

**ASSESSMENT OF EMPLOYMENT GENERATION AND
RESOURCE CREATION: A CASE STUDY OF MNREGS IN
RAJASTHAN**

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CERTIFICATE

Certified that the dissertation entitled "ASSESSMENT OF EMPLOYMENT GENERATION AND RESOURCE CREATION: A CASE STUDY OF MNREGS IN RAJASTHAN", is submitted by "Raj Kumar" in the partial fulfillment of the award of Master of Philosophy of Jawaharlal Nehru University is a bonafied and original work to the best of our knowledge and may be placed before the examiners for evaluation. This dissertation has not been submitted for the award of any degree of this university or of any other university.

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DEDICATED TO

My family for their constant support

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2	IRDPs	Integrated Rural Development Programmes
3	SGSY	Swarna Jayanti Gram Swarozgar Yojana
4	JRY	Jawahar Rozgar Yojana
5	EGS	Employment Guarantee Scheme
6	JGSY	Jawahar Gram Samridhi Yojana
7	MNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
8	PRIs	Panchayati Raj Institutions
9	NSA	Net Sown Area
10	TGA	Total Geographical Area
11	NNRMS	National Natural Resource Management System
12	NBSS & LUP	National Bureau of Soil Survey and Land Use Planning
13	CPRs	Common Property Resources
14	LGP	Length of Growing Period
15	FFW	Food for Work
16	AER	Agro-ecological Regions

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Chapter I

Introduction to the Study and Literature Review

1.1 Introduction:

In spite of a high rate of growth in the economy, the Indian economy suffers from several distortions. The incidence of poverty in the country is still very high, at 26.6 percent with the bottom 10-15 percent poor frequently suffering from starvation, largely emanating from the lack of adequate purchasing power.¹ The rate of growth of employment has slowed down in the post reforms period raising the backlog of under employment in the economy. The agricultural sector is lagging behind experiencing a very low rate of growth, and natural resources around which the livelihood of many is linked are getting depleted and degraded with economic growth. The infrastructure development in the rural areas is far from adequate to ensure a minimum quality of life to rural people, making the situation more vulnerable and hostile. The inequalities across regions and across different socio-economic groups are rising, with the poor in backward regions suffering maximum of basic deprivations.

The varied physiography and climatic conditions of the country makes this situation more aggravated. The western Himalayas covering the eastern aspect of Ladakh Plateau, including Leh and its surroundings represents the cold arid agro-ecosubregion.² The western plain hot arid ecosystem of India represents the western parts of Rajasthan and extreme southern parts of Ferozpur.³ The hot and hyper arid agro-climatic conditions which are characterized by very hot, dry summers and cool winters make the area more vulnerable for livelihood. Agriculture, which is the most dominant land use, is mainly rainfed and subjected to high risk and uncertainty.

The area under wasteland and uncultivated land is higher and the irrigation facilities are not adequate, living the region more prone to vulnerability. However the marginal lands have been brought under cultivation, the intensity of cultivation,

¹ Hirway, I. and Singh, H. (2006), "Concurrent Monitoring of National Rural Employment Guarantee Act; Feedback from the Field", Ministry of Rural Development, Government of India and UNDP.

² Velayutham, M., Mandal, D. K., Mandal, C. and Sehgal, J. (1999), "Agro-ecological Subregions of India for Planning and Development", NBSS, Publ. 35, pp.372, NBSS&LUP, Nagpur, India.

³ Ibid. p.17.

particularly in rainfed lands, has not increased to that extent. All conditions are very hostile for the existence of life, yet, large human and livestock populations inhabit the area. The area is mainly affected by the loss of top soil and terrain deformation due to wind erosion in addition to fast degradation of forest cover due to deforestation and over grazing causing accelerated desertification and land degradation.

