of disaster appropriate facility may not be able to cater leading to loss of life and property. This results in that adadi area of the villages not getting due facilities even after its amalgamation to an urban area and hence the economic and better infrastructural facilities aspiration of the community not met.

In order to meet the aspiration of the people it is important that spatial planning is considered in rural areas as it would help the community in terms of getting the due return on resources as well as have better infrastructural facilities. Further, it would also help the executives to assess the need of the area in terms of project planning and land availability. It is noticed that many projects gets delayed due to non-availability of land and infrastructure facilities. There are times when building is constructed and road, water, power supply to the building takes its time leading to usage of other means to get those resources which leads to environmental degradation. Like usage of ground water in absence of supply line with no recharge facility. Spatial plan prepared for rural areas would not only have regulated growth but also help in efficient project planning.

As per the SPMRM guideline spatial planning process to involves four basic steps:

- i. Planning Area Notification
- ii. Spatial Plan Preparation
- iii. Spatial Plan Notification
- iv. Enforcement mechanism

3. Issues related to Planning Area Notification

A need for spatial planning in rural area was felt and cabinet note clearly stated that SPMRM cluster to prepare a detailed spatial plan. Extract from the cabinet note is given below:

As per the Second Supplementary Agreement 3.5(c) Preparation of Integrated Cluster Action Plan (ICAP) (page 4 of 8) "The ICAP to draw out a detailed spatial plan for the entire cluster. The Plans would delineate the cluster areas and compromise well planned layouts following the planning norms (as laid down in the State Town and Country Planning Acts/ similar Central or State Statutes, as may be applicable) which would be duly notified by the State/UTs. These plans would be finally integrated with the District Plans/ Master Plans as case may be."

A need for drawing clear provisions and methodology to be followed for plan preparation was to be prepared which may enable the State/ UT's to prepare the plan. States/ UT's faced issues related to issues like planning area notification, spatial plan preparation and enforcement mechanism.

Model document related to framing of Guidelines for Model Land Uses, Development Controls, and Service Level Benchmarks with Appropriate Enforcement Mechanisms for Rurban Clusters has been prepared by School of planning and Architecture, New Delhi.

Due to lack of any prescribed format for preparation of Spatial Plan a need for detailed research for preparation of the spatial plan was felt in terms of following:

- ✓ Study provisions of Acts like Town and Country planning act/ similar act of States/ UT's and Panchayati Raj Act to enable plan preparation for rural areas.

3.1. Research on provisions of Acts like Town and Country planning act/ similar act of States/ UT's and Panchayati Raj Act to enable plan preparation

It was brought to the notice that States/ UT's were facing issues related to town and country planning act which was delaying the plan preparation process hence possibility of getting Spatial Plan done through the Panchayati Raj Act was studied for all States and Union Territory. It was found that the act mainly advocates preparation of development plan or plan preparation or undertake regional planning.

Another aspect that needs to be studied with respect to legal sanctity and people acceptance for plan prepared for rural areas. It is to be noticed that Master Plan is generally prepared for the urban areas and GPs surrounding the notified urban areas. In

this process rural areas are notified as part of the plan and mostly agriculture land use is changed which helps the nearby urban area to release its land pressure and congestion. In the master plan, abadi/lal dora area remains congested with narrow lanes while agriculture land which lies outside the abadi/lal dora area receives all planned development

Hence, there is a need that an efforts is made where the Gram Panchayats including the Abadi area gets the taste of development and have wider roads and decongested streets. Therefore, spatial planning should be the core for all development activities in rural areas. The plan preparation which includes base map creation along with proposed land use has meaning only when the plan is notified and has legal sanctity. It is felt that the implementation process should be simple for the community in rural areas to comprehend as lack of understanding may lead to crisis management.

For this it is important to understand the steps involved in plan preparation and implementation. Simple steps that involves spatial plan preparation and its implementation is given below:

1. Planning Area Notification
2. Plan Preparation which includes
 - a. Plan Preparation methodology and
 - b. Content of the Plan
 - c. Plan Approval
3. Plan Notification
4. Enforcement Mechanism
 - a. Overall authority who takes care of land development process
 - b. Plan implementation

- i. Building Permission
 - ii. Encroachment
 - iii. Land Acquisition
- c. Development Control norms and zonal regulation In view of the above steps, for rural planning two acts were studied
- i. Town and Country Planning Act & such similar Acts and
 - ii. Panchayati Raj Act

Though the process and methodology involved is not as simple as show in the table below however it covers broad aspects of Spatial Planning and its mapping has been done in relation with above mentioned acts.

Table 1. Spatial Planning through the lens of Town and Country planning Act & Panchayati Raj Act

Spatial Planning through the lens of Town and Country planning Act & Panchayati Raj Act			
Sr. No	Spatial Plan preparation steps	Town and Country Planning Act & such similar Acts	Panchayati Raj Act
1	Planning area notification	✓	✓***
2	Plan Preparation	✓	✓
2.i	Plan content	✓	✓***
3	Plan Approval	✓	✓
4	Plan Notification	✓	✓***
5	Enforcement Mechanism	✓^	✓
6	Overall authority who takes care of land development process	✓	✓
7	Plan implementation	✓	✓
7.i	Building Permission	✓*	✓
7.ii	Encroachment removal	✓*	✓
7.iii	Land Acquisition	✓	✓
7.iv	Land use change	✓	✓***
8	Development control and zonal regulation	✓**	✓***

* Building permission and encroachment removal to be carried out by Town and country planning department/ development authority.
** Development Control and zonal regulation is as per urban requirement and therefore stringent norms and condition.
*** Panchayati Raj Act does not have explicit provision/ section/ clause like town and country planning act however as per the act State Government may entrust functions in relation to any matter to which the executive authority of the State Government extends or in respect of functions which have been entrusted to the State Government by the Central Government. It is understood that area notification is one of the primary function of the panchayati raj act and gram panchayats are empowered to issue such notification for the project.
^ it was found that in case of Town and country planning enforcement mechanism and building permissions has to be taken from an authority/ Department set up as per the norms of the Act. Hence, it may have an effect on interior villages and development process in undertaking building permission and the norms may not be fully applicable to rural areas. Hence norms and conditions may be developed in panchayati raj Act to support such development in the rural areas.

A detailed analysis related to policy issues faced by both acts in relation to spatial planning for rural areas were also studied with respect to Town and Country Planning Act and Panchayati raj Act

3.1.1. Town and Country Planning Act

Though town and country planning act meets all the criteria it has issues which may not be in favour of the rural areas. The plan implementation is done through town and country planning department or development authority which means that if plan notified under TCP act then all building permission, encroachments removal approval/execution to be done through the department.

In addition development control and zonal regulations are stringent and may be suitable only for peri urban gram panchayats. Also the land uses suggested as content of the plan are mainly for urban centres and does not include agriculture, fallow or barren land etc.

Aspects related to land use planning and building permission is elaborated in detail below:

3.1.1.1. Land Use Plan

Scenario1: It is noticed that Town and Country Planning Act does not explicitly illustrates on spatial planning for the rural areas and Town and Country Planning Act may not be in sync with the land use pattern that exist in rural areas. For example in case of Assam, The Assam Town And Country Planning Act, 1959 clause 11 of Chapter III under "Contents of Master Plan and zoning regulations:- The

Master Plan to be prepared may include:

- (a) A general land – use plan for residential, commercial, industrial, and public and semi – public purpose;
- (b) Zoning plan;
- (c) Transportation plan including roads, railways, canals etc.;
- (d) Public utilities plan;
- (e) A report giving relevant data and information in respect of the proposals in the Plan and any other things which the State Government may deem necessary"

The above mentioned land use does not have land uses like Agricultural land, fallow land, barren land, current fallow land, etc which forms vital part for rural areas. Hence, it becomes difficult to abide by the Town and Country Planning Act. Further, the plan extends to whole of Assam excluding the Autonomous Districts and for such district act is not explicit about the procedure to be followed to include them. In Assam, three SPMRM clusters falls under Autonomous District, this has stagnated the planning process in these clusters.

Scenario 2: In Karnataka, as per The Karnataka Town and Country Planning Act, 1961 clause 1 of chapter 1 short title, extent and commencement the act extends for whole state with no exceptions hence it becomes easier for its adoption within the boundary limits of the State. Further, Chapter III Outline Development Plan clause 12 “Contents of Master Plan: (1) The Master Plan shall consist of a series of maps

and documents indicating the manner in which the development and improvement of the

entire planning area within the jurisdiction of the Planning Authority are to be carried out and regulated, such plan shall include proposals for the following, namely:- (a) zoning of land use for residential, commercial, industrial, agricultural, recreational, educational and other purposes together with Zoning Regulations; (g) stages by which the plan

is to be carried out.” The act has provision to add land uses under “other purposes” and therefore the same has been adopted by the State of Karnataka.

3.1.1.2. Building Permission and Encroachment

Under **Madhya Pradesh Bhumi Vikas Rules, 1984 under Madhya Pradesh Nagar Tatha Gram Nivesh Adhinyam, 1973** the Development of land, construction/ alteration, demolition of building in area beyond Municipal area but within planning area the building permission needs to be taken from Director, Town and

Country Planning (TCP) and also encroachment related issue Director, Town and Country Planning.

However, in case the plan is prepared through M.P. Panchayat Raj Avam Gram Swaraj Adhinyam, 1993 all building permission would lie with Gram Panchayat as per its Section 55 and encroachment related issued to be also dealt by Gram Panchayat as per its Section 56.

3.1.2. Panchayati Raj Act

An in-depth research on the feasibility of plan preparation under Panchayati Raj Act was done and it has been found that plan preparation along with enforcement mechanism is feasible through this Act as well. The act empowers PRI institution to prepare the development plans and undertakes regional planning. Details in relation to enablers and disablers with respect to notification, plan preparation, approval and enforcement mechanism is given as annexure 1.

The Panchayati Raj Act lacks explicit section in relation to **planning area and plan notification** however Block Panchayats and Zila Panchyats have powers to prepare development plan or undertake regional planning. Explicit clause related to content of the plan, publication and notification the plan would further enhance/ enable spatial plan. Further, rules are to be prepared for **development control and zonal regulation**. In case these aspect included spatial plan can be prepared through Panchayati Raj Act.

At present also the plan may be notified through Panchayati Raj act as the act empowers State Government to entrust functions in relation to any matter to which the executive authority of the State Government extends or in respect of functions which have been entrusted to the State Government by the Central Government.

The advantage that Panchayati Raj Act has is that plan notified under this act would enable panchayati raj institution to implement the plan. It would ultimately be the plan by the community, for the community and of the community. However, to implement the same Panchayati Raj Institution is required to be technically geared up for spatial planning.

It was noticed that notification of an area is only explicitly mentioned in Haryana Panchayati Raj Act, 1994 which has provision for declaration of development zone. Enforcement Mechanism exist in the form of Standing Committee or district planning committee. District planning committee member includes urban local body also. For regulated development provisions are mentioned in the Act however norms for the same may be prepared and adopted for the Rurban Cluster.

In addition, States/ UT's like Daman & Diu, Lakshadweep, Mizoram, Meghalaya, Nagaland, Puducherry do not have Panchayati Raj Act and the act applicable to village area do not support plan preparation. The act provisions with respect to notification, plan preparation, approval and enforcement mechanism for each State/ UT's have been detailed out in Annexure 2

With the finding that there are provision of development plan preparation and undertaking regional planning it was researched that as per **Urban and Regional Development Plans formulations and Implementation (URDPFI)** Guidelines issued by Town and country planning organization **Regional plan** “identifies the region and regional resources for development within which settlement (urban and rural) plan to be prepared and regulated by District Planning Committee” and “**development plan** is a statutory plan prepared (under relevant Act) makes known publicly the intention of the local authority regarding physical, social and economic development, the facilities and the

services that are proposed to be provided in the near future. **The approved development plan allows the local authority to implement development of the land area specified under the plan with the help of local area plans and projects”.**

As we understand regional plan and development plan along with structure plan are forms of spatial plan.

Further, **as per constitution of India panchayats have power to prepare plans for economic development and social justice in respect of subjects as devolved by law to the various levels of Panchayats including the subjects as illustrated in Eleventh Schedule (Article 243G)** enclosed as annexure 3.

Hence as per constitution, Panchayati Raj Act mentioning preparation of development plan and undertake regional plan (refer Annexure 3) and URDPFI definition it may be inferred that planned development is feasible by using Panchayati Raj Act.

However, due to lack of technicalities involved to prepare spatial plan currently for practical purpose the plans are prepared in sectoral forms and spatial form is not included in aforesaid plan. At the same time with the plan can be prepared spatially using planning norms and technology with a more scientific approach which includes existing situation analysis of the region, demand gap assessment along with spatial development.

Spatial plan preparation along with implementation through Panchayat Raj Act would be landmark event as it would be devolution of power in real sense and it would be community based plan. As per twelfth schedule the power of urban planning and land use planning including town planning was supposed to be with urban local body however the same has not happen till date. Spatial plan being prepared and owned by Rural Local body would set an example even for urban local body.

Box 3. Spatial Planning and Local Act for rural areas

As per **constitution of India** panchayats have power to **prepare plans for economic development and social justice in respect of subjects as devolved by law** to the various levels of Panchayats including the subjects as illustrated in Eleventh Schedule (Article 243G)

Presently plans are prepared in sectoral forms and not in spatial form due to lack of Technical expertise.

Urban and Regional Development Plans formulations and Implementation

(URDPFI) Guidelines issued by Town and country planning organization

Regional plan "identifies the region and regional resources for development within which settlement (urban and rural) plan to be prepared and regulated by District Planning Committee"

"**development plan** is a statutory plan prepared (under relevant Act) makes known publicly the intention of the local authority regarding physical, social and economic development, the facilities and the services that are proposed to be provided in the near future. **The approved development plan allows the local authority to implement development of the land area specified under the plan with the help of local area plans and projects**".

Panchayati Raj Act mentions preparation of development plan and undertake regional plan. Thus **Spatial Development plan** and regional plan may be prepared and implemented using the **Local Act**.

As mentioned above, the plans prepared are sectoral in nature in rural areas hence spatial layer identification becomes an importance issues was required to be addressed. The next step was to define the methodology and the process for preparation of the plan.

Panchayati Raj Act enablers and disabler with respect to Spatial Plan Preparation

State/ UT's	Notification	Plan Preparation	Plan Approval	Enforcement Mechanism
Andhra Pradesh	✓✓	✓✓	✓✓	✓✓
Arunachal Pradesh	✓✓	✓✓	✓✓	✓✓
Assam	✓✓	✓✓	✓✓	✓✓
Bihar	✓✓	✓✓	✓✓	✓✓
Chhattisgarh	✓✓	✓✓	✓✓	✓✓
Daman and Diu	Daman & Diu Panchayat (Committee) Rules 2005 does not have any provision to support Plan preparation			
Dadra and Nagar Haveli	✓✓	✓✓	✓✓	✓✓
Goa	✓✓	✓✓	✓✓	✓✓
Gujarat	✓✓	✓✓	✓✓	✓✓
Haryana	✓✓	✓✓	✓✓	✓✓
Himanchal Pradesh	✓✓	✓✓	✓✓	✓✓
Jammu and Kashmir	✓✓	✓✓	✓✓	✓✓
Jharkhand	✓✓	✓✓	✓✓	✓✓
Karnataka	✓✓	✓✓	✓✓	✓✓
Kerala	✓✓	✓✓	✓✓	✓✓
Ladakh	Presently same as Jammu and Kashmir Panchayati Raj Act 1989			
Lakshadweep	The act is not available in the MoPR https://www.panchayat.gov.in/whats-new-content/asset_publisher/4ySMdMHjzlhP/content/current-panchyati-raj-act			
Madhya Pradesh	✓✓	✓✓	✓✓	✓✓
Maharashtra	✓✓	✓✓	✓✓	✓✓
Manipur	✓✓	✓✓	✓✓	✓✓
Odisha	✓✓	✓✓	✓✓	✓✓
Mizoram	<p>LUSHAI HILLS ACT NO. OF 1953 The Lushai Hills District (Village Councils) Act, 1953 exist.</p> <p>Gram Sabha under sanitation committee may approve the annual plans, programmes and projects for social and economic development in respect of the village concerned before such plans, programmes and projects are taken up for implementation.</p> <p>However, this does not serve the purpose of preparation of development plan as it is restricted only to sanitation</p>			

State/ UT's	Notification	Plan Preparation	Plan Approval	Enforcement Mechanism
Meghalaya	The act is not available in the MoPR website. https://www.panchayat.gov.in/whats-new-content/asset_publisher/4ySMdMHjzIhP/content/current-panchayati-raj-act			
Nagaland	Nagaland has " The Nagaland Village and Area Councils Act, 1978 " wherein at present Village council exist and Area Council has been abolished it's second amendment in 1990. In addition the Act does not provide for Development plan preparation. As per section 12 (1) under power and duties of the village council, the council is empowered to formulate the development schemes which may or may not fit into preparation of Development Plan.			
Puducherry	The Pondicherry Village and Commune Panchayats ACT, 1973 does not have provisions for development plan preparation			
Punjab	✓✓	✓✓	✓✓	✓✓
Rajasthan	✓✓	✓✓	✓✓	✓✓
Sikkim	✓✓	✓✓	✓✓	✓✓
Tamil Nadu	✓✓	✓✓	✓✓	✓✓
Telangana	✓✓	✓✓	✓✓	✓✓
Tripura	✓✓	✓✓	✓✓	✓✓
Uttar Pradesh	✓✓	✓✓	✓✓	✓✓
Uttarakhand	✓✓	✓✓	✓✓	✓✓
West Bengal	✓✓	✓✓	✓✓	✓✓

Panchayati Raj Act:- Section and Clause

Sr. no.	State/ UT	Name of Act	Notification	Plan Preparation	Plan Approval	Enforcement Mechanism
1	Andhra Pradesh	The Andhra Pradesh Panchayat Raj Act, 1994	No explicit provision	192. Powers and functions of the Zilla Parishad. 1 (iii) & (iv)	242C. Functions of Gram Sabha (2) (i)	192. Powers and functions of the Zilla Parishad section 1 (iv) Section 42. Appointment of Joint Committee
2	Arunachal Pradesh	Arunachal Pradesh Panchayat Raj Act, 1997	Section 94 (l) Zila parishad	Clause 72. Power and function of Anchal Samiti (Block samiti) (e) Schedule III (see section 93: power and function of Zilla parishad) 1. General Function	No explicit provision	Schedule II (see section 70 : Power and function of Anchal Samiti) 1. General function (4)
3	Assam	The Assam Panchayat Act, 1994 With Rules 2008	80. Assignment of functions of Zilla Parishad - (1), (2)	90 Functions & Powers of Zilla Parishad - (1) (d), (4)	3. Constitution of District Planning Committee (6), (8) , 4	81. Standing Committees - The Zilla Parishad shall have the following Standing Committees, namely : (a) General Standing Committee, 83. Functions of Standing Committees - (1)
4	Bihar	The Bihar Panchayat Raj Act, 2006	48. Assignment of functions for panchayat Samiti (1), (2) 75 Assignment of Functions (Zila Parishad) (i),(ii)	167. District Planning Committee (6), (7) (a),(i),(ii), (b)	167. District Planning Committee (8)	50. Standing Committees - (1) (i) 51. Functions of the Standing Committees - (1)
5	Chhattisgarh	The Chhattisgarh Panchayat Raj Adhiniyam, 1993	51. Entrustment of certain functions of State Government to Janpad Panchayat (1),(2),(3),(4)	50. (1-A) Functions of Janpad Panchayat (iv) CHAPTER XIV-A: Special Provisions for Panchayats in the Scheduled Areas 129F. Powers of Janpad and Zila Panchayat. (iv)	52. Functions of Zila Panchayat (iv), (v), (ix)	50. (1-A) Functions of Janpad Panchayat (x) 52. (i) Functions of Zila Panchayat (ix) 47. Standing Committees of Janpad Panchayat and Zila Panchayat (2)

Sr. no.	State/ UT	Name of Act	Notification	Plan Preparation	Plan Approval	Enforcement Mechanism
6	Daman And Diu	Daman & Diu Panchayat (Committee) Rules 2005	Daman & Diu Panchayat (Committee) Rules 2005 does not have any provision to support Plan preparation			
7	Dadra and Nagar Haveli	Dadra and Nagar Haveli Panchayat Regulation, 2012	76. Duties and functions of District Panchayat. The Third Schedule (See section 76) Matters within the Jurisdiction of District Panchayat (A) General functions (2)	CHAPTER IV Powers, Duties and Functions of Gram Panchayat 29. Duties and functions of Gram Panchayat (2) 76. Duties and functions of District Panchayat The Third Schedule (See section 76) Matters within the Jurisdiction of District Panchayat (A) General functions (2)	No explicit provision	119. District Planning Committee 73. Standing Committees of Joint Committees, etc (1) (g), (2), (3) 27. Committees (1), (2), (3)
8	Goa	The Goa Panchayat Raj Act, 1994 and Rules	67. Power of Government to prohibit and regulate the erection of building in certain area withouts permission (1),(2),(3),(4),(5)	Schedule-I-A Functions and Responsibilities of Taluka Panchayat I. General function 238. Preparation of development plan (1),(2)	115-S. Standing Committees (f) Taluka Development Committee. (2),(3),(4),(5),(6)	115-S. Standing Committees (f) Taluka Development Committee. (2),(3),(4),(5),(6)
9	Gujarat	Gujarat Panchayat Act 1993	Section 99 (B) Administrative powers and duties Matters in respect of which it is duty of Village Panchayats to Make provision. Schedule I (5)(a) (e)	SCHEDULE III Part I (See section 154) Matters in Respect of which it is the duty of District Panchayat to make provision (5) (a) (b)	SCHEDULE IV (See section 278A) Modifications subject to which this Act applies to the Scheduled Areas of the State (b) (i)	PART II Provisions relating to Taluka Panchayats (A) Conduct of business 123. Taluka Panchayat committees, their constitution, powers, functions and duties (2)

Sr. no.	State/ UT	Name of Act	Notification	Plan Preparation	Plan Approval	Enforcement Mechanism
10	Haryana	The Haryana Panchayati Raj Act, 1994	230. a Duties and functions of Authority 255 Declaration of development zone.	230. Duties and functions of Authority (a),(b), (c), (d), (e), (f), (g), (h), (i), (j), (k) 249. (1) (2) (a),(b) Preparation of Development Plan and Development of Land Development Plan.	249. (1) (2) Preparation of Development Plan and Development of Land Development Plan. (3),(4) 256 (1) (2) Publication of plan.	PART B Establishment and constitution of Authority. 220. (1) Haryana Rural Development Authority 224. Appointment of committees. 230. Duties and functions of Authority
11	Himanchal Pradesh	Himanchal Pradesh Panchayati Raj Act, 1994	83. Power of the State Government in relation to functions of Panchayat Samiti (2) 82. Entrustment of certain functions of State Government to a Panchayat Samiti (1), (2)	11. Functions of Gram Panchayat (1), (2) 83. Power of the State Government in relation to functions of Panchayat Samiti (1)	7. Functions of Gram Sabha (1) (c - a)	84. Standing Committees (1) (a) 85. Functions of the Standing Committees (1) 92. Functions of the Zila Parishad (1) (ii) (iv)
12	Jammu and Kashmir	Jammu and Kashmir Panchayati Raj Act, 1989	12. Powers and functions. (3)	12. Powers and functions. (1), (i), (ii)	12. Powers and functions (1), (ii)	CHAPTER XI District Planning and Development Board 45. Constitution of District Planning and Development Board (1), (2) (i), (ii), (iii), (iv), (v)
13	Jharkhand	Jharkhand Panchayati Raj Act 2001	Section 78 (1) (a) Powers of the State Government as to the functions of Panchayats (1) (a) Section 76 Functions of Panchayat Samiti (A) (xxxii) (h) (i)	Section 76 Functions of Panchayat Samiti (A) (xxxii) (g) (i) (x) (e) (s) (t)	Section 76 Functions of Panchayat Samiti (A) (xxxii) (g) (i) (x)	Section 72 Standing committees of Panchayat Samiti and Zila Parishad (12) Section 76 Functions of Panchayat Samiti (A) (xxxii) (h) (i)

Sr. no.	State/ UT	Name of Act	Notification	Plan Preparation	Plan Approval	Enforcement Mechanism
14	Karnataka	The Karnataka Panchayat Raj Act, 1993	<p>Section 162 Administrative control of Panchayats over projects, schemes etc (2)</p> <p>65. Power of Government to prohibit and regulate the erection of buildings in certain areas without permission (1) Chapter VII Function, Duties and Power of Taluk Panchayat Adhyaksha and Upadhyasha Function of Taluk Panchayat</p> <p>145. Functions of Taluk Panchayat.</p> <p>(1) 146. Assignment of functions (1) (2)</p>	SCHEDULE II (see section 145) (4)	SCHEDULE II (see section 145) (4)	<p>148. Standing committees (1) A Taluk Panchayat shall have the following standing committees (a) General Standing Committee (b) Finance, Audit and Planning Committee 149. Functions of the standing committees (1) (2) (4)</p>
15	Kerala	The Kerala Panchayat Raj Act 1994	<p>172. Powers, duties and functions of block panchayats (1) (2)</p> <p>228 [FOURTH SCHEDULE [See Sub-section (1) of section 172]</p>		<p>175. Preparation of development plans by panchayats (4)</p>	<p>162.A. Subjects to be dealt with by the standing committees (1) (a) (ii)</p> <p>162.A. Subjects to be dealt with by the standing committees (b) (ii)</p> <p>162.A. Subjects to be dealt with by the standing committees (c) (ii) (iii)</p>

Sr. no.	State/ UT	Name of Act	Notification	Plan Preparation	Plan Approval	Enforcement Mechanism
			Functions of Block Panchayats (A) General Functions (2) (3) 176. Entrustment of schemes to panchayats for implementation (1)			
16	Ladakh	Presently same as Jammu and Kashmir Panchayati Raj Act 1989				
17	Lakshadweep	The act is not available on the Internet. UT was asked to share the document however the same is awaited from the UT.				
18	Madhya Pradesh	The M.P. Panchayat Raj Avam Gram Swaraj Adhinyam, 1993 schemes to panchayats for implementation (1)	51. Entrustment of certain functions of State Government to Janpad Panchayat (1) (2) (3) (4)	7GA. Preparing of long term development plan of Gram Sabha [7GA (2)	7GA. Preparing of long term development plan of Gram Sabha [7GA (2)	47. Standing Committees of Janpad Panchayat and Zila Panchayat 47. Standing Committees of Janpad Panchayat and Zila Panchayat. (1) (2)
19	Maharashtra	The Maharashtra Village Panchayats Act	47 Powers of State Government to transfer execution of other works.	47 Powers of State Government to transfer execution of other works.	8AA Powers and duties of Gram Sabha (i) 54A. It shall be competent for every Gram Sabha in the Schedule Areas (b) (i) 54 B.Powers and duties of panchayats in Scheduled Areas (n)	49. Village Development Committees (1) (3) (4) (f)
20	Manipur	The Manipur Panchayati Raj Act 1994	63. Assignment of Functions (a) (2) 37. General Powers of the Gram Panchayat	61. Functions and Powers of Zila Parishad (1) (2) (4e)	63. Assignment of Functions (a) (2)	65. Statnding Committee (1) 66. Functions of Standing Committee (1) (8)

Sr. no.	State/ UT	Name of Act	Notification	Plan Preparation	Plan Approval	Enforcement Mechanism
21	Mizoram	Panchayat Act, 1953.	Panchayat Act does not exist however they have LUSHAI HILLS ACT NO. OF 1953 The Lushai Hills District (Village Councils) Act, 1953.			
22	Meghalaya		Does not have Panchayati Raj act and as per secondary research no other related Act could be located			
23	Nagaland	The Nagaland Village and Area Councils Act, 1978	Nagaland has "The Nagaland Village and Area Councils Act, 1978" wherein at present Village council exist and Area Council has been abolished it's second amendment in 1990. In addition the Act does not provide for Development plan preparation however as per section 12 (1) under power and duties of the village council, the council is empowered to formulate the development schemes which may or may not fit into preapration of Development Plan.			
24	Odisha	Odisha Panchayat Samiti Act 1960 (PS) , Odisha Gram Panchayat Act 1964 (GP), Odisha Zila Panchayat (ZP) Act 1991	20. Powers and functions of Panchayat Samiti (g)	20. Powers and functions of Panchayat Samiti (a) (a-i) (a-ii) (g) (5) (ii)	20. Powers and functions of Panchayat Samiti (a) (a-i) (a-ii)	20. Powers and functions of Panchayat Samiti (1) (a) (a-i) (a-ii)
25	Puducherry		The act is not available on the Internet. UT was asked to share the document however the same is awaited from the UT.			
26	Punjab	The Punjab Panchayati Raj Act, 1994	120. Entrustment of functions to Panchayat Samitis (1) (2) (3) (4) 221. Delegation of powers (1) (2)	119. Functions and duties of Panchayat Samiti (27) 180. Functions of Zila Parishads (2) (e) 197. Functions of Chief Executive Officer of Zila Parishad (3) 214. District Planning Committees (1) (2) (a) (i) (ii) (b)	181. Duties and powers of Zila Parishad (1) (d) (e)	134. Standing Committees of Panchayat Samiti (1) (a) 135. Functions of General Standing Committee of Panchayat Samiti (1) 184. Standing Committee of Zila Parishads (1) (a) 185. Functions of the Standing Committee of Zila Parishad (1) 197. Functions of Chief Executive Officer of Zila Parishad (3)

Sr. no.	State/ UT	Name of Act	Notification	Plan Preparation	Plan Approval	Enforcement Mechanism
27	Rajasthan	Rajasthan Panchayati Raj Act, 1994	121. Committee for District Planning (1) 121. Committee for District Planning (5) (a) (b)	121. Committee for District Planning (7) (a) (i) (ii) (b)	8E. Functions of the Gram Sabha (a)	55-A. Standing Committees of a Panchayat (1) (a) (b) (c) (d) (e) (2)
28	Sikkim	Sikkim Panchayat Act, 1993	112. Direction by State Government	Chapter VII Powers and duties of Zilla Panchayat 69. Obligatory duties of Zilla Panchayat (Amended 1995) (j) (k) (l) 127. Constitution of District Planning Committee (Amended 1995) (4) (5) (a) (i) (ii)	127. Constitution of District Planning Committee (Amended 1995) (6)	127. Constitution of District Planning Committee (Amended 1995) (1) (2) (a) (b) (c) (d) (e) (f) (3)
29	Tamil Nadu	Tamil Nadu Panchayat Act 1994	257. Power, authority and responsibilities of panchayats	241 District Planning Committee 241 (l)	241 District Planning Committee (7) (a) (i) (ii) (b)	241 District Planning Committee (2) (a) (b) (c) (d) (e) (3) (4) (5)
30	Telangana	The Telangana Panchayat Raj Act, 2018	Chapter-II 52. Duties and Responsibilities and property of Gram Panchayat (3)	Chapter-II 52. Duties and Responsibilities and property of Gram Panchayat (2) (C) (i) (i) (E) 188. Responsibilities, functions and powers of the Zilla Praja Parishad (iii)	156. Responsibilities, functions and powers of a Mandal Praja Parishad (5) PART VII Special Provisions Relating To The Panchayats, Mandal Praja Parishads and Zilla Praja Parishads located in the Scheduled Areas 254 Functions of Gram Sabha (i)	183. Standing Committees of a Zilla Praja Parishad

Sr. no.	State/ UT	Name of Act	Notification	Plan Preparation	Plan Approval	Enforcement Mechanism
31	Tripura	The Tripura Panchayats Act, 1993	145 Assignment of functions (1) 146. Delegation of powers	222. District Committee (5) (a) (i) (6)CHATPER and Powers of Panchayat Samiti 91. Functions (4)	Chapter I Powers, Functions and Duties of Zilla Parishad 143 Function of Zilla Parishad (2) (e) 93. Powers of Panchayat Samiti (1) (e)CHATPER II Functions and Powers of Panchayat Samiti 91. Functions (4) 222. District Planning Committee (5) (a) (i) (ii)	107 Standing Committees of the Panchayat Samiti (1) (h) (2) (a) (b) (c) (8) (9)
32	Uttar Pradesh	The Uttar Pradesh Kshetra Panchayats and Zilla Panchayats Adhiniyam, 1961	Chapter IX Powers and Penalties in respect of Buildings, Public Drains and Streets, etc, Regulations of Building 163. Limitation to application of certain sections of this Chapter (1) (2)	CHAPTER III Powers and Functions of Kshetra Panchayats and Zilla Panchayat. 32. General powers and functions of the Kshetra Panchayats. SCHEDULE I (See Section 32) Power and Functions of Kshetra Panchayats (xxx) (a) (b) (c) 63. Preparation of district plan (1) (2) (3)	34. Transfer to any function by Zilla Panchayat or Kshetra Panchayat to another local authority (3) 92. Powers and responsibilities of the Khan Vikas Adhikari (1) (iv)	64. Committees of Zilla Panchayat (1) (a) 66. Constitution of Karya Samiti (1) (a) (b) (c) (d) (2) (3)
33	Uttarakhand	Uttarakhand Panchayati Raj Act, 2016	Powers and Penalties in Respect of Buildings, Public Drains and Streets, etc. Regulation of Building 106C. Limitation to application of certain sections of this Chapter (1) (2)	22. General functions of Gram Panchayat (1) (i) 31. Delegation of powers by the Gram Panchayat. 140. Exercise of powers and performance of functions under the Act (1) (2) (3)	22. General functions of Gram Panchayat (1) (i) 140. Exercise of powers and performance of functions under the Act (1) (2) (3)	29. Rights of Gram Panchayat to frame bye-laws (1) (g) (2) 145. Powers and duties of Committees (1) (b) 161. Joint Committee (1) (a) (b) (2) (3) 42. Function of the Land Management Committee (1) (c) (h)

Sr. no.	State/ UT	Name of Act	Notification	Plan Preparation	Plan Approval	Enforcement Mechanism
34	West Bengal	West Bengal Panchayati Raj Act, 1973	Section : 114 Key Word : Vesting Panchayat Samiti with certain powers. (Part III.- Panchayat Samiti - Chapter IX- Power and duties of Panchayat Samiti - Section - 114) (1) (3) 114 A (1)	Section :19 Key Word : Obligatory duties of Gram Panchayat. (Part II.- Gram Panchayat- Chapter III – Power and duties of Gram Panchayat-Section-19) (1) (a) Section :109 Key Word Power of Panchayat Samiti. (Part III.-Panchayat Samiti - Chapter IX – Power and duties of Panchayat Samiti -Section - 109) Power of Panchayat Samiti (1) (i) (a) (iv) (2) (3) Section : 114 Key Word : Vesting Panchayat Samiti with certain powers. (Part III.- Panchayat Samiti - Chapter IX – Power and duties of Panchayat Samiti - Section - 114) (8) (a) (b) (c)	Section: 14 Key Word : Vesting Panchayat Samiti with certain powers. (Part III. Panchayat Samiti - Chapter IX – Power and duties of Panchayat Samiti - Section - 114)	Section : 30 Key Word : Joint Committees. (Part II.- Gram Panchayat-Chapter III–Power and duties of Gram Panchayat-Section- 30) Section : 114 Key Word : Vesting Panchayat Samiti with certain powers. (Part III.- Panchayat Samiti-Chapter IX– Power and duties of Panchayat Samiti -Section - 114) (1) (3) 114A (1) (2) Part-II Gram Panchayat Administration Chapter XI Upa-Samitis and Gram Unnayan Samitis of a Gram Panchayat (70) Part-II Gram Panchayat Administration Chapter XI Upa-Samitis and Gram Unnayan Samitis of a Gram Panchayat (74) Part-II Gram Panchayat Administration Chapter XI Upa-Samitis and Gram Unnayan Samitis of a Gram Panchayat (2) (3) (4) (5) (6) (7) (8) (9)

**Detailed Analysis:
Section / Clause and Act Statement**

The Andhra Pradesh Panchayat Raj Act, 1994		
Notification		
Page	Clause/ Section	Act Statement
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Plan Preparation		
Page	Clause/ Section	Act Statement
72	192. Powers and functions of the Zilla Parishad	(1) Every Zilla Parishad shall exercise such powers and perform such functions as may be entrusted to it by rules made in this behalf with regard to the subjects enumerated in the First Schedule. (iii) co-ordinate and consolidate the plans prepared in respect of the Mandals in the district and prepare plans in respect of the entire district (iv) secure the execution of plans, projects, schemes or other works either solely relating to the individual Mandals or common to two or more Mandals in the district;
Plan Approval		
Page	Clause/ Section	Act Statement
92	242C. Functions of Gram Sabha	(1) Every Gram Sabha shall be competent to safeguard and preserve the traditions and customs of the people, their cultural identity, community resources and without detriment to any law for the time being in force, the customary mode of dispute resolution. (2) Every Gram Sabha shall,– (i) approve plans, programmes and projects for social and economic development before such plans, programmes and projects are taken up for implementation by the Gram Panchayat, at the village level; (3) Every Gram Panchayat shall obtain from the Gram Sabha a certification of utilisation of funds by that Panchayat for the plans, programmes and projects referred to in sub-section (2).
Enforcement Mechanism		
Page	Clause/ Section	Act Statement
72	192. Powers and functions of the Zilla Parishad	(1) Every Zilla Parishad shall exercise such powers and perform such functions as may be entrusted to it by rules made in this behalf with regard to the subjects enumerated in the First Schedule. (iv) secure the execution of plans, projects, schemes or other works either solely relating to the individual Mandals or common to two or more Mandals in the district;
92	242C. Functions of Gram Sabha	(3) Every Gram Panchayat shall obtain from the Gram Sabha a certification of utilisation of funds by that Panchayat for the plans, programmes and projects referred to in sub-section (2).