In spite of these factors, due to the unpredictability of the monsoon, natural disasters such as droughts, floods, etc. are common features in different parts of the country. To mitigate the effect of these disasters and hostile living conditions, public employment programmes were started to provide employment and wages to affected people. Over the years, however, they were seen as an instrument of using surplus labour for generating capital goods for increasing labour absorbing capacity of the mainstream economy. PEPs generate employment and create productive assets that enhance the livelihood of the poor.

Numerous studies have revealed that investment in rural infrastructure is one of the most potent tools that governments can use to enhance growth and reduce poverty in rural areas. The main purpose of the PEPs is to provide a livelihood during the lean agricultural season as well as during drought and floods. Under these programmes, villagers worked to improve the village infrastructure such as deepening the village ponds, constructing village schools and improving the rural roads. Thus the programmes not only provided employment to the villagers but also improved village infrastructure and created village public assets.

The National Rural Employment Guarantee Act 2005⁴ is a continuation of these public employment programmes. The act takes inspiration from the Employment Guarantee Scheme of Maharashtra⁵ which emerged due to political mobilization of the poor in 1972 (Patel, 2006). The creation of productive assets as water conservation

⁴ The NREGA has been renamed as Mahatma Gandhi National Rural Employment Guarantee Act on 2nd October 2009.

⁵ This was launched in the 1970s, initially as a relief programme to overcome the effect of severe droughts.

structures, drought proofing, flood control and rural connectivity is a part of long term development approach. The objectives of these productive assets are to provide basic livelihood facilities through 100 days of employment and creation of rural infrastructure.

The PEPs are transitional programmes that contribute towards transforming a labour surplus economy into a full employment economy in the long run. Productive assets expand employment and incomes, and improve quality of life as well as productivity of workers in multiple ways. For example, construction of drinking water facility in a village (through constructing rain water harvesting structures), construction of drainage facilities for disposal of waste water as well as rain water and developing facilities for disposal of solid waste and organizing public sanitation and hygiene can go a long way in improving quality of life in the village.

1.2 Statement of the Problem:

The rainfed regions cover 177 districts and are mostly concentrated in arid and semi arid areas of the country. These regions account for 68 % of the total net sown area in the country. The dryland areas are highly degraded and suffer from serious water management problems. Due to the impact of Green Revolution global grain production doubled, greatly reducing food shortages, but at high environmental cost. The forests which are mostly of tropical and sub-tropical in nature are most sensitive to biotic and climatic factors. The forest vegetation is largely disturbed because of the increasing rate of deforestation due to unsustainable extraction of timber, fuelwood, fodder as well as forestland conversions.

The increased urbanization and abnormal trends of precipitation are severely infringing the overall existence of surface water resources and wetlands across the country. Such seasonal and perennial water bodies serving as backbone of crop production need to be monitored to attain sustainable management of water resources. The productive use of wastelands would add to the economic and ecological amelioration of the system. Rajasthan with different agro-climatic zones constitute distinctive land use

land cover characteristics. The vast area under wastelands, scrub lands and fallow lands add to the vulnerability of the region. The implementation of PEPs like MNREGS for generating rural guaranteed employment and creation of resources in these arid and semi-arid regions, tries to mitigate the adverse effects of the agro-climatic factors.

1.3 Review of Literature:

The review of literature studied the carving of agro-ecological zones of India, livelihood conditions and the effectiveness of PEPs in these adverse conditions.

India is a diverse country with varying physical and climatic features. The livelihood system in these different agro-climatic zones is of varying nature. An agro-climatic zone is a land unit uniform in respect of climate and length of growing period which is climatically suitable for a certain range of crops and cultivators (**FAO, 1983**). An agro-ecological region is the land unit on the earth's surface carved out of agro-climatic region when superimposed on different landforms and soil conditions that act as modifiers of climate and LGP.⁶

Carter (1954) divided India into six climatic regions, ranging from arid to perhumid, based on the criteria of Thornthwaite system of climatic classification. **Krishnan and Singh (1968)** delineated soil climatic zone by superimposing moisture index and mean air temperature isopleths on broad soil types of India. **Murthy and Pandey (1978)** brought out 8 agro-ecological region map of India on the basis of physiography, climate (rainfall and potential water surplus/deficit), soils and agricultural regions. The approach depicts a good beginning of agro-ecological zoning in the country but it suffers from several limitations due to over generalization, having grouped together the areas having different physiography, temperature and soils in a zone.