Arunachal Pradesh Panchayat Raj Act, 1997		
Notification		
Page	Clause/ Section	Act Statement
	Section 94 (I) Zila parishad	The State Government may assign to a Zila Parishad Functions in relation to any matter to which the executive authority of Government extends or in respect of the function which have been assigned to the State Government by the Central Government.
Plan Preparation		
Page	Clause/ Section	Act Statement
18	Clause 72. Power and function of Anchal Samiti (Block samiti) (e)	Co-ordinate and integrate development plan and schemes prepared by the gram panchayats in the block
42	Schedule III (see section 93: power and functio of Zilla parishad) 1. General Function	1. General Function:- Overall supervision, co-ordination and integration of development schemes at Anchal Samiti and District Levels and preparation of plan for the development of the district.
Enforcement Mechanism		
Page	Clause/ Section	Act Statement
41	Schedule II (see section70 : Power and function of Anchal Samiti) 1. General function (4)	1. General function (4) performing such functions and executing such works as may be entrusted to it by the Government or the Zilla Parishad

The Assam Panchayat Act, 1994 With Rules 2008		
Notification		
Page	Clause/ Section	Act Statement
66	80. Assignment of functions of Zilla Parishad -	<p>(1) The Government may assign to a Zilla Parishad functions in relation to any matters to which the executive authority of the Government extends or in respect of functions which have been assigned to the State Government by the Central Government.</p> <p>The Government may, by notification, withdraw or modify the functions assigned under this section</p>
Plan Preparation		
Page	Clause/ Section	Act Statement
70, 75	90 Functions & Powers of Zilla Parishad-	<p>It shall be the function of a Zilla Parishad to prepare plans for economic development and social justice of the District and ensure the Co-ordinated implementation of such plan.</p> <p>(d) co-ordinate and integrate the development plans and schemes prepared by Anchalik Panchayat in the district</p> <p>(4) The Zilla Parishad may be vested by the State Government with such power under any Act as the Government may deem fit.</p>
98	126. Preparation of Development plans -	<p>(1) Every Gaon Panchayat shall prepare every year a development plan and submit it to the Anchalik Panchayat before such date and in such form as may be prescribed by the District Planning Committee as under Section 3 (1).</p> <p>(2) Every Anchalik Panchayat shall prepare every year a development plan for its area after including the development plans of the Gaon Panchayats and submit it to the Zilla Parishad before such date and in such form as may be prescribed by the District Planning Committee as under Section 3 (1).</p> <p>(3) Every Zilla Parishad shall prepare every year a development plan of the district after including the development plans of the Anchalik Panchayats and submit it before such date and such form as may be prescribed by the District Planning Committee, to the District Planning Committee, constituted under section 3 (1) of this Act.</p>

Plan Approval		
Page	Clause/ Section	Act Statement
262 - 263	The Provisions of the Panchayats (Extension to the Schedule Areas Act 1996 4. Exceptions and modifications to Part IX of the Constitution	(e) every Gram Sabha shall (i) approve the plans, programmes and projects for social and economic development before such plans, programmes and projects are taken up for implementation by the Panchayat at the village level;
11	3. Constitution of District Planning Committee	(8) The Chairperson of every District Planning Committee shall forward the District plan as recommended by such committee, to the Government for approval within a specified period as may be prescribed by the State Government
Enforcement Mechanism		
Page	Clause/ Section	Act Statement
11	3. Constitution of District Planning Committee	(6) consolidate the plan prepared by the Zilla Parishad, Anchalik Panchayats and Gaon Panchayats, Town Committees, Municipalities and Municipal Corporation in the District and prepare a draft development plan for the District as a whole. (8) The Chairperson of every District Planning Committee shall forward the District plan as recommended by such committee, to the Government for approval within a specified period as may be prescribed by the State Government
66	81. Standing Committees	81. Standing Committees-The Zilla Parishad shall have the following Standing Committees, namely : (a) General Standing Committee, (b) Finance and Audit Committee, (c) Social Justice Committee, (d) Planning and Development Committee.
66	83. Functions of Standing Committees -	(1) The General Standing Committee shall perform functions relating to the establishment matters and functions relating to communications buildings, rural housing, village extensions, relief against natural calamities, Rural Development Programme of Government of India and allied matters and all miscellaneous residuary matters.

The Bihar Panchayat Raj Act, 2006		
Notification		
Page	Clause/ Section	Act Statement
55	48. Assignment of functions for panchayat Samiti	(1) The Government may assign to a Panchayat Samiti functions in relation to any matters to which the executive authority of the Government extends or the functions which have been assigned to State Government by the Central Government. (2) The Government may, by notification, withdraw or modify the functions assigned under this section.
84	75 Assignment of Functions (Zila Parishad) -	(i) The Government may assign to a Zila Parishad, functions in relation to any matters to which the executive authority of the Government extends or in respect of functions which have been assigned to the State Government by the Central Government; (ii) The Government may by notification withdraw or modify the functions assigned under this section.
Plan Preparation		
Page	Clause/ Section	Act Statement
159	167. District Planning Committee	(6) The District Planning Committee shall consolidate the plans prepared by the Panchayats and Municipalities in the district and prepare a draft development plan for the district as a whole. (7) Every District Planning Committee shall in preparing the draft development plan-(a) have regard to, (i) the matters of common interest between the Zila Parishad, Panchayat Samitis, Gram Panchayats, Nagar Panchayats, Municipal Councils and the Municipal Corporations in the district including local planning, sharing of water and other physical and natural resource, the integrated development of infrastructure and environmental conservation. (ii) the extent and type of available resources whether financial or otherwise. (b) consult such institutions and organizations as the Government may by order specify.
158 - 159	166. Preparation of Development Plans -	(1) Every Gram Panchayat shall prepare every year a development plan and submit it to the Panchayat Samiti before such date and in such form as may be prescribed. (2) Every Panchayat Samiti shall prepare every year a development plan for its area after including the development plans, of the concerned Gram Panchayats and submit it to the Zila Parishad before such date and in such form as may be prescribed. (3) Every Zila Parishad shall prepare every year a development plan of the district after including the development plans of the concerned Panchayat Samitis and submit it to the District Planning Committee constituted under this Act.

Plan Approval		
Page	Clause/ Section	Act Statement
160	167. District Planning Committee	(8) The Chairman of every District Planning Committee shall forward the development plan, as recommended by such Committee to the Government.
Enforcement Mechanism		
Page	Clause/ Section	Act Statement
55	50. Standing Committees-	(1) A Panchayat Samiti shall constitute the following committees by election from among its members for effective discharge of its functions : (I) General Standing Committee
57	51. Functions of the Standing Committees -	(1) The General Standing Committee shall perform general functions relating to Panchayat Samiti including co-ordination of the works of other committees and all residuary functions not under the charge of other committees.

The Chhattisgarh Panchayat Raj Adhiniyam, 1993		
Notification		
Page	Clause/ Section	Act Statement
30	51. Entrustment of certain functions of State Government to Janpad Panchayat (1),(2),(3),(4)	<p>(1) The State Government may entrust, to a Janpad Panchayat or Zila Panchayat functions in relation to any matter to which the executive authority of the State Government extends or in respect of functions which have been entrusted to the State Government by the Central Government and the Janpad Panchayat or Zila Panchayat shall be bound to perform such functions. It shall have necessary powers to perform such functions.</p> <p>(2) Where functions are entrusted to a Janpad Panchayat or Zila Panchayat under sub-section (1), the Janpad Panchayat or Zila Panchayat shall in the discharge of those functions, act as an agent of the State Government.</p> <p>(3) There shall be paid by the State Government to the Janpad Panchayat or Zila Panchayat such sum as may be deemed necessary for discharging the functions entrusted to it under this section.</p> <p>(4) The Janpad Panchayat or Zila Panchayat shall, for the purposes of discharging the functions entrusted to it under this section, be under the general control of the State Government or any other authority appointed by it and shall comply with such directions as may from time to time be given to it.</p>
Plan Preparation		
Page	Clause/ Section	Act Statement
28-29	50. (1-A) Functions of Janpad Panchayat (iv)	(iv) undertake regional planning and infrastructural development within the Janpad Panchayat
	CHAPTER XIV-A: Special Provisions for Panchayats in the Scheduled Areas 129F. Powers of Janpad and Zila Panchayat. (iv)	(iv) to exercise and perform such other powers and functions as the State Government may confer or entrust under any law for the time being in force]
Plan Approval		
Page	Clause/ Section	Act Statement
30	52. Functions of Zila Panchayat (iv), (v), (ix)	<p>(iv) ensure overall supervision, co-ordination and consolidations of the plans prepared by the Janpad Panchayat;</p> <p>(v) ensure the execution of schemes, works, projects entrusted to it by any law and those assigned to it by the Central or State Government;</p> <p>(ix) secure the execution of plans, projects, schemes or other works common to two or more Janpad Panchayats;</p>

Enforcement Mechanism		
Page	Clause/ Section	Act Statement
28-29	50.(1-A) Functions of Janpad Panchayat (x)	(x) secure the execution of plans, projects, schemes or other works common to two or more Gram Panchayats in the block;
50 - 51	52. (i) Functions of Zila Panchayat (ix)	(ix) secure the execution of plans, projects, schemes or other works common to two or more Janpad Panchayats
24	47. Standing Committees of Janpad Panchayat and Zila Panchayat (2)	(2) In addition to the five standing committees referred to in sub-section (1), a Janpad Panchayat or Zila Panchayat may with the approval of the prescribed authority, constitute one or more such committees for other matters not specified in the said sub-section. (2-A) The Janpad Panchayat or Zila Panchayat may with the approval of the prescribed authority re-allocate the matters entrusted to any committee under sub-section (1) or sub-section (2) to any other such committees or entrust such committees any other matters not otherwise specified.

Dadra and Nagar Haveli Panchayat Regulation, 2012		
Notification		
Page	Clause/ Section	Act Statement
27	76. Duties and functions of District Panchayat.	- The District Panchayat shall have such powers and authority as the Administrator may, by order, specify, so as to enable it to function as an institution of self government with respect to the preparation of plans for economic development and social justice and the implementation of schemes for economic development and social justice in relation to the matters listed in the Third Schedule
44	The Third Schedule (See section 76) Matters within theJurisdiction of District Panchayat (A) General functions (2)	(2) Preparation of District plans;
Plan Preparation		
Page	Clause/ Section	Act Statement
14	CHAPTER IV Powers, Duties and Functions of Gram Panchayat 29. Duties and functions of GramPanchayat (2)	(2) Subject to the provision of sub-section (1) a Gram Panchayat shall have powers and responsibilities to make plans and implement schemes for the development and social justice including those in relation to the matters specified in the Second Schedule.
27	76. Duties and functions of District Panchayat.	- The District Panchayat shall have such powers and authority as the Administrator may, by order, specify, so as to enable it to function as an institution of self government with respect to the preparation of plans for economic development and social justice and the implementation of schemes for economic development and social justice in relation to the matters listed in the Third Schedule
44	The Third Schedule (See section 76) Matters within theJurisdiction of District Panchayat (A) General functions (2)	(2) Preparation of District plans;
38	118. Preparation of development plan (1)	(1) Every Gram Panchayat shall (having due regard to the development programmes suggested by the Gram Sabha) prepare every year a development plan and forward it to the District Panchayat before such date and in such manner as may be prescribed. (2) Every District Panchayat shall prepare every year a development plan after including the development plans of the Gram Panchayat and forward it to the District Planning Committee as constituted under section 119.

Plan Approval		
		Act Statement
38	118. Preparation of development plan (1), (2)	<p>(1) Every Gram Panchayat shall (having due regard to the development programmes suggested by the Gram Sabha) prepare every year a development plan and forward it to the District Panchayat before such date and in such manner as may be prescribed.</p> <p>(2) Every District Panchayat shall prepare every year a development plan after including the development plans of the Gram Panchayat and forward it to the District Planning Committee as constituted under section 119.</p>
Enforcement Mechanism		
Page	Clause/ Section	Act Statement
38	119. District Planning Committee (1)	<p>(1) The Administrator for the purpose of undertaking district planning shall constitute a District Planning Committee consisting of such members as may be prescribed. (2) The meetings and functions of the Committee referred to in sub-section (1) shall be such as may be prescribed.</p>
27	73. Standing Committees of Joint Committees, etc (1) (g), (2), (3)	<p>(1) Subject to such rules as may be made in this behalf, the District Panchayat may appoint from amongst its members the following Standing Committees for exercising such of its powers and discharging such of its functions as may be prescribed, namely:-</p> <p>(g) Joint Committee.</p> <p>(2) The composition and tenure of Committees referred to in clauses (a) to (g) shall be such as may be prescribed.</p> <p>(3) No fee or allowances shall be payable for attending the meetings.</p>
14	27. Committees (1), (2), (3)	<p>(1) Subject to such control and restrictions as may be prescribed, a Gram Committees. Panchayat may appoint Committees for exercising such of its powers and discharging such of its duties and functions as it may specify.</p> <p>(2) A Committee appointed under sub-section (1), shall consist of not more than five members and may be dissolved or reconstituted for such reasons and in such manner as may be prescribed.</p> <p>(3) Every Gram Panchayat shall have the powers to annul, revise or modify any decisions taken by any of its Committees.</p>

The Goa Panchayat Raj Act, 1994 and Rules		
Notification		
Page	Clause/ Section	Act Statement
30	67. Power of Government to prohibit and regulate the erection of building in certain areas without permission (1),(2),(3),(4),(5)	<p>(1) Notwithstanding anything contained in section 66 the Government may, in the interest of the general public and after consulting the Panchayat concerned, prohibit by notification the erection of any building within a specified area within the jurisdiction of a Panchayat except with the permission granted by the Government or any officer authorized by the Government in this behalf (hereinafter in this section referred to as the “authorized officer”):</p> <p>Provided that such prohibition shall not be made in respect of land which has been set apart as a building site by the Government or the Panchayat prior to the date of such notification.</p> <p>(2) Subject to the provisions of sub-section (3), the grant of any permission under subsection (1) may be subject to such conditions as may be imposed by the Government or the authorized officer in each case or specified generally.</p> <p>(3) The Government may publish a development plan in respect of the area notified under sub-section (1) after following such procedure as may be prescribed, and on the publication in such plan, no building shall be erected or constructed in such area except in accordance with the specifications and conditions specified in such development plan.</p> <p>(4) Whoever erects any buildings contrary to the provisions of sub-section (2) or (3) shall, on conviction, be punished with fine, which may extend to five thousand rupees.</p> <p>The Government or the authorized officer, as the case may be, may demolish any building erected contrary to the provisions of sub-section (1) or (3) or in violation of the conditions imposed under sub-section (2).</p>
Plan Preparation		
Page	Clause/ Section	Act Statement
126	Schedule - I - A Functions and Responsibilities of Taluka Panchayat I. General function	Overall supervision over the developmental works undertaken by village Panchayats in respect of the matters devolved under schedule I, co-ordination and integration of development schemes, at Taluka and preparing the plan for the development of the taluka.
116	238. Preparation of development plan (1),(2)	<p>(1) Every Panchayat shall prepare every year a development plan and submit it to the Zilla Panchayat before such date and in such form as may be prescribed.</p> <p>(2) Every Zilla Panchayat shall prepare every year, a development plan of the district after including the development plans of Panchayats and submit it to the District Planning Committee constituted under section 239.</p>

Plan Approval		
Page	Clause/ Section	Act Statement
64	115-S. Standing Committees (f) Taluka Development Committee. (2),(3),(4),(5),(6)	<p>(2) Each Standing Committee shall consist of such number of members not exceeding five, elected by the members of the Taluka Panchayat from amongst themselves.</p> <p>(3) The Chairperson shall be the ex officio Member and Chairman of the General Standing Committee and the Finance, Audit and Planning Committee. The Vice- Chairperson shall be the ex officio Member and Chairman of the Social Justice Committee. The other Standing Committees shall elect the Chairman from amongst their members.</p> <p>(4) No member of the Taluka Panchayat shall be eligible to serve on more than two Standing Committees.</p> <p>(5) The Block Development Officer shall be the ex officio Secretary of all the Standing Committees.</p> <p>(6) The Standing Committees shall perform such functions as may be specified in the regulations made by the Taluka Panchayat.</p>
Enforcement Mechanism		
Page	Clause/ Section	Act Statement
64	115-S. Standing Committees (f) Taluka Development Committee. (2),(3),(4),(5),(6)	<p>(2) Each Standing Committee shall consist of such number of members not exceeding five, elected by the members of the Taluka Panchayat from amongst themselves.</p> <p>(3) The Chairperson shall be the ex officio Member and Chairman of the General Standing Committee and the Finance, Audit and Planning Committee. The Vice- Chairperson shall be the ex officio Member and Chairman of the Social Justice Committee. The other Standing Committees shall elect the Chairman from amongst their members.</p> <p>(4) No member of the Taluka Panchayat shall be eligible to serve on more than two Standing Committees.</p> <p>(5) The Block Development Officer shall be the ex officio Secretary of all the Standing Committees.</p> <p>(6) The Standing Committees shall perform such functions as may be specified in the regulations made by the Taluka Panchayat.</p>

Gujarat Panchayat Act 1993		
Notification		
Page	Clause/ Section	Act Statement
50	section 99 (B) Administrative powers and duties.	99. Subject to the provisions of this Act it shall be the duty of each panchayat to make in the area within its jurisdiction, and so far as the fund at its disposal will allow, reasonable provisions, in regard to all or any of the matters specified in Schedule I.
124	Matters in Respect of which it is duty of Village Panchayats to Make provision. Schedule I (5)(a) (e)	5. In the sphere or planning and administration- (a) the preparation of plans for the development of the village; (e)use of assistance given by the Central or State Government for any purpose of the village;
Plan Preparation		
Page	Clause/ Section	Act Statement
80	CHAPTER VII Provision as to Devolution of Powers and responsibilities upon Panchayats with respect to Development Plans and Implementation of Certain Schemes 179. Preperation ofDevelopment plans bypanchayat. (2)	(2) Every taluka panchayat shall prepare every year in such form as may be prescribed a development plan for the taluka for the next year having regard to the development plans submitted to it by the village panchayats in the taluka and submit the same before such date as may be prescribed, to the district panchayat to which the taluka panchayat is subordinate.
130	SCHEDULE III Part I (See section 154) Matters in Respect of which it isthe duty of Distrcit Panchayat to make provision (5) (a) (b)	5. In the sphere of community development— (a) co-ordination and integration of the development schemes of all talukas in the district and preparing a plan therefor for the whole district; (b) preparation of projects, plans and schemes concerning two or more talukas in the district;
Plan Approval		
Page	Clause/ Section	Act Statement
133	SCHEDULE IV (See section 278A) Modifications subject to which this Act applies to the Scheduled Areas of the State (b) (i)	b) The gram sabha shall— (i) approve the plans, programmes and projects for social and economic development before such plans, programmes and projects are taken up for implementation by the village panchayat;

Enforcement Mechanism		
Page	Clause/ Section	Act Statement
60	<p>PART II Provisions relating to Taluka Panchayats</p> <p>(A) Conduct of business</p> <p>123. Taluka Panchayat committees, their constitution, powers, functions and duties (2)</p>	<p>(2) In addition to the committees referred to in sub-section (1), a taluka panchayat may, with the previous approval of the State Government constitute a committee or committees consisting of such number of members of the panchayat as the panchayat may determine, to execute any work or scheme decided upon by the taluka panchayat or to inquire into the report to the taluka panchayat on matters which the panchayat may refer to such committee or committees. The taluka panchayat may make regulations for the procedure to be followed by and such committee</p>

The Haryana Panchayati Raj Act, 1994		
Notification		
Page	Clause/ Section	Act Statement
111	230. a Duties and Functions of Authority	Subject to such exceptions and conditions as the Government may, by general or special order, impose, it shall be the duty of the Authority within the limits of funds at its disposal to provide for and make arrangements for carrying out the requirements of rural area in respect of the following matters:- (a) Identification of rural area for declaration of development zone.
119	255 Declaration of development zone.	The Government may, on the recommendation of the Authority or otherwise, if it considers necessary, by notification in the Official Gazette, notify any area within Lal Dora and adjacent to it within a specified distance beyond Lal Dora of any village in the rural area, to be development zone.
Plan Preparation		
Page	Clause/ Section	Act Statement
111	230. Duties and functions of Authority (a),(b), (c), (d), (e), (f), (g), (h), (i), (j), (k)	Subject to such exceptions and conditions as the Government may, by general or special order, impose, it shall be the duty of the Authority within the limits of funds at its disposal to provide for and make arrangements for carrying out the requirements of rural area in respect of the following matters:- (a) Identification of rural area for declaration of development zone. (b) Preparation of development plans for regulation of the development zone. (c) Providing regulated growth in and around villages. (d) Providing regulated growth in and around villages. (e) Development of residential and housing facilities in villages particularly for weaker sections by acquisition and development of land. (f) Providing financial and technical support to the Panchayati Raj Institutions for the development of rural area and development zone in and around villages. (g) Distributions of house sites in the development zone and maintenance of record thereof. (h) Maintenance of buildings under its control or transferred to it by the Government or any public authority. (i) Maintenance of general sanitation. (j) Cleaning of public roads, drains and other public places. (k) Maintenance of community assets or any other duties and functions as the Government may direct.

117	249. (1) (2) (a),(b) Preparation of Development Plan and Development of Land Development Plan.	<p>The District Planning Committee in consultation with the Authority shall prepare development plan for such villages, as considered necessary, for regulation of its development zone.</p> <p>(2) A plan may-</p> <p>(a) contain reservation of land for residential, commercial, industrial, open spaces, road network and other ancillary usages;</p> <p>(b) contain provisions concerning matters necessary for proper development of the zone or any area thereof according to plan.</p>
Plan Approval		
Page	Clause/ Section	Act Statement
117	249. (1) (2) Preparation of Development Plan and Development of Land Development Plan.(3),(4)	<p>(3) The District Planning Committee shall publish the plan for the purpose of inviting objections and suggestions from the public as may be prescribed.</p> <p>(4) After considering the objections, suggestions, representations and recommendations, if any, the District Planning Committee may revise and forward the plan to the Authority for recommending it to the Government for approval.</p>
119	256 (1) (2) Publication of plan.	<p>(1) The Government may either approve the plan without modifications or with such modifications as it may consider necessary or reject the plan with directions to the District Planning Committee to prepare a fresh plan according to such directions.</p> <p>(2) The Government shall cause to be published by notification the plan approved by it under sub-section (1) for the purpose of inviting objections thereon.</p>
Enforcement Mechanism		
Page	Clause/ Section	Act Statement
109	<p>PART B Establishment and constitution of Authority.</p> <p>220. (1) Haryana Rural Development Authority</p>	<p>With effect from such date, as the Government may by notification in the Official Gazette specify in this behalf, the Government shall establish and constitute for the purposes of this Chapter, an Authority to be known as the 'Haryana Rural Development Authority' with its Headquarter at such place as the Government may specify.</p>
111	229. Objectives of Authority	The objects of the Authority shall be to promote and secure regulated development of the rural area and development zone in and around villages including Lal Dora and to provide amenities, sanitation and hygiene in rural areas and also to provide residential and housing facilities particularly for weaker section.

110	224. Appointment of committees.	Subject to any rules made in this behalf, the Authority may, from time to time, appoint one or more committees for the purpose of securing the efficient discharge of the functions of the Authority and in particular for the purpose of ensuring the efficient maintenance of public amenities and development projects.
111	230. Duties and Functions of Authority	<p>Subject to such exceptions and conditions as the Government may, by general or special order, impose, it shall be the duty of the Authority within the limits of funds at its disposal to provide for and make arrangements for carrying out the requirements of rural area in respect of the following matters:-</p> <ul style="list-style-type: none"> (a) Identification of rural area for declaration of development zone. (b) Preparation of development plans for regulation of the development zone. (c) Providing regulated growth in and around villages. (d) Providing regulated growth in and around villages. (e) Development of residential and housing facilities in villages particularly for weaker sections by acquisition and development of land. (f) Providing financial and technical support to the Panchayati Raj Institutions for the development of rural area and development zone in and around villages. (g) Distributions of house sites in the development zone and maintenance of record thereof. (h) Maintenance of buildings under its control or transferred to it by the Government or any public authority. (i) Maintenance of general sanitation. (j) Cleaning of public roads, drains and other public places. (k) Maintenance of community assets or any other duties and functions as the Government may direct.

Jammu and Kashmir Panchayati Raj Act, 1989		
Notification		
Page	Clause/ Section	Act Statement
9	12. Powers and functions. (3)	(3) The Halqa Panchayat shall also perform such other functions and duties as may be assigned or entrusted to it by the Government, the District Planning and Development Board and the block Development Council within the area of which Halqa Panchayat is constituted.
Plan Preparation		
Page	Clause/ Section	Act Statement
9	12. Powers and functions. (1), (i), (ii)	(1) Subject to the provisions of this Act, it shall be the duty of each Halqa Panchayat to make provision for the following subject to the availability of funds at its disposal:- (i) to prepare the plans for the development of the Halqa; to undertake measures for the implementation of the developmental plans
Plan Approval		
Page	Clause/ Section	Act Statement
9	12. Powers and functions (1), (ii)	(1) Subject to the provisions of this Act, it shall be the duty of each Halqa Panchayat to make provision for the following subject to the availability of funds at its disposal:- (ii) to undertake measures for the implementation of the developmental plans
Enforcement Mechanism		
Page	Clause/ Section	Act Statement
24	CHAPTER XI District Planning and Development Board 45. Constitution of District Planning and Development Board (1), (2) (i), (ii), (iii), (iv), (v)	(1) Each District shall have a District Planning and Development Board to be constituted by the Government by notification in the Government Gazette. (2) The District Planning and Development Board shall comprise the following:- (i) Chairman of the Block Development Councils of the District; (ii) Members of Parliament representing the area; (iii) Members of the State Legislature representing the areas within the District; (iv) Chairman of the Town Area Committees at the District; (v) President of the Municipal Council, if any.

Himanchal Pradesh Panchayati Raj Act, 1994		
Notification		
Page	Clause/ Section	Act Statement
49 -50	83. Power of the State Government in relation to functions of Panchayat Samiti (2)	(2) The state Government may, by general or special order, add to any of the function of the Panchayat Samiti or withdraw the functions and duties entrusted to such a Panchayat Samiti when the State Government undertakes the execution of any of the functions entrusted to the Panchayat Samiti. The Panchayat Samiti shall not be responsible for such functions so long as the State Government does not re-entrust such functions to the Panchayat Samiti.
49	82. Entrustment of certain functions of State Government to a Panchayat Samiti (1), (2)	(1) The State Government may entrust, to a Panchayat Samiti functions in relation to any matter to which the executive authority of the State Government extends or in respect of functions which, have been entrusted to the State Government by the Central Government and the Panchayat Samiti shall be bound to perform such functions. It shall have necessary powers to perform such functions. Where functions are entrusted to a Panchayat Samiti under subsection (1), the Panchayat Samiti shall in the discharge of those functions, act as an agent of the State Government.
Plan Preparation		
Page	Clause/ Section	Act Statement
26	11. Functions of Gram Panchayat (1), (2)	(1) The Gram Panchayat shall perform the functions specified in Schedule-I. (2) Notwithstanding anything contained in this Act the State Government may, by general or special order, entrust to the Gram Panchayat preparation of plans and implementation of schemes for economic development and social justice 3[including those matters specified in Schedule-II and the Gram Panchayat shall perform such functions.
49	83. Power of the State Government in relation to functions of Panchayat Samiti (1)	(1) Notwithstanding anything contained in the Act the State Government may, by general or special order, entrust to the Panchayat Samitis preparation of plan and implementation of schemes for economic development and social justice including those in relation to the matters listed in Schedule-II.

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Page	Clause/ Section	Act Statement
21	7. Functions of Gram Sabha (1) (c - a)	(1)the Gram Sabha shall perform the following functions, namely:- (c-a) approve plans, programmes and budget, prepared by the Gram Panchayat, for economic development and social justice;
Enforcement Mechanism		
Page	Clause/ Section	Act Statement
50	84. Standing Committees (1) (a)	(1) The Panchayat Samiti shall have the following Standing Committees:- General Standing Committee
50	85. Functions of the Standing Committees (1)	(1) The General Standing Committee shall perform functions relating to the establishment matters, communications, buildings, rural housing, village extension, relief against natural calamities, water supply and all residuary matters.
55	92. Functions of the Zila Parishad (1) (ii) (iv)	(1) Subject to the provisions of this Act and rules made thereunder, it shall be duty of the Zila Parishad to- (ii) co-ordinate and consolidate the Panchayat Samiti plans; (iv) secure the execution of the plans, projects schemes, or other works common to two or more Panchayat Samitis in the district;

Jharkhand Panchayati Raj Act 2001		
Notification		
Page	Clause/ Section	Act Statement
82	Section 78 (1) (a) Powers of the State Government as to the functions of Panchayats-	(1) (a) Subject to such conditions as may be specified by the State Government by general or special order, the Panchayats shall, at proper levels, have such powers and authority, appertaining to the subjects listed in schedule (1) within which the preparation of plans and implementation of schemes for economic development and social justice comes and also other duties and functions conferred under section (75), (76), (77), that may be necessary to make them capable of serving as institutions of self government.
128	Section 162 Administrative control of Panchayats over projects, schemes etc. :-	(2) Where the institutions, projects, schemes and offices serve the areas of more than one Gram Panchayat, their function and administrative control shall vest in the Panchayat Samiti.
71 - 72	Section 76 Functions of Panchayat Samiti (A) (xxxii)	(h) Ensuring implementation of the plans entrusted to it by any law and also of the plans entrusted to it by the Central Government or the State Government; (i) Ensuring execution of functions, programmes, plans and projects transferred or delegated to it by the Central Government or the State Government;
Plan Preparation		
Page	Clause/ Section	Act Statement
71 - 72	Section 76 Functions of Panchayat Samiti (A) (xxxii)	(e) Preparation of annual plan in respect of plans entrusted to it by any law and also for the plans entrusted to it by the Central Government or the State Government. (s) Taking up regional plans and development plans for basic amenities within the Panchayat Samiti; (t) Preparation and management of plans for basic civil amenities;
Plan Approval		
Page	Clause/ Section	Act Statement
71 - 72	Section 76 Functions of Panchayat Samiti (A) (xxxii)	(g) Ensuring comprehensive supervision, co-ordination and integration of the plans prepared by the Gram Panchayats (l) Ensuring execution of such plans, projects and other works that belongs to two or more Gram Panchayats jointly; (x) Ensuring execution of schemes, projects and programmes entrusted by the Central or the State Government or the Zila Parishad or the Panchayat Samiti;

111 - 112	Section 123 District Planning Committee	<p>(ii) Every Committee shall, in preparing the draft development plan, have regard to:</p> <p>(a) Matters of mutual general importance between the municipal bodies and the Panchayats;</p> <p>(b) Planning accordingly to regional speciality;</p> <p>(c) Mutual Sharing of water and other physical and natural resources;</p> <p>(d) Integrated development of infrastructure and environmental and its Conservation;</p> <p>(e) Extent and type of available resources whether financial or otherwise;</p> <p>(iii) The Committee may obtain advice from such institutions and organisations as the State Government may specify.</p>
Enforcement Mechanism		
Page	Clause/ Section	Act Statement
71 - 72	Section 76 Functions of Panchayat Samiti (A) (xxxii)	<p>(l) Ensuring execution of such plans, projects and other works that belongs to two or more Gram Panchayats jointly;</p> <p>(x) Ensuring execution of schemes, projects and programmes entrusted by the Central or the State Government or the Zila Parishad or the Panchayat Samiti;</p>
54 - 55	Section 72 Standing committees of Panchayat Samiti and Zila Parishad-	12. In addition to the standing committees mentioned under sub-section (1), the Panchayat Samiti or, the Zila Parishad, on approval of the prescribed Authority, may constitute one or more than one committee for the subjects which do not come within the fold of affairs of the committees referred in sub-section (1).
111	Section 123 District Planning Committee	(i) In the light of the Provisions of Articles 243ZD of the constitution of India, there shall be constituted in every district a District Planning committee to consolidate the plans Prepared by the Panchayats and the Municipalities in the district and to prepare a draft development plan for the district as a whole and to exercise such other powers as may be assigned to it from time to time by the State Government.
112	Section 125 Composition of the District planning committee	(b) (i) Three - fourth members of the total number of members shall be elected in the prescribed manner by the elected members of the Zila Parishad and Municipal Bodies as the case may be, of the district from amongst them.

The Karnataka Panchayat Raj Act, 1993		
Notification		
Page	Clause/ Section	Act Statement
54	65. Power of Government to prohibit and regulate the erection of buildings in certain areas without permission.-	(1) Notwithstanding anything contained in section 65, the Government may, in the interest of the general public and after consulting the Grama Panchayat concerned prohibit by notification the erection of any building within a specified area within the jurisdiction of a Grama Panchayat except with permission granted by the Government or any officer authorised by the Government in this behalf (hereinafter in this section referred to as the "authorised officer"
91	Chapter VII Function, Duties and Power of Taluk Panchayat Adhyaksha and Upadhyasha Function of Taluk Panchayat 145. Functions of Taluk Panchayat.	(1) The Taluk Panchayat shall perform the functions specified in Schedule II: Provided that where the State Government or Central Government provides funds for the performance of any function specified in Schedule II, the Taluk Panchayat shall perform such functions in accordance with the guidelines or norms laid down for performance of such function.
91	146. Assignment of functions.	(1) The Government may assign to a Taluk Panchayat, functions in relation to any matters to which the Executive authority of the Government extends or the functions which have been assigned to the State Government by the Central Government. (2) The Government may, by notification, withdraw or modify the functions assigned under this section.
Plan Preparation		
Page	Clause/ Section	Act Statement
166	SCHEDULE I (see section 58)	XXXI. Such other functions as may be entrusted.
168 - 169	SCHEDULE II (see section 145)	(4) Performing such functions and executing such works as may be entrusted to it by the Government or the Zilla Panchayat.
Plan Approval		
Page	Clause/ Section	Act Statement
168 - 169	SCHEDULE II (see section 145)	(4) Performing such functions and executing such works as maybe entrusted to it by the Government or the Zilla Panchayat.