The National Bureau of Soil Survey and Land Use Planning used the criteria based on LGP. The major advantage of LGP based criteria is that the LGP is the direct

⁶ Velayutham et al. (1999), supra note, p.1.

indication of moisture availability of a landform rather than total rainfall. The use of soil sub group associates provides qualitative information on soil depth. Within an agro-climatic region, several agro-ecoregions may result depending on soil-scape, length of growing period and other environmental conditions, including flora and fauna. The Bioclimatic concept has been extended from Thornthwaite and Mather moisture index to synchronized LGP concept.

In the hot arid ecosystem of India low and erratic rainfall, extremes of temperature, high evaporation loss, absence of perennial streams, and dune-covered and rocky/gravelly terrain, are the major factors influencing the land uses. The high availability of uncultivated lands including wastelands and fallow lands make the people to diversify the rural livelihood in non-farm activities. Rural livelihood diversification is defined as the process by which households construct a diverse portfolio of activities and social support capabilities for survival and in order to improve their standard of living.

Anke Niehof (2004) states that the livelihood system is seen as an open system interfacing with other systems and using various resources and assets to produce livelihood, with the household as the locus of livelihood generation. Livelihood is a multi-faceted concept, being both what people do and what they accomplish by doing it, referring to outcomes as well as activities. It takes holistic consideration of things that the poor might be vulnerable to assets and resources that help them thrive and survive policies and institutions that impact their livelihoods, how the poor respond to threats and opportunities and what sort of outcomes the poor aspire to.

This dependence on climate-sensitive factors, both for the national economy and for people's livelihoods, is combined with population growth leading to greater pressure on these resources, while more than a third of the world's chronically poor people already live in India. The climatic-livelihood dependency factors raise the question of vulnerability. Vulnerability is a function of exposure, sensitivity and resilience. The vulnerability of a region can be assessed in terms of inadequate water availability due to a

decrease in rainfall, decreasing agricultural production due to unavailability of irrigation resources and die-back of natural ecosystems such as forests (Shukla *et al.*, 2003).

Vulnerability is the likelihood that an individual or group will be exposed to and adversely affected by a hazard. It is the interaction of the hazards of place (risk and mitigation) with the social profile of communities (Cutter, 1996). The author argues that it is place that forms the fundamental unit of analysis for vulnerability. The strategies to cope with these ecosystems need serious efforts.

Rani and Dodia (2001) analyzed the evidence of coping strategies in semi-arid rural India. They argued that one of the most favored mechanisms in the arid and semi-arid areas is that of diversifying into non-farm activities and seasonally migrating to other areas. In the semi-arid areas diversification into non-farm activities is of a temporary and permanent nature depending upon the severity of the situation. The households that are badly hit in the semi-arid areas are those of small, marginal farmers and landless households and those belonging to lower castes. The scheduled castes and scheduled tribes are mostly the deprived and sufferers of chronic poverty (Sundaram and Tendulkar, 2003).

This phenomenon is not specific to any particular region but is observed in the semi-arid areas across the different countries. Diversification is defined as the process by which household construct increasingly diverse livelihood portfolios, making use of increasingly diverse combination of resources and assets.⁷ In growing rural economies, diversification reflects the dynamism and capturing of gains at the household level. In stagnating rural economies, diversification is a reflection of poor people's coping with income source specific risks.