Enforcement Mechanism		
Page	Clause/ Section	Act Statement
92	147. General powers of Taluk Panchayat.-	The Taluk Panchayat shall have powers to do all acts necessary for or incidental to, the carrying out of the functions entrusted or delegated to it and, in particular, and without prejudice to the foregoing powers to exercise all powers specified under this Act.
92-93	148. Standing committees (1) A Taluk Panchayat shall have the following standing committees (a) General Standing Committee (b) Finance, Audit and Planning Committee 149. Functions of the standing committees	(1) The General Standing Committee shall perform functions relating to the establishment matters, communications, buildings, rural housing, village extensions, relief against natural calamities, water supply and all miscellaneous residuary matters. (2) The Finance, Audit and Planning Committee shall perform the functions relating to the finance of the Taluk Panchayat, framing of budgets, scrutinising proposals for increase of revenue, examinations of receipts and expenditure statement, consideration of all proposals affecting the finances of the Taluk Panchayat and general supervision of the revenue and expenditure of the Taluk Panchayat and co-operation, small savings scheme and any other function relating to the development plan of the Taluk. (4) The standing committee shall perform the functions referred to above to the extent the powers are delegated to them by the Taluk Panchayat.
161	314. Power of Taluk Panchayat to make regulations.-	(1) A Taluk Panchayat may subject to the provisions of this Act and the rules made under section 311 and with the previous sanction of the Government, by notification, make regulations to carry out the purposes of this Act in so far as it relates to its powers and duties. (2) The regulations made under sub-section (1) shall be subject to the conditions of previous publication and such publication shall be in such manner as may be prescribed.

The Kerala Panchayat Raj Act 1994		
Notification		
Page	Clause/ Section	Act Statement
120	172. Powers, duties and functions of block panchayats (1)(2)	(1) It shall be the duty of the block panchayat to meet the requirements of the block panchayat area in respect of the matters enumerated in the Fourth Schedule. (2) Subject to the other provisions of this Act and the direction of the Government the block panchayat shall have exclusive power to administer the matters enumerated in the Fourth Schedule 104[and to prepare and implement the schemes on the subject specified therein for the economic development and Social justice]
225	228[FOURTH SCHEDULE [See Sub-section (1) of section 172] Functions of Block Panchayats (A) General Functions (2) (3)	2. Provide technical assistance to Village Panchayats. 3. Prepare schemes taking into consideration the schemes of village panchayat in order to avoid duplication and to provide backward, forward linkage.
121-122	176. Entrustment of schemes to panchayats for implementation (1)	(1) Notwithstanding anything contained in any law for the time being in force, the Government may subject to the conditions as they may think fit to impose entrust, by an order published in the Gazette, to a panchayat at any level the implementation of such schemes of economic development and social justice including the schemes related to the matters enumerated in the eleventh schedule to the constitution as they think fit.
Plan Preparation		
Page	Clause/ Section	Act Statement
	5[3 A Powers, function and rights of the Grama Sabha (1) (a) (e)	(1) Grama Sabha shall, in such manner and subject to such procedure, as may be prescribed, perform the following powers and functions, namely:- (a) to render assistance in the collection and compilation of details required to formulate development plans of the panchayat; (e) to provide and mobilise voluntary service and contribution in cash or in kind necessary for the development plans;
122	175. Preparation of development plans by panchayats (4)	(4) The panchayat shall in addition to the annual and five year plans; prepare a perspective plan foreseeing a period of fifteen years, with special focus on spatial planning for infrastructure development and considering the resources and the need for further development and such plan shall be sent to the concerned District Planning Committee

128	182. Powers and functions of the Secretary (xvii)	Subject to the provisions of this Act and the rules made there under, the Secretary as executive officer of the panchayat shall (xvii) Co ordinate the preparation of the annual plans and five year plans within the time specified by the Government so as to enable the District Planning Committee to approve the same;
Plan Approval		
Page	Clause/ Section	Act Statement
122	175. Preparation of development plans by panchayats (4)	(4) The panchayat shall in addition to the annual and five year plans; prepare a perspective plan foreseeing a period of fifteen years, with special focus on spatial planning for infrastructure development and considering the resources and the need for further development and such plan shall be sent to the concerned District Planning Committee
Enforcement Mechanism		
Page	Clause/ Section	Act Statement
114	162.A. Subjects to be dealt with by the standing committees (1) (a) (ii)	(1) The following subjects shall be dealt with by the standing committees of the panchayat, namely: (a) in a village panchayat, (ii) The standing committee for development shall deal with the subjects of development planning, socio-economic planning, spatial planning , agriculture, soil conservation, social forestry, animal husbandry, dairy development, minor irrigation, fisheries, small-scale industry, public works, housing, regulation of building construction, electricity, etc;
114-115	162.A. Subjects to be dealt with by the standing committees (b) (ii)	(b) In the Block Panchayat, (ii) Standing Committee for development shall deal with the subjects like development planning, socio and economic planning, agriculture, animal husbandry, minor irrigation, fisheries, small-scale industry, public works, housing, electricity and maintenance of watershed;
114-115	162.A. Subjects to be dealt with by the standing committees (c) (ii) (iii)	(c) In the District Panchayat (ii) The standing committee for development shall deal with the subjects like development planning, socio-economic planning, agriculture, soil conservation, animal husbandry, minor irrigation, fisheries and small scale industry, etc. (iii) The standing committee for public works shall deal with the subjects like public works, housing, spatial planning and environment;

The M.P. Panchayat Raj Avam Gram Swaraj Adhiniyam, 1993		
Notification		
Page	Clause/Section	Act Statement
32	51. Entrustment of certain functions of State Government to Janpad Panchayat. -	<p>(1) The State Government may entrust, to a [Janpad Panchayat or Zila Panchayat] functions in relation to any matter to which the executive authority of the State Government extends or in respect of functions which have been entrusted to the State Government by the Central Government and the [Janpad Panchayat or Zila Panchayat] shall be bound to perform such functions. It shall have necessary powers to perform such functions.</p> <p>(2) Where functions are entrusted to a [Janpad Panchayat or Zila Panchayat] under sub-section (1), the [Janpad Panchayat or Zila Panchayat] shall in the discharge of those functions, act as an agent of the State Government.</p> <p>(3) There shall be paid by the State Government to the [Janpad Panchayat or Zila Panchayat] such sum as may be deemed necessary for discharging the functions entrusted to it under this section.</p> <p>(4) The [Janpad Panchayat or Zila Panchayat] shall, for the purposes of discharging the functions entrusted to it under this section, be under the general control of the State Government or any other authority appointed by it and shall comply with such directions as may from time to time be given to it.</p>
Plan Preparation		
Page	Clause/Section	Act Statement
9	[7GA. Preparing of long term development plan of Gram Sabha. -	<p>[7GA. Preparing of long term development plan of Gram Sabha. - The Gram Sabha shall evaluate next ten years approximate fund to be received, and make a ten years' long term plan for village development, with the help of experts and approve the same.</p> <p>(2) The plan under sub-section (1) shall be prepared keeping in view the land use plan and requirement of basic amenities of Gram Sabha, on priority basis of long term plan through a yearly plan based on the financial resources to be received per year to the Gram Kosh of a Gram Sabha.</p>
Plan Approval		
Page	Clause/Section	Act Statement
9	[7GA. Preparing of long term development plan of Gram Sabha. -	<p>[7GA. Preparing of long term development plan of Gram Sabha. - The Gram Sabha shall evaluate next ten years approximate fund to be received, and make a ten years' long term plan for village development, with the help of experts and approve the same.</p> <p>(2) The plan under sub-section (1) shall be prepared keeping in view the land use plan and requirement of basic amenities of Gram Sabha, on priority basis of long term plan through a yearly plan based on the financial resources to be received per year to the Gram Kosh of a Gram Sabha.</p>

Enforcement Mechanism		
Page	Clause/ Section	Act Statement
28- 29	47. Standing Committees of Janpad Panchayat and Zila Panchayat	<p>47. Standing Committees of Janpad Panchayat and Zila Panchayat. - (1) Every Janpad Panchayat and every Zila Panchayat shall from amongst its [elected members] constitute the following standing committees, namely:-</p> <p>(a) General Administration Committee. - For all matters connected with establishment and service of Janpad or Zila Panchayat Administration, Integrated Rural Development Programme Planning, Budget, Accounts, Taxation and other financial matters and subjects not covered by the functions allotted to any other committee;</p> <p>(b) Agriculture Committee. - For Agriculture, animal husbandry, power, reclamation including soil conservation and contour bunding and fisheries compost manuring, seed distribution and other matters connected with development of agriculture and live-stock.</p> <p>(c) Education Committee. - For education including adult education, social welfare of the disabled and the destitutes, women and child welfare, removal of untouchability, relief of distress caused by floods, drought, earthquakes, hail storm, scarcity, locust worms and other such emergencies, temperance or prohibition, health and sanitation, tribal and harijan welfare;</p> <p>(d) Communication and Works Committee. - For communication, minor irrigation, rural housing, rural water supply, drainage and other public works;</p> <p>e) Co-operation and Industries Committee. - For co-operation, thrift and small savings, cottage and village industries, markets ad statistics.</p> <p>(2) In addition to the five standing committees referred to in sub-section (1), a Janpad Panchayat or Zila Panchayat may with the approval of the prescribed authority, constitute one or more such committees for other matters not specified in the said sub-section.</p>

The Maharashtra Village Panchayats Act		
Notification		
Page	Clause/ Section	Act Statement
50	47 Powers of State Government to transfer execution of other works.	47. The State Government with the consent of the panchayat may at any time transfer to such panchayat the execution of any work promoting directly or indirectly the welfare of the villagers and it shall thereupon be lawful for such panchayat to undertake the execution of such work : Provided that in every such case the funds necessary for such execution shall be placed at the disposal of the panchayat by the State Government.
Plan Preparation		
Page	Clause/ Section	Act Statement
50	47 Powers of State Government to transfer execution of other works.	47. The State Government with the consent of the panchayat may at any time transfer to such panchayat the execution of any work promoting directly or indirectly the welfare of the villagers and it shall thereupon be lawful for such panchayat to undertake the execution of such work : Provided that in every such case the funds necessary for such execution shall be placed at the disposal of the panchayat by the State Government.
Plan Approval		
Page	Clause/ Section	Act Statement
19	8AA Powers and duties of Gram Sabha (i)	(i) to approve the social or economic development plans, programmes and projects to be implemented by the pan chayat before such plans, programmes and projects are taken up for implementation by such panchayat
58	54A. It shall be competent for every Gram Sabha in the Schedule Areas (b) (i)	(b) to approve the plans, programmes and projects to be implemented by the panchayat for social and economic development before such plans, programmes and projects are taken up for implementation by such panchayat (i) to make recommendation to the panchayat concerned with a view to exercise control over local plans and resources for such plans including tribal sub-plans

59	54 B.Powers and duties of panchayats in Scheduled Areas (n)	Every panchayat in the Scheduled Areas shall (n) be competent to get the plans, programmes and projects to be implemented for social and economic development before such plans, programmes and projects are taken up for implementation by such panchayat, approved by the Gram Sabha.
Enforcement Mechanism		
Page	Clause/ Section	Act Statement
50	49. Village Development Committees (1) (3) (4) (f)	<p>(1) A Gram Sabha may, in consultation with the panchayat, from amongst the members of the panchayat, representatives of community based organisations working in the panchayat area, village level functionaries of panchayat, Zilla Parishad, State Government and voters, constitute one or more Village Development Committees, by whatever name called.</p> <p>(3) Such committees shall exercise such powers, discharge such duties and perform such functions of the panchayat, as may be delegated or assigned to them by the Gram Sabha in consultation with the panchayat, relating to the subjects and activities enumerated in Schedule I and such other works and activities related to or associated with the panchayat as may be entrusted by the Gram Sabha, Zilla Parishad, Government or any other competent authority to the panchayat, from time to time. The Gram Sabha may, subject to the general supervision and control of panchayat, regulate the procedure of such committees.</p> <p>(4) The total number of the members in a Village Development Committee shall not be less than twelve and not more than twenty four.</p> <p>(f) the Gram Sabha may, also invite any village level Government, semi- Government, Zilla Parishad officials or employees working in the village, such as teachers, talathis, anganwadi sevikas, village water men, village health workers, to attend any meeting or meetings of the Village Development Committee, as a special invitee for the purpose of assisting or advising it on any matter or matters. Such special invitee may take part in the deliberations in the meeting but, shall have no right to vote in such meeting.</p>

The Manipur Panchayati Raj Act 1994		
Notification		
Page	Clause/ Section	Act Statement
34	63. Assignment of Functions (a) (2)	(a) The Governemnt may assign to Zilla Parishad, functions in relation to any matters to which the executive authority of the Government extends or in respect of functions which have been assigned to the State Government by the Central Government. (2) The Government may, notification, withdraw or modify the functions assigned under sub - section (1)
21	37. General Powers of the Gram Panchayat	A Gram Panchayat shall have powers to do all acts necessary for or incidental to the carrying out of the functions entrusted, assigned or delegated to it and in particular, and without prejudice to the foregoing powers, to exercise all powers specified under this Act
Plan Preparation		
Page	Clause/ Section	Act Statement
29-33	61. Functions and Powers of Zila Parishad (1) (2) (4e)	(1) Any transfer of subject to a Zila Parishad shall be with the approval of the Government from time to time (2) Subject to condition and exceptions as the Government may, form time to time, impose, it shall be the function of zilla Parishad tp prepare plans for economic development and social justice of the District and ensure coordinated implementation fo such plans in respect of matters includeing those mentioned below (setors like agriculture and agriculture extension, horticulture, education etc have been earmarked.) 4 (e) Coordinate and integrated development plan and schemes prepared by the Gram Pnachayat in the District.

Plan Approval		
Page	Clause/ Section	Act Statement
34	63. Assignment of Functions (a) (2)	(a) The Government may assign to Zilla Parishad, functions in relation to any matters to which the executive authority of the Government extends or in respect of functions which have been assigned to the State Government by the Central Government. (2) The Government may, notification, withdraw or modify the functions assigned under sub-section (1)
Enforcement Mechanism		
Page	Clause/ Section	Act Statement
34	65. Standing Committee (1)	The zilla Panchayat shall have the following Standing Committees namely: (a) General Standing Committee
35-36	66. Functions of Standing Committee (1) (8)	66 (1) The General Standing Committee shall perform functions relating to the establishment matters and functions relating to communication, buildings, rural housing, village extensions, relief against the natural calamities and allied matters and all other matters (8) The Standing Committees shall perform in respect of matters assigned to them such additional duties as may be prescribed.

Odisha Panchayat Samiti Act 1960 (PS), Odisha Gram Panchayat Act 1964 (GP), Odisha Zila Panchayat (ZP) Act 1991		
Notification		
Page	Clause/ Section	Act Statement
13 (PS)	20. Powers and functions of Panchayat Samiti (g)	(1) A Samiti shall, subject to such terms and conditions as Government may from time to time by order specify, exercise the powers and perform the functions hereinafter provided- (g) such other functions as may be assigned to it by the Government
Plan Preparation		
Page	Clause/ Section	Act Statement
13 (PS)	20. Powers and functions of Panchayat Samiti (1) (a) (a -i) (a -ii) (g) (5) (ii)	(1) A Samiti shall, subject to such terms and conditions as Government may from time to time by order specify, exercise the powers and perform the functions hereinafter provided- (a) Planning, Execution and supervision of development programmes scheme and works in the Block relating to community development including those pertaining to "Tribal Development Blocks" for the time being recognised by Government as such and such other programmes, schemes and works as Government may from time to time general or special order, direct in respect of any Saiti; (a-i) Preparation of Plans for economic development and social Justice; (a-ii) implementation of schemes for economic development and social justice and execution of any other scheme, performance of any act or management of any institution or organisation, as the Government may entrust to it including those in relation to matters listed in the Eleventh Schedule of the Constitution of India (g) such other functions as may be assigned to it by the Government (5) Notwithstanding anything to the contrary in this Act, in the Scheduled Area, the Samiti shall, in consultation with Grama Sasan, be competent- (ii) to prepare the local plans including tribal sub-plans for the area and to exercise control over the resources for such plans
Plan Approval		
Page	Clause/ Section	Act Statement
13 (PS)	20. Powers and functions of Panchayat Samiti (1) (a) (a-i) (a-ii)	(1) A Samiti shall, subject to such terms and conditions as Governemnt may from time to time by oprder specify, exercise th epowers and perform the functions hereinafter provided-

13 (PS)	20. Powers and functions of Panchayat Samiti (1) (a) (a-i) (a-ii)	<p>(a) Planning, Execution and supervision of development programmes scheme and works in the Block relating to community development including those pertaining to "Tribal Development Blocks" for the time being recognised by Government as such and such other programmes, schemes and works as Governemnt may from time to time general or special order, direct in respect of any Saiti; (a-i) Preparation fo Plans for economic development and social Justice;</p> <p>(a-ii) implementation of schemes for economic development and social justice and execution of any other scheme, performance of any act or management of any institution or organisation, as the Government may entrust to it including those in relation to matters listed in the Eleventh Schedule of the Constitution of India</p>
Enforcement Mechanism		
Page	Clause/ Section	Act Statement
13 (PS)	20. Powers and functions of Panchayat Samiti (1) (a) (a-i) (a-ii)	<p>(1) A Samiti shall, subject to such terms and conditions as Governemnt may from time to time by order specify, exercise th epowers and perform the functions hereinafter provided-</p> <p>(a) Planning, Execution and supervision of development programmes scheme and works in the Block relating to community development including those pertaining to "Tribal Development Blocks" for the time being recognised by Government as such and such other programmes, schemes and works as Governemnt may from time to time general or special order, direct in respect of any Saiti;</p> <p>(a-i)Preparation fo Plans for economic development and social Justice;</p> <p>(a-ii) implementation of schemes for economic development and social justice and execution of any other scheme, performance of any act or management of any institution or organisation, as the Government may entrust to it including those in relation to matters listed in the Eleventh Schedule of the Constitution of India</p>

The Punjab Panchayati Raj Act, 1994		
Notification		
Page	Clause/ Section	Act Statement
50	120. Entrustment of functions to Panchayat Samitis (1) (2) (3) (4)	<p>(1) The State Government may entrust, conditionally or unconditionally to a Panchayat Samiti, functions in relation to any matter, to which the executive authority of the State Government extends or in respect of functions which have been entrusted to the State Government by the Central Government and the Panchayat Samiti shall be bound to perform such functions.</p> <p>(2) Where functions are entrusted to a Panchayat Samiti under sub-section (1), the Panchayat Samiti shall, in discharge of such functions, act as an agent of the State Government.</p> <p>(3) Where by virtue of this section, powers and duties have been conferred or imposed as agency functions upon a Panchayat Samiti the Panchayat Samiti shall be paid by the State Government such sum as may be determined by the State Government in respect of any extra cost of administration incurred by the Panchayat Samiti in connection with the exercise of these powers and duties.</p> <p>(4) In so far as the Panchayat Samiti is required to act under this section it shall be under the general control of, and comply with such particular directions, if any, as may from time to time be given to it by the State Government or any other authority appointed by the State Government in this behalf.</p>
86	221. Delegation of powers (1) (2)	<p>(1) The State Government may, by notification, direct that any power exercisable by it under this Act, except the power to make rule, may also be exercisable by such officer as may be mentioned therein, in such cases and subject to such conditions, if any, as may be specified therein.</p> <p>(2) The Director may, by written order, direct that any power exercisable by him under this Act or rules, or regulations or bye-laws may also be exercisable by such officer as may be mentioned therein, in such cases and subject to such conditions, if any, as may be specified therein.</p>
Plan Preparation		
Page	Clause/ Section	Act Statement
47	119. Functions and duties of Panchayat Samiti (27)	<p>Subject to such exceptions and conditions as the State Government may by general or special order impose it shall be the duty of a Panchayat Samiti to provide for and make arrangements for carrying out the requirements of the area under its jurisdiction, in respect of the following matters, namely-</p> <p>(27) Such other functions as may be entrusted by the State Government.</p>

73	180. Functions of Zila Parishads (2) (e)	(2) In addition to the functions specified under sub-s. (1) the Zila Parishad may- (e) co-ordinate and integrate the development plans and schemes prepared by Panchayat Samitis in the district;
79-80	197. Functions of Chief Executive Officer of Zila Parishad (3)	(3) The Deputy Chief Executive Officer shall assist the Chief Executive Officer in the performance of his duties and shall act as a Planning Officer to advise the Chief Executive Officer in matters of plan formulation and shall be responsible for all matters relating to planning of the Zila Parishad including the preparation of plans for economic development and social justice and annual plan of the district
84	214. District Planning Committees (1) (2) (a) (i) (ii) (b)	(1) The District Planning Committee constituted in terms of the provisions of Article 243 ZD of the Constitution of India shall consolidate the plans prepared by the Panchayats, in every district, and shall also prepare draft development plan for the district as a whole. (2) Every District Planning Committee, referred to in sub-section (1) shall in preparing the draft development plan- (a) having regard to - (i) matters of common interest between the Panchayats and the municipalities including special planning, and sharing of water and other physical and natural resources, integrated development of infrastructural and environmental conservation; (ii) the extent and type of available resources whether financial or otherwise; and (b) consult such institutions and organisations as the State Government may, by order, specify.
Plan Approval		
Page	Clause/ Section	Act Statement
74	181. Duties and powers of Zila Parishad (1) (d) (e)	(1) A Zila Parishad shall advise, supervise and co-ordinate the functions of the Panchayat Samitis in the district. (d) co-ordinate and consolidate development plans prepared in respect of Panchayat Samitis; (e) secure the execution of plans, projects, schemes or other works common to two or more Panchayat Samiti in the district

Enforcement Mechanism		
Page	Clause/ Section	Act Statement
54	134. Standing Committees of Panchayat Samiti (1) (a)	
54	135. Functions of General Standing Committee of Panchayat Samiti (1)	(1) The General Standing Committee shall perform functions relating to the establishment matters, communications, building, rural housing, village extension, relief against natural calamities, water supply and all miscellaneous residuary matters
75	184. Standing Committee of Zila Parishads (1) (a)	(1) The Zila Parishad shall have the following standing Committees, namely:- (a) General Committee
76	185. Functions of the Standing Committee of Zila Parishad (1)	(1) The General Committee shall perform functions relating to the establishment matters and functions relating to communications, buildings, rural housing, village extensions, relief against the natural calamities and allied matters and all miscellaneous residuary matters.
79-80	197. Functions of Chief Executive Officer of Zila Parishad (3)	(3) The Deputy Chief Executive Officer shall assist the Chief Executive Officer in the performance of his duties and shall act as a Planning Officer to advise the Chief Executive Officer in matters of plan formulation and shall be responsible for all matters relating to planning of the Zila Parishad including the preparation of plans for economic development and social justice and annual plan of the district

Rajasthan Panchayati Raj Act, 1994		
Notification		
Page	Clause/Section	Act Statement
61	121. Committee for District Planning (1)	(1) The Government shall constitute in every district a District Planning Committee, hereinafter in this section, referred to as "the Committee" to consolidate the plans prepared by the Panchayati Raj Institutions and the Municipalities in the district and to prepare a draft development plan for the district as a whole.
61	121. Committee for District Planning (5) (a) (b)	(5) The committee shall have- (a) such functions relating to district planning as may be assigned to it by the Government; and (b) such powers as may be conferred on it by the Government .
Plan Preparation		
Page	Clause/Section	Act Statement
61 - 62	121. Committee for District Planning (7) (a) (i) (iii) (b)	(7) Every Committee shall be, in preparing the draft development plan,- (a) have regard to- (i) matters of common interest between the Panchayati Raj Institution and the Municipalities including spatial planning, sharing of water and other physical and natural resources, the integrated development of the infrastructure and environmental conservation, and (ii) the extent and type of available resources whether financial or otherwise, and (b) consult such institutions and organisations as the Government may be order, specify.
Plan Approval		
Page	Clause/Section	Act Statement
6	8E. Functions of the Gram Sabha (a)	The Gram Sabha shall, subject to such conditions and upto such extent and in such manner as may be specified by the State Government from time to time, perform the following functions:- (a) approve the plans, programmes and projects for social and economic development in order to priority from out of the plans, programmes and projects approved by the Ward Sabha before such plans, programmes and projects are taken up for implementation by the Panchayat

Enforcement Mechanism		
Page	Clause/ Section	Act Statement
32	55-A. Standing Committees of a Panchayat (1) (a) (b) (c) (d) (e)	<p>(1) Every Panchayat shall constitute standing committee, one each for the following group of subjects, namely:-</p> <p>(a) Administration and Establishment;</p> <p>(b) Finance and Taxation;</p> <p>(c) development and production programmes, including those relating to agriculture, animal husbandry, minor irrigation, co-operation, cottage industries and other allied subjects;</p> <p>(d) education; and</p> <p>(e) social services and social justice including rural water supply, health and sanitation, gramdan, communication, welfare of weaker sections and allied subjects.</p> <p>(2) A Panchayat may constitute a sixth Standing Committee for any of the subjects not enumerated in any group or groups mentioned in Sub-sec. (1).</p>

Sikkim Panchayat Act, 1993		
Notification		
Page	Clause/ Section	Act Statement
33	112.Direction by State Government	In the discharge of their functions the Gram Panchayat and the Zilla Panchayat shall be guided by such instructions or directions as may be given to them by the State Government from time to time in conformity with the provisions of this Act.
Plan Preparation		
Page	Clause/ Section	Act Statement
26	Chapter VII Powers and duties of Zilla Panchayat 69. Obligatory duties of Zilla Panchayat (Amended 1995) (j) (k) (l)	(j) preparing plans for all round development of the district after obtaining previous approval of the State Government and with such technical assistance as may be made available by the State Government (k) co-ordinating and integrating the development plans and schemes prepared by Gram Panchayat within its jurisdiction; (l) fulfilling any other obligation imposed by or under this Act or by any other law for the time being in fore or by general or special order or the State Government in this behalf;
38	127. Constitution of District Planning Committee (Amended 1995) (4) (5) (a) (i) (ii)	(4) The District Planning Committee shall consolidate the plans prepared by the Gram Panchayat, the Zilla Panchayats and the Nagar Panchayats in the district and prepare draft development plans for the district as a whole. (5) Every District Planning Committee shall, in preparing the draft development plan:- (a) have regard to:- (i) matters of common interest between the Panchayat and Municipalities including spatial Planning, sharing of water and other physical and natural resources, the integrated development of infrastructure and environment conservation. (ii) the extent type of available resources whether financial or otherwise;
Plan Approval		
Page	Clause/ Section	Act Statement
38	127. Constitution of District Planning Committee (Amended 1995) (6)	(6) The Chairman of every District Planning Committee shall forward the development plan, as recommended by the District Planning Committee, to the State Government for consideration, approval and implementation.

Enforcement Mechanism		
Page	Clause/ Section	Act Statement
38	<p>127. Constitution of District Planning Committee (Amended 1995) (1) (2) (a) (b) (c) (d) (e) (f) (3)</p>	<p>(1) The State Government shall constitute in every district a Committee called the District Planning Committee.</p> <p>(2) The District Planning Committee shall consist of the following Members, namely:-</p> <p>(a) Adhyaksha of the Zilla Panchayat;</p> <p>(b) Members of the Legislative Assembly of all the Assembly Constituencies comprised in the District;</p> <p>(c) Three members of the Zilla Panchayat besides the Adhakshya which shall include one from Nagar Panchayat;</p> <p>(d) An Economist/Senior Administrator appointed by the State Government;</p> <p>(e) District Collector;</p> <p>(f) The District Development Officer-cum-Panchayat Officer who shall be the Member Secretary.</p> <p>(3) The Adhakshya of the Zilla Panchayat shall be the Chairman of the District Planning Committee</p>

Tamil Nadu Panchayat Act 1994		
Notification		
Page	Clause/ Section	Act Statement
97	257. Power, authority and responsibilities of panchayats	257. Save as otherwise provided in this Act, the Government may, by notification and subject to such conditions and restrictions as may be specified therein, entrust to a panchayat or any other committee constituted under this Act with such powers and responsibilities with respect to the preparation of plans for economic development and social justice and also with such powers and authority as may be necessary to enable them to carry out the responsibilities conferred upon them including those in relation to the matters listed in Schedule-IV.
Plan Preparation		
Page	Clause/ Section	Act Statement
89	241 District Planning Committee 241 (I)	241. (I) The Government shall constitute in every district a District Planning Committee (hereinafter in this section referred to as the Committee) to consolidate the plans prepared by the district panchayats, panchayat union councils, village panchayats, town panchayats, municipal councils and municipal corporations in the district and to prepare a draft development plan for the district as a whole.
Plan Approval		
Page	Clause/ Section	Act Statement
90	241 District Planning Committee (7) (a) (i) (ii) (b)	(7) Every Committee shall, in preparing the draft development plan,- (a) have regard to,- (i) the matters of common interest between the district panchayats, panchayat union councils, village panchayats, town panchayats, municipal corporations and municipal councils in the district including spatial planning, sharing of water and other physical and natural resources, the integrated development of infrastructures and environmental conservation; (ii) the extent and type of available resources whether financial or otherwise; (b) consult such institutions and organisations as the Governor may, by order, specify.

Enforcement Mechanism		
Page	Clause/ Section	Act Statement
89	241 District Planning Committee (2) (a) (b) (c) (d) (e) (3) (4) (5)	<p>(2) The Committee shall consist of,</p> <p>(a) the members of the House of People who represent the whole or part of the district;</p> <p>(b) the members of the Council of States who are registered as electors in the district;</p> <p>(c) chairman of the district panchayat;</p> <p>(d) Mayor of the municipal corporation or chairmen of the municipal councils having jurisdiction over the headquarters of the districts;</p> <p>(e) such number of persons, not less than four-fifth of the total number of members of the Committee as may be specified by the Government, elected in the prescribed manner from amongst the members of the district panchayat, town panchayats and councillors of the municipal corporation and the municipal councils in the district, in proportion to the ratio between the population of the rural areas and of the urban areas in the district.</p> <p>(3) All the members of the Tamil Nadu Legislative Assembly whose constituencies lie within the district.</p> <p>(4) The secretary of the Committee shall be appointed by the Government in such manner and for such period as may be prescribed.</p> <p>(5) The Chair-person of the Committee shall be chosen in such manner as may be prescribed.</p>

The Telangana Panchayat Raj Act, 2018		
Notification		
Page	Clause/ Section	Act Statement
95	Chapter-II 52. Duties and Responsibilities and property of Gram Panchayat (3)	3) The Government may, in addition to the matters specified in sub-sections (1) and (2) subject to such rules as may be made in this behalf, entrust the Gram Panchayats with any other duties and functions, in relation to the subjects specified in Schedule-I, from time to time.
Plan Preparation		
Page	Clause/ Section	Act Statement
90 -93	Chapter -II 52. Duties and Responsibilities and property of Gram Panchayat (2) (C) (i) (i) (E)	(2) It shall be the duty of the Gram Panchayat to make provisions for the following:- (C) Preparation of Gram Panchayat Development Plan: (i) Gram Panchayat shall strive to transform the village into a model village and shall accordingly prepare a perspective plan for the Gram Panchayat. (ii) Preparation of village profile as prescribed by the Government (E) Layout Approvals and Building Permissions: Regulation of all layout approvals and building constructions in accordance with this Act and rules made in this behalf.
200	188. Responsibilities, functions and powers of the Zilla Praja Parishad (iii)	(iii) co-ordinate and consolidate the plans prepared in respect of the Mandals in the district and prepare plans in respect of the entire district;
Plan Approval		
Page	Clause/ Section	Act Statement
168-169	156. Responsibilities, functions and powers of a Mandal Praja Parishad (5)	(5) Approval of the Gram Panchayat Perspective Development Plan for five years and Annual Plan.
250	PART VII Special Provisions Relating To The Panchayats, Mandal Praja Parishads and Zilla Praja Parishads located in the Scheduled Areas 254 Functions of Gram Sabha (i)	(i) approve plans, programmes and projects for social and economic development before such plans, programmes and projects are taken up for implementation by the Gram Panchayat, at the village level;

Enforcement Mechanism		
Page	Clause/ Section	Act Statement
198	183. Standing Committees of aZilla Praja Parishad	<p>(1) For every Zilla Praja Parishad there shall be constituted the following Standing Committees, the subjects assigned to each such Standing Committee being those specified against it, namely-</p> <p>(ii) Standing Committee for Rural Development:- Poverty Alleviation Programmes, Area Development Programmes, Employment, Housing, Co-operation, Thrift and small savings, industries including cottage, village and small scale industries, trusts and statistics</p> <p>(2) Every Standing Committee shall consist of the Chairperson II of the Zilla Praja Parishad who shall be ex officio member and such other members as may be elected from the members of the Zilla Praja Parishad in accordance with the rules made in that behalf.</p>
198-199	184. Permanent invitees to Zilla Praja Parishad.	<p>(1) The following shall be the permanent invitees to the meeting of the Zilla Praja Parishad</p> <p>(i) the "Chairperson", District Co-operative Marketing Society;</p> <p>(ii) the "Chairperso", Zilla Grandhalaya Samstha;</p> <p>(iii) the "Chairperson", District Co-operative Central Bank;</p> <p>(iv) the District Collector;</p> <p>(v) all Presidents of Mandal Praja Parishads in the District.</p> <p>(2) The permanent invitees shall be entitled to participate in the meetings of the Zilla Praja Parishad without right to vote.</p>
251-252	252. Powers and functions of Gram Panchayats and Mandal Praja Parishads.	<p>(2) The Mandal Praja Parishad shall exercise such powers and perform such functions in such manner and to such extent as may be prescribed, in respect of the following matters, namely-</p> <p>(a) exercising control over institutions and functionaries in all social sectors; and</p> <p>(b) control over local plans and resources for such plans including tribal sub-plans</p>

The Tripura Panchayats Act, 1993		
Notification		
Page	Clause/Section	Act Statement
119	145 Assignment of functions (1)	(1) The Government may assign to Zilla Parishad functions in relation to any matters to which the executive authority of the Government extends or in respect of functions which have been assigned to the State Government by the Central Government. (2) The Government may, by notification, withdraw or modify the functions assigned under this section.
119	146. Delegation of powers	Zilla Parishad may, by notification, delegate to Chief Executive Officer or any other officer any of the powers conferred by or under this Act on Zilla Parishad.
Plan Preparation		
Page	Clause/Section	Act Statement
158 - 159	222. District Planning Committee (5) (a) (i) (6)	(5) Every District Planning Committee shall in preparing the draft development plan- (a) have regard to (i) the matters of common interest between the Zilla Parishad, the Panchayat Samitis, the Gram Panchayat, Notified Area authorities and Municipal authorities and other local authorities in the District including special planning, sharing of water and other physical and natural resources integrated development of infrastructure and environmental conservation; and (6) The Chairman of every District Planning Committees shall forward development plans as recommended by such committee to the State Government.
75	CHAPTER II Functions and Powers of Panchayat Samiti 91. Functions (4)	Subject to any general or special direction by the State Government, the Panchayat Samiti shall perform the following functions- (4) Performing such functions and executing such works as may be entrusted to it by the Government or the Zilla Parishad.
Plan Approval		
Page	Clause/ Section	Act Statement
111	Chapter II Powers, Functions and Duties of Zilla Parishad 143 Function of Zilla Parishad (2) (e)	(2) In addition, the Zilla Parishad may- (e) co-ordinate and integrate the development plans and schemes prepared by Panchayat Samitis in the District ;

80	93. Powers of Panchayat Samiti (1) (e)	(1) A Panchayat Samiti shall have power to - (e) co-ordinate and integrate the development plans and schemes prepared by Gram Panchayats in the Block, if and when necessary; and
75	CHAPTER II Functions and Powers of Panchayat Samiti 91. Functions (4)	Subject to any general or special direction by the State Government, the Panchayat Samiti shall perform the following functions- (4) Performing such functions and executing such works as may be entrusted to it by the Government or the Zilla Parishad.
158 - 159	222. District Planning Committee (5) (a) (i) (ii)	(5) Every District Planning Committee shall in preparing the draft development plan- (a) have regard to (i) the matters of common interest between the Zilla Parishad, the Panchayat Samitis, the Gram Panchayat, Notified Area authorities and Municipal authorities and other local authorities in the District including special planning, sharing of water and other physical and natural resources integrated development of infrastructure and environmental conservation; and (6) The Chairman of every District Planning Committees shall forward development plans as recommended by such committee to the State Government.