Apart from diversifying into other income generating activities and seasonally migrating out, the households in the semi-arid areas also view common property

⁷ Niehof, A. (2004), "The Significance of Diversification for Rural Livelihood Systems", *Food Policy*, Vol. 29, pp. 321-338.

resources (Jodha, 1995; Rani & Dodia, 2001) and pasture land (Jodha, 1995) as integral to their livelihoods. However, the studies also reveal that over the years there has been a decline in CPR, due to illegal encroachment, privatisation, and government allocation of CPRs under various poverty schemes and auctioning of parts of CPRs. The social relationships and the traditional support system along caste lines continue to serve as a means of support in various ways, though these networks are weakening.

Morton (2007) states that diversified livelihood systems with a livestock component are flexible and have a higher capacity to deal with multiple stresses in dry and drought-prone climates. However climate variability and emerging climate change in semi-arid areas pose considerable threat to the natural resources that sustain fodder production for livestock. Loss of grazing lands may result in more intensive management practices, increasing more competition between land for food grain production and livestock activities.

Public employment programmes have been an important counter-cyclical safety nets instrument used in diverse country circumstances at different points in time in both middle income and low income countries.⁸ Countries like India and Bangladesh have a long history and experience with public employment programs to fight against chronic poverty and address work shortages during the slack agricultural season.

In Bangladesh, the Food for Work (FFW) has been operating since 1975 as counter-cyclical employment programme providing the rural poor with employment opportunities during lean season, mostly in construction and maintenance of rural roads, river embankments, and irrigation channels. India is one of the few countries in the developing world to have implemented public works as early as 1950's, shortly after independence. The programmes protected the poor from severe consumption shortfalls (Rao, Ray and Subbarao, 1988). The anti-poverty objective does not motivate

⁸ Ninno, C. D., Subbarao, K. and Milazzo, A. (2009). "How to make Public Works work: A Review of the Experiences", *S P Discussion Paper No. 0905*, The World Bank.

employment programmes only in low income countries, but also in higher income countries facing structural unemployment problems, especially widespread among the poor.

Srivastava and Sasikumar (2003) argue that in rainfed areas the scope for an Employment Guarantee type of scheme, linked with the need for the building of physical and social infrastructure should be explored. They mentioned the Employment Guarantee Scheme of Maharashtra. The food for work programme in 1978-79 helped to get an increase of 33% and more in the EGS earnings of the workers and was considered the greatest attraction of EGS (**Dandekar and Sathe, 1980**).

The MEGS, originally introduced in 1965, was designed as a state-level response to adverse economic and demographic trends in rural Maharashtra. **Dreze and Sen (1989)** studied extensively on the role of the MEGS in preventing starvation and famine in India in recent times and highlighting the crucial role to be played by such assured public works employment as a security net. **Ravallion (1991)** notes that labour intensive rural public works projects have the potential to both screen and protect the poor, with the evidence suggesting few non-poor want to participate, while the direct and indirect transfer and insurance benefits to the poor can be sizeable.

Following the wage hike in 1988, the average monthly expenditures on EGS fell as well as the number of person days of employment, leading to rationing of the programme and consequently the erosion of employment guarantee (**Subbarao, 1993; Ravallion et al., (1993); Dev, 1995; Subbarao, 1997**). **Gaiha (1997)** states that EGS and non-farm wages together influence agricultural wages. The EGS has a substantial effect on agricultural wages in longer term while non-farm activities have a similar effect in the shorter term. However both the EGS and non-farm activities tend to raise the reservation wage⁹, it is only the EGS that has a further positive effect on agricultural wages through higher agricultural productivity.

⁹ The reservation wage is the lowest wage rate at which a worker would be willing to accept a particular type of job.

The MNREGS has been hailed as a major initiative in the Government of India's commitment to providing an economic safety net to India's rural poor. It is the first tangible commitment to the poor that they can expect to earn a living wage, without loss of dignity, and demand this as a right (Mathur, 2007). The MNREGS follows a set of legally enforceable employment norms. It is based on the assumption that every adult has a right to basic employment opportunities at the statutory minimum wage (Kumar, Mishra and Panda, 2004).