Enforcement Mechanism

Page	Clause/ Section	Act Statement
87	107 Standing Committees of the Panchayat Samiti (1) (h) (2) (a) (b) (c) (8) (9)	(1) The Panchayat Samiti shall have the following Standing Committees- (h) Such other Standing Committee or Committees as the Panchayat Samiti may subject to the approval of the State Government, constitute. (2) Each Standing Committee shall consist of the following members, namely:- (a) The Chairman of the Panchayat Samiti and Vice-Chairman of the Panchayat Samiti, ex-officio; (b) Not less than seven and not more than eleven persons to be elected in the prescribed manner by the members of the Panchayat Samiti from amongst themselves; (c) Such number of persons being officers of the State Government or any statutory body or corporation or being eminent persons having specialised knowledge, as the State Government may think fit, appointed by the State Government.

<p>87</p>	<p>107 Standing Committees of the Panchayat Samiti (1) (h) (2) (a) (b) (c) (8) (9)</p>	<p>Provided that such officers shall not be eligible for election as President of the Standing Committee and shall not have any right to vote.</p> <p>(8) The Standing Committees shall perform the functions referred to above to the extent the powers are delegated to them by the Panchayat Samiti.</p> <p>(9) The committees shall perform functions in respect of matters assigned to them and such additional duties as may be prescribed.</p>
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The Uttar Pradesh Kshetra Panchayats and Zila Panchayats Adhiniyam, 1961

Notification

Page	Clause/ Section	Act Statement
104	<p>Chapter IX Powers and Penalties in respect of Buildings, Public Drains and Streets,</p> <p>Regulations of Building</p> <p>163. Limitation to application of certain sections of this Chapter (1) (2)</p>	<p>(1) Without prejudice to any other provisions of this Act, the provisions of Sections 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 184, 186, 187, 209, 213 and 216 of this Chapter shall apply only to those portions of the rural area as have been specified by the Zila Panchayat under this section.</p> <p>(2) A Zila Panchayat may by resolution declare that the provisions of the sections mentioned in sub-section (1) or any one or more of them shall apply to any portion of the rural area of the district to be specified in the resolution and thereupon the provisions of the sections mentioned in the resolution shall apply to the area so specified which shall be called "controlled rural area".</p> <p>Provided that public notice of the resolution has been given to the residents of the controlled rural area in such manner as may be prescribed by rules.</p>

Plan Preparation

Page	Clause/ Section	Act Statement
48 159 - 162	<p>CHAPTER III Powers and Functions of Kshetra Panchayats and Zila Panchayat. 32. General powers and functions of the Kshetra Panchayats.</p> <p>SCHEDULE I (See Section 32) Power and Functions of Kshetra Panchayats (xxx) (a) (b) (c)</p>	<p>Every Kshetra Panchayat shall, within the Khand exercise powers and perform the functions specified in Schedule-I.</p> <p>(xxx) Planning and statistics :</p> <p>(a) Preparation of plan for economic development;</p> <p>(b) Review, co-ordination and integration of the plans by the Gram Panchayat;</p> <p>(c) Ensuring execution of the Khand and Gram Panchayat development plan;</p>
65	<p>63. Preparation of district plan (1) (2) (3)</p>	<p>(1) A Zila Panchayat shall prepare every year a development plan for the district after including the development plans of the Kshetra Panchayats of the district.</p> <p>(2) The plan referred to in sub-section (1) shall be prepared by the Karya Samiti of the Zila Panchayat in the manner prescribed and the Mukhya Adhikari shall lay such plan before the Niyojan Samiti, which may make such recommendations relating thereto, as it thinks fit.</p>

65	63. Preparation of district plan (1) (2) (3)	(3) The plan along with the recommendations, if any of the Niyojan Samiti shall be laid by the Adhyaksha before the Zila Panchayat which may approve it in such form as it may think fit, and shall submit it to the District Planning Committee referred to in Article 243-ZD of the Constitution by such date as may be prescribed.]
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Page	Clause/ Section	Act Statement
49	34. Transfer to any function by Zila Panchayat or Kshetra Panchayat to another local authority (3)	(3) The State Government may at any time direct that any power or function of the Zila Panchayat shall be transferred to the Kshetra Panchayats or the Gram Panchayats in the district, that any power or function of the Kshetra Panchayats shall be transferred to the Gram Panchayats or that any power or function of the Kshetra Panchayats shall be transferred to Zila Panchayat and of the Gram Panchayats to the Kshetra Panchayats or the Zila Panchayat.
77	92. Powers and responsibilities of the Khan Vikas Adhikari (1) (iv)	(1) The Khand Vikas Adhikari shall be the Chief Executive Officer of the Kshetra Panchayat and shall be responsible for implementing the resolutions of the Kshetra Panchayat and its Committees and shall in addition to powers, duties and functions which he is required in this Act to exercise and perform, and subject to any rules in this behalf, exercise and perform the following powers, duties and functions, namely – (iv) assisting the Gram Panchayat in their development work including drawing up of plans and their execution according to the standards and broad policy laid down by the State Government, the Zila Panchayat or the Kshetra Panchayat and bringing to the notice of the Kshetra Panchayat any defects in the execution of the aforesaid plans.
Enforcement Mechanism		
Page	Clause/ Section	Act Statement
66	64. Committees of Zila Panchayat (1) (a)	(1) As soon as may be, after the Zila Panchayat has been constituted or re-constituted under Section 22, it shall appoint the following committees in the manner and for performance of duties hereinafter provided : Karya Samiti;

<p>67</p>	<p>66. Constitution of Karya Samiti (1) (a) (b) (c) (d) (2) (3)</p>	<p>(1) The Karya Samiti shall consist of-</p> <p>(a) the Adhyaksha;</p> <p>(b) 4 [x x x]</p> <p>(c) Chairman of the Committee specified in Clauses (d) to (e) of subsection</p> <p>(1) of Section 64;</p> <p>(d) three or six persons to be elected by the members of the Zila Panchayat out of themselves, according as the number of such members is up to forty or above forty.</p> <p>(2) The Adhyaksha shall be the Chairman of the Karya Samiti.</p> <p>(3) The Mukhya Adhikari of the Zila Panchayat shall be the Secretary of the Karya Samiti.</p> <p>(a) Karya Samiti;</p> <p>(b) Vitta Samiti;</p> <p>2(c) Shiksha Evam Jan Swasthya Samiti;</p> <p>(d) Krishi, Udyog Evam Nirman Samiti; and Samata Samiti</p>
<p>74</p>	<p>87. Committees of Kshetra Panchayat –</p>	<p>(1) As soon as may be, after the Kshetra Panchayat has been constituted or reconstituted under Section 10, it shall appoint the following Committees in the manner and for performing the duties hereinafter provided– 2[(a) Karya Samiti;</p>
<p>75</p>	<p>89-A. Constitution of Committees of Kshetra Panchayats notified by the State Government –</p>	<p>1) Notwithstanding anything to the contrary contained in any other provisions of this Act or the rules made thereunder, every Kshetra Panchayat shall, in place of all or any of the Committees referred to in Section 87, hereinafter in his section referred to as the erstwhile Committee, constitute such other Committee or Committees, as may be notified by the State Government for exercise and performance of all or any of the powers, functions or duties assigned to the erstwhile Committee under this Act and may also delegate to such Committee or Committees such of its other powers, functions or duties as it may deem fit and upon Constitution of a Committee under this section in place of an erstwhile Committee with respect to that power, function or duty shall stand abolished and any reference to the erstwhile Committee in any provisions of this Act or the rules made thereunder shall be construed as a reference to the Committee constituted under this section.</p>

Uttarakhand Panchayati Raj Act, 2016		
Notification		
Page	Clause/ Section	Act Statement
60	<p>Powers and Penalties in Respect of Buildings, Public Drains and Streets, etc. Regulation of Building</p> <p>106C. Limitation to application of certain sections of this Chapter (1) (2)</p>	<p>(1) Without prejudice to any other provisions of this Act, the provisions of sections 106(d), 106(e), 106(f), 106(g), 106(h), 106(i), 106(j), 106(k), 106(l), 106(n), 106(o), 106(p), 106(r), 106(s), 106(t), 106(aa), 106(ac), 106(ad), 106(af), 106(ag), 106(bi), 106(bn) and 106 (bp) of this Chapter shall apply only to those portions of the rural area as have been specified by the Zila Panchayat under this section.</p> <p>(2) A Zila Panchayat may by resolution declare that the provisions of the sections mentioned in sub-section (1) or anyone or more of them shall apply to any portion of the rural area of the district to be specified in the resolution and thereupon the provisions of the sections mentioned in the resolution shall apply to the area so specified which shall be called controlled rural area;</p> <p>Provided that public notice of the resolution has been given to the residents of the controlled rural area in such manner as may be prescribed by rules.</p>
Plan Preparation		
Page	Clause/ Section	Act Statement
17	<p>22. General functions of Gram Panchayat (1) (i)</p>	<p>(1) Subject to such conditions as may be specified by the State Government through notification, may entrust provide all or additional or any of the following functions to the Gram Panchayat, -</p> <p>(i) make planning for the development of Panchayat and after approval of Gram Sabha forwarded it to the prescribed authority;</p>
23	<p>31. Delegation of powers by the Gram Panchayat.</p>	<p>Such powers, duties and functions of the Gram Panchayat which are not delegated to the Pradhan under the provisions of this Act, such powers and functions may be delegated by the resolution to any committee of Gram Panchayat or Up Pradhan.</p>
99	<p>140. Exercise of powers and performance of functions under the Act (1) (2) (3)</p>	<p>(1) Every Gram Panchayat, Kshetra Panchayat and Zila Panchayat shall exercise the powers and perform the functions conferred and entrusted or delegated to it by or under this Act.</p> <p>(2) Notwithstanding anything contained in this or any other law for the time being in force Kshetra panchayat or Zila Panchayat may entrust to Gram Panchayat or Zila Panchayat to Kshetra panchayat any of the function for the time being performed to such extent as prescribed and may withdraw the function so entrusted like wise, the State Government may, at any time, entrust to any Kshetra Panchayat or all Kshetra Panchayats or to any Zila Panchayat or all</p>

99	140. Exercise of powers and performance of functions under the Act (1) (2) (3)	<p>Zila Panchayats any of the functions for the time being performed by any of its departments below or at the district, level and to withdraw the function so entrusted.</p> <p>Where the State Government entrusts any function to the Gram Panchayat, Zila Panchayat or Kshettra Panchayat under sub-section (2), it may direct that any scheme, plan or project of the concerned department shall also be transferred to, and implemented by or under the control the Zila Panchayat or the Kshettra Panchayat, as the case may be.</p>
Plan Approval		
Page	Clause/ Section	Act Statement
17	22. General functions of Gram Panchayat (1) (i)	<p>(1) Subject to such conditions as may be specified by the State Government through notification, may entrust provide all or additional or any of the following functions to the Gram Panchayat,-</p> <p>(i) make planning for the development of Panchayat and after approval of Gram Sabha forwarded it to the prescribed authority;</p>
99	140. Exercise of powers and performance of functions under the Act (1) (2) (3)	<p>(1) Every Gram Panchayat, Kshettra Panchayat and Zila Panchayat shall exercise the powers and perform the functions conferred and entrusted or delegated to it by or under this Act.</p> <p>(2) Notwithstanding anything contained in this or any other law for the time being in force Kshettra panchayat or Zila Panchayat may entrust to Gram Panchayat or Zila Panchayat to Kshettra panchayat any of the function for the time being performed to such extent as prescribed and may withdraw the function so entrusted like wise, the State Government may, at any time, entrust to any Kshettra Panchayat or all Kshettra Panchayats or to any Zila Panchayat or all Zila Panchayats any of the functions for the time being performed by any of its departments below or at the district, level and to withdraw the function so entrusted.</p> <p>(3) Where the State Government entrusts any function to the Gram Panchayat, Zila Panchayat or Kshettra Panchayat under sub-section (2), it may direct that any scheme, plan or project of the concerned department shall also be transferred to, and implemented by or under the control the Zila Panchayat or the Kshettra Panchayat, as the case may be.</p>

Enforcement Mechanism		
Page	Clause/ Section	Act Statement
22 - 23	29. Rights of Gram Panchayat to frame bye-laws (1) (g) (2)	<p>(1) Subject to the provisions of this Act and the rules made thereunder and the bye-laws, if any, made by the prescribed authority, a Gram Panchayat may make by-laws, namely-</p> <p>(g) to regulate any other duties or functions of the Gram Panchayat as may be directed by the prescribed authority.</p> <p>(2) The draft of bye-laws framed by Gram Panchayats shall be published in the prescribed manner. Any objections received thereto shall be considered at a meeting of the Gram Panchayat and the bye-laws shall then be submitted together with the objections, if any, received and the decisions taken thereon to the prescribed authority. The bye-laws as sanctioned by the prescribed authority shall come into force after they have been published in the prescribed manner; Provided that the State Government at any time rescind or modify any bye-laws so approved.</p>
100	145. Powers and duties of Committees (1) (b)	<p>The duties and powers of establish Committees of the Gram Panchayat, Kshetra Panchayat and Zila Panchayat shall be following-</p> <p>(1) Planning and Development Committee shall perform duties and exercise powers of the concerning works from following subjects-</p> <p>(a) to keep knowledge on the financial subject of the concerning panchayat and creation the source of income;</p> <p>(b) to prepare annual work planning for the concerning Panchayat;</p>
109	161. Joint Committee (1) (a) (b) (2) (3)	<p>(1) Subject to such rules as may be prescribed, two or more Gram Panchayats may combine by means of a written instrument to appoint a joint committee consisting of their representatives, for the purpose of transacting any business in which they are jointly interested and may-</p> <p>(a) delegate to such powers to the committee powers, with such conditions as they may think proper to impose, to frame any scheme binding on each such Gram Panchayat as to the construction and maintenance of any joint work and as to the powers which may be exercised by any such Gram Panchayat in relation to such scheme;</p> <p>(b) frame or modify rules regarding the continuation of such committee and the term of office, members thereof and the method of conducting proceedings and correspondence.</p> <p>(2) If any difference of opinion arises, between the Gram Panchayats acting under this section, it shall be referred to the prescribed authority whose decision thereon shall be final.</p> <p>(3) Where the prescribed authority so directs, two or more Gram Panchayats shall appoint a Joint Committee under this section for the joint discharge of any of the functions specified in Sub-section (1).</p>

26	42. Function of the Land Management Committee (1) (c) (h)	<p>(1) The Land Management Committee shall for and on behalf of the Gram Panchayat be charged with the general management, preservation and control of all property referred to-</p> <p>(c) the maintenance and development of abadi sites and village communications;</p> <p>(h) any other matter relating to such management, preservation and control as may be prescribed and may exercise all powers of the Gram Panchayat necessary for or incidental to the discharge of such duties.</p>
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West Bengal Panchayati Raj Act, 1973		
Notification		
Page	Clause/ Section	Act Statement
92 - 93	<p>Section : 114</p> <p>Key Word : Vesting Panchyat Samiti with certain powers. (Part III.- Panchyat Samiti - Chapter IX - Power and duties of Panchyat Samiti - Section - 114) (1) (3) 114A (1)</p>	<p>(1) A Panchayat Samiti may be vested by the State Government with such powers under any local or special Act as the State Government may think fit.</p> <p>(3) A Panchayat Samiti shall exercise such other powers, perform such other functions or discharge such other duties as the State Government may, by general or special order, direct.</p> <p>1114A.</p> <p>(1) Without prejudice to the generality of the power under section 1 14 and notwithstanding anything contained in sections 23, 24 and 25, the State Government may, in the public interest, declare, by notification, its intention to prepare and publish a Development Plan in respect of an area within the jurisdiction of a Panchayat Samiti in accordance with such procedure as may be prescribed or in accordance with the provisions of any other law for the time being in force and, upon the issue of such notification, no new structure or new building shall be erected or constructed or no addition to any structure or building shall be made in such area except with the permission granted by the Panchayat Samiti or any authority, person or persons as may be empowered by the Panchayat Samiti in this behalf and except in accordance with such specifications and conditions as may be prepared and published by the Panchayat Samiti or such authority, person or persons, as the case may be.</p> <p>(2) Upon the publication of a Development Plan under subsection (1), [the provisions of sections 23, 24 and 25] shall cease to be in force in the area referred to in subsection (1).</p>
Plan Preparation		
Page	Clause/ Section	Act Statement
27	<p>Section: 19</p> <p>Key Word : Obligatory duties of Gram Panchayat. (Part II.- Gram Panchayat- Chapter III - Power and duties of Gram Panchayat- Section-19) (1) (a)</p>	<p>(1) A Gram Panchayat shall function as a unit of self-government and, in order to achieve economic development and secure social justice for all, shall, subject to such conditions as may be prescribed or such directions as may be given by the State Government,—</p> <p>(a) prepare a development plan for the five-year term of the office of the members and revise and update it as and when necessary with regard to the resources available;</p>