The act holds the prospect of transforming the livelihoods of the poorest; generate rural infrastructure, increase land productivity and heralding a revolution in rural governance in India. It incorporated time bound action to fulfill guarantee of work within 15 days of demand for work and a disincentive for nonperformance (Mehrotra 2008, Ambasta *et al.*, 2008). The Comptroller and Auditor General's report (2007) points out "The basic objective of the Act is to enhance livelihood security in rural areas ... This work guarantee can also serve other objectives: generating productive assets, protecting the environment, empowering rural women, reducing rural-urban migration and fostering social equity, among others."

It has been argued that the scheme has the potential to provide a 'big push' in India's region of distress (Shah, 2007; Ambasta *et al.*, 2008) and thereby has created a sense of hope amongst the rural poor (Bhatia and Drèze, 2006). In addition to creating livelihood opportunities for the rural poor, the MNREGS can also play an active role in respect of rapid response to crises and disaster, particularly at the local level (Krishnamurthy, 2006). Realisation of these potentials, however, depends largely on creating awareness of employment as an entitlement (Menon, 2008), increasing lean-season wages in rural areas, arresting forced migration (Mehrotra, 2008) and benefiting the marginalised people belonging to Scheduled Caste and Scheduled Tribal communities (Jha *et al.*, 2008).

Even the system of paying wages through bank accounts as a way of preventing the embezzlement of funds is not free from its own problems (Joshi, 2005; Vanaik and

Siddhartha, 2008). In order to realise the potential of the MNREGS, the role of civil-society organisations is considered to be critical (**Shah, 2007**). It has been argued that the major part of the rural and total population of most of the states with high incidence of rural and overall poverty are being under MNREGS's coverage (**Pankaj, 2008**).

This scheme is conceived to be demand-driven process (**Chakraborty, 2007; Dreze and Khera, 2008; Pankaj, 2008**). The scheme is intended to enhance the livelihood security and social safety-net of the rural people by supplementing wage employment opportunities for the unskilled labour force (**Mishra et al., 2010**). The local implementing agencies violate rules when they do not adhere to the above-mentioned rules and indulge in illegal activities in terms of rent-seeking behaviour. Many such instances of violation committed by the local implementing agencies were reported in Orissa, Madhya Pradesh and many other States (**Nayak et al., 2009**).

Devereux (2006) pointed out that the effect of public employment programmes on poverty reduction is directly proportional to the scale of the programme (the number and duration of jobs provided), the proportion of the budget allocated to labour costs (also known as the 'alpha-ratio'), and the level of income transferred (the wage rate).

Harper (2006) argues that these jobs are available to anyone residing in a particular district; for poor people and non-poor alike, but their relatively low wage rates means they are unlikely to be attractive for anyone but the most desired. Job cards are issued on a household, rather than individual basis. The chronically poor, though, often have high numbers of dependents – can one job per household enable escape from, or prevent falling into, chronic poverty?

It is being argued that disadvantaged groups are not only more likely to participate but also for longer spells. The self employed households also employed as their labour on small landholdings would not allowed them to subsist on (**Jha, Gaiha and Shankar, 2010**). It holds the powerful prospects of bringing major changes in the lives of women (**Kelkar, 2009**). But lack of childcare facilities prevented many of these women from claiming their entitlement under the act.

The MNREGS's primary objective of the eradication of poverty from the rural landscape marks a paradigmatic shift from the earlier measures of wage employment adopted by the government from time to time, in terms of approach and priorities. The scheme is also expected to facilitate insulating the local community from the adverse effects of climate change by encouraging works on water harvesting, soil conservation, irrigation, flood protection, afforestation and plantations, etc. (Kelkar, 2009; Mishra *et al.*, 2010). Doug Johnson (2009) in his article tries to assess whether MNREGS allowed potential participants to mitigate the effects of weather shocks by investigating whether participation levels in the programme in one states were responsive to changes in rainfall.