<p>89 - 90</p>	<p>Section: 109 Key Word Power of Panchyat Samiti. (Part III. - Panchyat Samiti -Chapter IX – Power and duties of Panchyat Samiti -Section - 109) Power of Panchyat Samiti (1) (i) (a) (iv) (2) (3)</p>	<p>(1) 1[A Panchayat Samiti shall function as a unit of self-government and, in order to achieve economic development and secure social justice for all, shall prepare—</p> <p>(i) a development plan for the five-year term of the office of the members, and</p> <p>(a) (ii) undertake execution of any scheme, performance of any act, or management of any institution or organisation entrusted to it by the State Government or any other authority;</p> <p>89-90 Section: 109</p> <p>Key Word Power of Panchyat Samiti. (Part III.- Panchyat Samiti -Chapter IX – Power and duties of Panchyat Samiti -Section - 109) Power of Panchyat Samiti (1) (i) (a) (iv) (2) (3)</p> <p>(iv) (e) co-ordinate and integrate the development plans and schemes prepared by Gram Panchayats in the Blocks if and when necessary;</p> <p>(2) Notwithstanding anything in sub-section (1), a Panchayat Samiti shall not undertake or execute any scheme confined to an area over which a Gram Panchayat has jurisdiction unless the Gram Panchayat is of opinion that the implementation of such a scheme is beyond its competence financially or otherwise and passes a resolution to that effect. In the latter case the Panchayat Samiti may execute the scheme itself or entrust its execution to the Gram Panchayat. and give such assistance as may be required:</p> <p>Provided that a Panchayat Samiti may undertake or execute any scheme referred to in sub-clause (ii) of clause (a) of sub-section (1) confined to an area over which a Gram Panchayat has jurisdiction.</p> <p>(3) A Panchayat Samiti may undertake or execute any scheme if it extends to more than one Gram.</p>
<p>93-94</p>	<p>Section : 114 Key Word : Vesting Panchyat Samiti with certain powers. (Part III.- Panchyat Samiti - Chapter IX – Power and duties of Panchyat Samiti - Section - 114) (8) (a) (b) (c)</p>	<p>(8) If it appears to the Panchayat Samiti 2[or the authority, person or persons empowered under sub-section (1)] that it is expedient in the interest of the proper planning of its areas (including the interest or amenities), having regard to the Development Plan prepared, or under preparation, or to be prepared, and to any other material consideration,—</p> <p>(a) that any use of land should be discontinued, or</p> <p>(b) that any conditions should be imposed on the continuance thereto, or</p> <p>(c) that any building or works should be altered or removed, 3[the Panchayat Samiti or the authority, person or persons as aforesaid may] by notice served on the owner—</p>

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Page	Clause/ Section	Act Statement
92 - 93	<p>Section: 114</p> <p>Key Word : Vesting Panchayat Samiti with certain powers. (Part III.- Panchayat Samiti - Chapter IX – Power and duties of Panchayat Samiti - Section - 114)</p>	<p>(1) A Panchayat Samiti may be vested by the State Government with such powers under any local or special Act as the State Government may think fit.</p> <p>(3) A Panchayat Samiti shall exercise such other powers, perform such other functions or discharge such other duties as the State Government may, by general or special order, direct.</p> <p>1114A.</p> <p>(1) Without prejudice to the generality of the power under section 1 14 and notwithstanding anything contained in sections 23, 24 and 25, the State Government may, in the public interest, declare, by notification, its intention to prepare and publish a Development Plan in respect of an area within the jurisdiction of a Panchayat Samiti in accordance with such procedure as may be prescribed or in accordance with the provisions of any other law for the time being in force and, upon the issue of such notification, no new structure or new building shall be erected or constructed or no addition to any structure or building shall be made in such area except with the permission granted by the Panchayat Samiti or any authority, person or persons as may be empowered by the Panchayat Samiti in this behalf and except in accordance with such specifications and conditions as may be prepared and published by the Panchayat Samiti or such authority, person or persons, as the case may be.</p> <p>Upon the publication of a Development Plan under subsection (1), [the provisions of sections 23, 24 and 25] shall cease to be in force in the area referred to in subsection (1).</p>
Enforcement Mechanism		
Page	Clause/ Section	Act Statement
37	<p>Section : 30 Key Word : Joint Committees. (Part II. - Gram Panchayat-Chapter III – Power and duties of Gram Panchayat-Section-30)</p>	<p>(1) Subject to such rules as may be prescribed, two or more Gram Panchayats may combine, by a written instrument duly subscribed \ by them, to appoint a Joint Committee consisting of such representatives as may be chosen by the respective Gram Panchayat. for the purpose of transacting any business or carrying out any work in which they are jointly interested and may—</p> <p>(a) delegate to such Committee the power, with such conditions as the Gram Panchayats may think fit to</p>

		<p>impose, to frame any scheme binding on each of the constituent Gram Panchayats as to the construction and maintenance of any joint work and the power, which may be exercised by any such Panchayat in relation to such scheme; and</p> <p>(b) frame or modify rules regarding the constitution of such committees and the term of office of the members thereof and the method of conducting business.</p>
92 - 93	<p>Section : 114</p> <p>Key Word : Vesting Panchayat Samiti with certain powers. (Part III.- Panchayat Samiti - Chapter IX – Power and duties of Panchayat Samiti - Section - 114) (1) (3) 114A (1) (2)</p>	<p>(1) A Panchayat Samiti may be vested by the State Government with such powers under any local or special Act as the State Government may think fit.</p> <p>(3) A Panchayat Samiti shall exercise such other powers, perform such other functions or discharge such other duties as the State Government may, by general or special order, direct.</p> <p>1114A.</p> <p>(1) Without prejudice to the generality of the power under section 1 14 and notwithstanding anything contained in sections 23, 24 and 25, the State Government may, in the public interest, declare, by notification, its intention to prepare and publish a Development Plan in respect of an area within the jurisdiction of a Panchayat Samiti in accordance with such procedure as may be prescribed or in accordance with the provisions of any other law for the time being in force and, upon the issue of such notification, no new structure or new building shall be erected or constructed or no addition to any structure or building shall be made in such area except with the permission granted by the Panchayat Samiti or any authority, person or persons as may be empowered by the Panchayat Samiti in this behalf and except in accordance with such specifications and conditions as may be prepared and published by the Panchayat Samiti or such authority, person or persons, as the case may be.</p> <p>Upon the publication of a Development Plan under subsection (1), [the provisions of sections 23, 24 and 25] shall cease to be in force in the area referred to in subsection (1).</p>
445	<p>Part-II Gram Panchayat Administration Chapter XI Upa-Samitis and Gram Unnayan Samitis of a Gram Panchayat (70)</p>	<p>70. Constitution of Gram Unnayan Samiti.—(I) Each Gram Sansad shall in an extraordinary meeting convened by the Gram Panchayat within such period of time as may be notified by the State Government for the purpose, shall constitute a Gram Unnayan Samiti.</p>

<p>445</p>	<p>Part-II Gram Administration Chapter XI Upa-Samitis and Gram Unnayan Samitis of a Gram Panchayat (2)</p>	<p>(2) The Gram Unnayan Samiti may constitute the functional committees, consisting of three to four members and invite any other member of Gram Sansad having technical knowledge to assist the Gram Unnayan Samiti and/or any of the functional committees.</p>
<p>447 - 449</p>	<p>Part-II Gram Administration Chapter XI Upa-Samitis and Gram Unnayan Samitis of a Gram Panchayat (74)</p>	<p>74. Functions of a Gram Unnayan Samiti.—(1) The functions of a Gram Unnayan Samiti shall be to help and assist the Gram Sansad in the preparation and implementation of its perspective plan for five years and annual plan as a part of the same, for achieving the economic development and social justice. Such perspective plan and annual plans as adopted by the Gram Sansad may be the basis of the Gram Panchayat plan. In doing so, the Gram Unnayan Samiti shall—</p> <p>(a) identify the need of the Gram Sansad area with the participation of villagers, prepare the budget for the Gram Sansad',</p> <p>(e) mobilize local resources to augment the Gram Panchayat and the Gram Sansad fund;</p> <p>(0 identify local, natural, physical and human resources which are lying unutilised or under- utilized and also suggest measures and mobilize public opinion within the Gram Sansad for optimum utilization of resources so unutilized and underutilized;</p> <p>(g) prioritise the projects and schemes for implementation with the available resources in consultation with the villagers.</p>
<p>447 - 449</p>	<p>Part-II Gram Administration Chapter XI Upa-Samitis and Gram Unnayan Samitis of a Gram Panchayat (2) (3) (4) (5) (6) (7) (8) (9)</p>	<p>(2) The Gram Unnayan Samiti shall promote the livelihood opportunities for all adult members of the Gram Sansad through proper and planned utilization of the available resources including the greater access to credit from the financial institution of the Gram Sansad fund and its repayment.</p> <p>The Gram Unnayan Samiti shall plan, implement and monitor development of sports and cultural activities.</p> <p>(4) The Gram Unnayan Samiti shall help village- level functionaries to extend their outreach, to spread awareness among people about livelihood, health, nutrition, education, abolition of disparities based upon gender, utilization and repayment of credit, including the protection of environment and ensure the participation of all in reaching the goals related to those areas.</p>

		<p>(5) The Gram Unnayan Samiti shall ensure preparedness to prevent and tackle the natural calamities, epidemic or diseases and to organize storage of grains to provide food security during lean months and natural calamities.</p> <p>(6) The Gram Unnayan Samiti shall promote and nurture neighbourhood groups and user groups of the poor for their social and economic development and act as an information centre, data bank and facilities reaching to the various services to the people.</p> <p>(7) The Gram Unnayan Samiti shall report on the progress or problems of various activities to the Gram Sansad and Gram Panchayat and if necessary, seek intervention of the Gram Panchayat in resolving the problems or disputes and to promote participation of all Gram Sansad members in the Gram Sansad meetings.</p> <p>(8) The Gram Unnayan Samiti shall mobilize people around the Gram Sansad for expansion of social opportunities and in the process link up the activities of the Gram Sansad with those of the concerned Gram Panchayat.</p> <p>(9) The Gram Unnayan Samiti shall take a consensus decision for performing its functions. In case of difference of opinion among its members, the matter shall be decided by the majority decision</p>
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Appendix 7.2

Recommended Levels of Illumination and Mounting Height of Luminaires

Road Characteristics	Average Level of Illumination on Road Surface in Lux	Ratio of Minimum/Average Illumination	Type of Luminaire Preferred	Min: Max (%)	Mounting Height of Luminaires
Important traffic routes carrying fast traffic	30	0.4	Cut-off	33	9 to 10 meters
Main roads carrying mixed traffic like city main roads/streets, arterial roads, throughways	15	0.4	Cut-off	33	9 to 10 meters
Secondary roads with considerable traffic like local traffic routes, shopping streets	8	0.3	Cut-off or semi-cut-off	20	7.5 to 9 meters
Secondary roads with light traffic	4	0.3	Cut-off or semi-cut-off	20	7.5 to 9 meters

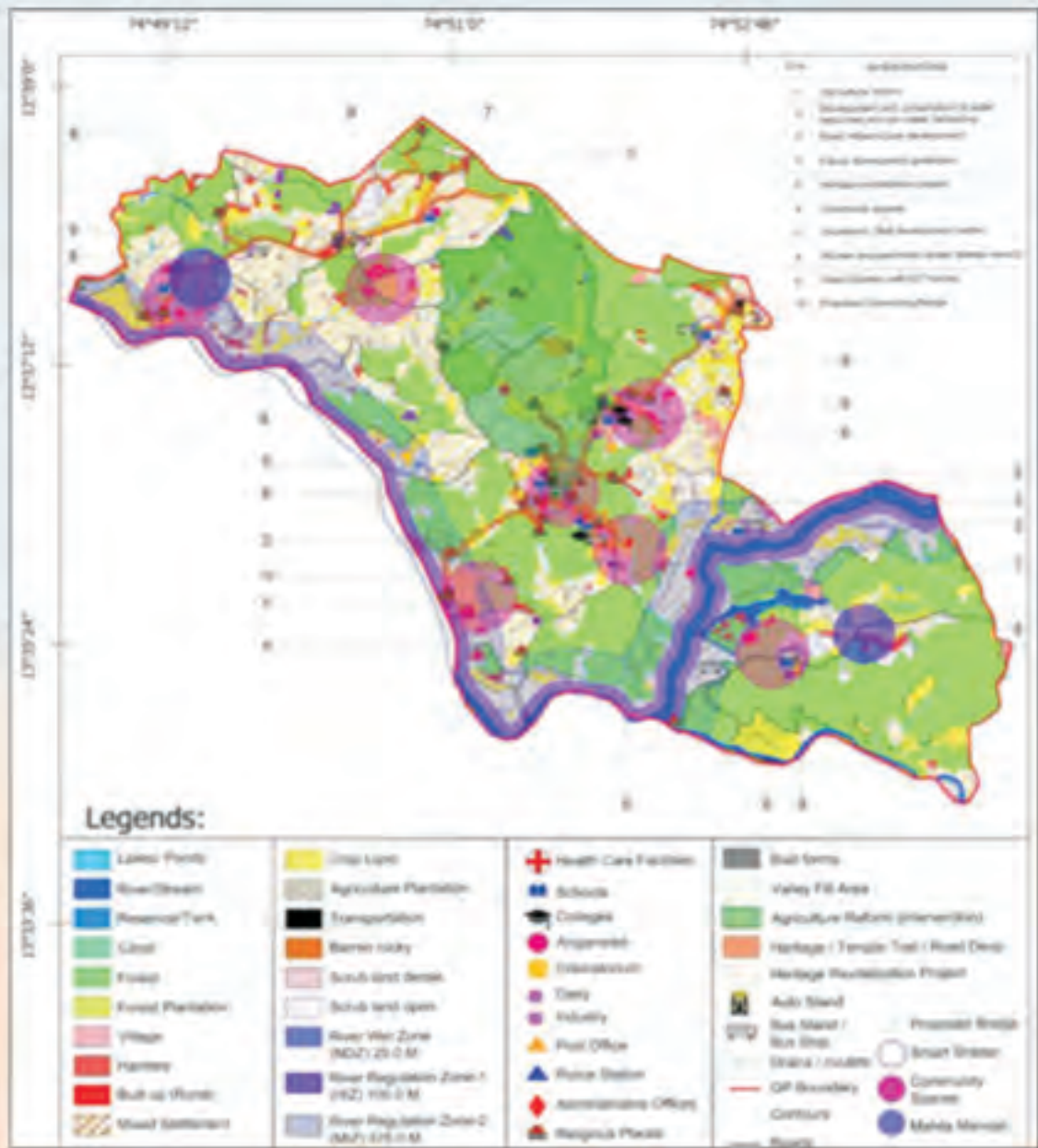
Source: BIS 1981

List of LED Standards of BIS

S. No.	IS No.	Equivalent International Standard No.	Title
1.	16101:2012	IEC 62504 TS	General Lighting - LEDs and LED Modules - Terms & Definition
2.	16102 (Part 1): 2012	IEC 62560	Self - ballasted LED lamps for General Lighting Services Part 1 - Safety Requirements
3.	16102 (Part 2): 2012	IEC 62612	Self - ballasted LED lamps for General Lighting Services Part 2 - Performance Requirements
4.	16103 (Part 1): 2012	IEC 62031	Led Modules for General Lighting Part 1 - Safety Requirements
5.	16103 (Part 2): 2012	IEC 62717	Led Modules for General Lighting Part 2 - Performance Requirements
6.	15885 (Part 2/Sec 13): 2012	IEC 61347-2-13, Ed 1 2006-05	Safety of Lamp Control Gear Part 2 - Particular Requirements Section 13 - DC or AC Supplied Electronic Control Gear for Led Modules
7.	16104 : 2012	IEC 62384	DC or AC Supplied Electronic Control Gear for LED Modules Performance Requirements
8.	16105 : 2012	LM 80/	Method of Measurement of Lumen Maintenance of Solid State Light (LED) Sources
9.	16106 : 2012	LM 79/ IEC 60598	Method of Electrical and Photometric Measurements of Solid State Lighting (LED) Products
10.	16107 (Part 1) : 2012	34D/950/NP	Luminaries Performance Part 1 - General Requirements
11.	16107 (Part 2) : 2012	34D/977/DC	Luminaries Performance Part 2 - Particular Requirements
12.	16108 : 2012	IEC 62471	Photo-biological Safety of Lamps and Lamp Systems

Benchmarks for LED Streetlights

Wattage	20W
LED Luminaire efficacy	90-120 lumen/W
Lumen maintenance	50,000 hr
Streetlight spacing	5m height, 5m road width and 21m Spacing
Lux level	Average 4 lux at road level with uniformity min/average > 0.3 and min / max > 0.2
Warranty for LED	Not less than 5 years against mfg. defects
Warranty for electronic driver	5 years on Mfg. defects with replacement warranty
Replacement warranty for LED	Not less than 5 years against Mfg. defects
Replacement warranty for Electronic driver	Not less than 5 years against Mfg. defects
Operation & Maintenance	<ul style="list-style-type: none"> • Maintenance work taken up to include replacement of faulty material in all streetlights, poles, brackets, underground and overhead cables complete accessories in all respects; periodic (monthly) cleaning of streetlight & fittings • Comprehensive Maintenance Contract (CMC) to be free of cost for a minimum of three years, after which the vendor could charge cost of maintenance for subsequent years of project life • The CMC service shall include examination of the installation during regular working hours by trained persons in consultation with the Panchayats and shall include all necessary supplies and genuine standard parts to keep the lighting and the controllers in proper working order • The vendor to be intimated about defective fittings by the field engineers of the department • The supplier should inspect/repair/collect/deliver the faulty/replacement fitting at Village Panchayat within 24-36 hours



सत्यमेव जयते

**Ministry of Panchayati Raj
Government of India**