Mishra *et al.* (2010) examined the varied impacts of the MNREGS as a development delivery institution for the tribal communities and other social groups across the Indian states using the framework of new institutional economies. They argue that MNREGS is highly successful in providing greater livelihood opportunities to the tribal people. The outcomes of the employment scheme are largely influenced by the local level factors.

Mukherjee and Ghosh (2009) studied the performance of the scheme in Birbhum district of West Bengal and found many loop holes in the implementation of the scheme. They argue that there seems no relation between utilization of available funds and average person days generated either at the GP level or at the block level. The weak correlation observed between number of households with job cards and available MNREGS funds at the GP level suggests that GPs are not able to come up with adequate number of MNREGS schemes to absorb the labourers demanding employment. The study shows that blocks with higher share of BPL households show lower average person days generated per household.

It is observed that GPs lack the capacity to design adequate number of schemes under MNREGS which can be meaningfully linked with the livelihood and infrastructural development of the local economy. Presence of vibrant PRIs, particularly the GPs, during

the scheme execution has been found in Kerala which claimed to have positive impact on MNREGS implementation (**Chathukulam and Gireesan 2007**).

In most of the cases, social status, social networks, nepotism, religion and politics have influenced access to the scheme, and wealthier sections of local society are, in some cases, manipulating the implementation of MNREGS in much the same way as they do with other government initiatives (**Besley *et al.*, 2004; Samarthan, 2006**). Instances of discrimination with regard to caste, age and gender have been observed, with some evidence that single-women-headed households are being denied registration.

In their monitoring study of MNREGS in Madhya Pradesh, Samarthan and colleagues found that the types of activities undertaken were more or less standardized across villages. This raises the questions about whether effective local participation had taken place, and whether the activities would be relevant to improving livelihoods. Some argue that it is low-income, low-asset households and female agricultural labourers who have benefited most from the scheme, but others have observed that the benefits have been concentrated in certain geographical pockets and that low awareness of entitlements and provisions have resulted in the exclusion of undeveloped tribal areas.

Reddy *et al.* (2004) argued that watershed development holds the potential for enhanced livelihood security even in geo-climatic conditions where the watershed cannot bring direct irrigation benefits on a large scale. While the focus of watershed development is primarily on strengthening the ecological base such as water bodies (including traditional tanks), grazing lands and wastelands, it should be complemented with other programmes that focus on landless poor households in order to make it pro-poor. In the context of low rainfall regions where improvement in irrigation facilities is slow, agriculture alone cannot support the communities. Policies and programmes should aim at creating an environment for diverse livelihood activities, which are the choice of the household rather than distress activities.

1.4 Objectives of the study:

- i. Comparative assessment of the occupational structure of rural workforce and the employment generation under the MNREGS for Rajasthan
- ii. To study the land use land cover classification and the pattern of physical works created under the MNREGS at the state level
- iii. To study the land use land cover classification and the pattern of physical works created under the MNREGS in Rajasthan
- iv. To study the pattern of works created at the GP level in the districts of Churu, Jodhpur and Jaipur and the resource created at the GP level in Churu tehsil

1.5 Research Questions:

- i. Whether the occupational structure of workforce and social group's population affect the participation and employment generation under the MNREGS?
- ii. Does the pattern of physical works created under the MNREGS affected by the geographical condition and land use land cover of the region?
- iii. What is the most prioritized activity under the scheme and does it regulate the local environment's requirement?

1.6 Data Base:

- i. Ministry of Rural Development, Government of India, New Delhi
- ii. Workforce data from B Series, Census of India, 2001
- iii. Land use and land cover statistics from IRS-P₆, LULC-AWiFS data, and Department of Economics and Statistics, Ministry of Agriculture, Government of India, New Delhi
- iv. Works activities data from Block Planning office of MNREGS at Churu tehsil
- v. Housing amenities data from H Series, Census of India, 2001

1.7 Methodology:

Objective1: Comparative assessment of the occupational structure of rural workforce and the employment generation under the MNREGS for Rajasthan

The below mentioned indicators have been calculated:

- i. Percentage of workers to the total population (Work participation rate)
- ii. Percentage of male workers to the total male population
- iii. Percentage of female workers to the total female population
- iv. Percentage of cultivators to the total workers population
- v. Percentage of agricultural labourers to the total workers population
- vi. Job cards issued and employment provided against employment demanded
- vii. Average person days generated per rural households
- viii. Percentage of households completed 100 days of employment
- ix. Share of person days generated by social groups (SCs, STs and women)
- x. Variations in wage rates amongst districts in Rajasthan

The Karl Pearson correlation has been used. The formula is:

$$r = \frac{\sum XY - \frac{\sum X \sum Y}{N}}{\sqrt{\sum X^2 - \frac{(\sum X)^2}{N}} \sqrt{\sum Y^2 - \frac{(\sum Y)^2}{N}}}$$

The use of graphical methods like Bar Diagram and Arc GIS has been used for mapping.

Objective 2: To study the land use land cover classification and the pattern of physical works created under the MNREGS at the state level

- i. Land use land cover statistics have been analyzed by making tables, pie diagrams, bar diagrams and LULC maps taken from NR-Census, using multi-temporal AWiFS data of 2006-07
- ii. Composition of physical works under the MNREGS
- iii. Percentage of completed works to the total works undertaken under the scheme
- iv. Percentage of rural connectivity works to the total works undertaken under the scheme

- v. Percentage of irrigation works to the total works undertaken under the scheme
- vi. Percentage water conservation works against total works undertaken under the scheme
- vii. Percentage of soil and water conservation works against total works undertaken under the scheme

The mapping has been done by using Arc-GIS for spatial analysis.

Objective 3: To study the land use land cover classification and the pattern of physical works created under the MNREGS in Rajasthan

The land use land cover has been analyzed by using IRS-P₆, LULC-AWiFS data of 2006-07 for Rajasthan and DES data of 2005-06 for district level land use statistics. The pattern of physical works has been studied by calculating the same indicators used in the second objective.

Objective 4: To study the pattern of works created at the GP level in the districts of Churu, Jodhpur and Jaipur and the resource created at the GP level in Churu tehsil

The pattern of works has been analysed by calculating the percentage of water conservation works, percentage of irrigation works, percentage of rural connectivity works and the percentage of land development works. The activities data collected for Churu tehsil at the GP level has been categorized according to their nature of works. The activities has been categorized as Private Tanka construction, Public Tanka construction, Pond construction, All weather roads, Khurra construction and land development activities like plantation and preparation of nursery. The mapping has also been done at the GP level by using Arc GIS.

1.8 The Scheme of Chapterization: The whole study is divided into five separate chapters. These are as follows:

Chapter 1: This chapter includes the introduction to the study, review of literature, objectives, research questions, data source, and methodology, and chapterization scheme.

Chapter 2: This chapter includes the historical background of various public employment programmes. The chapter also includes the study area Rajasthan and three districts Churu, Jodhpur and Jaipur.

Chapter 3: This chapter includes the work participation rate and occupational structure of workforce in rural India and also at the district level in Rajasthan. The employment generation under the scheme for state level and for district level in Rajasthan is also part of this chapter.

Chapter 4: The chapter includes the land use land cover classification and statistics for India and pattern of works created at the state level. The land use land cover of Rajasthan and the pattern of works in the state is also part of this chapter. The pattern of works at the GP level in three districts Churu, Jodhpur and Jaipur has been studied in this chapter. The activities data for Churu tehsil at the GP level studied in this chapter.

Chapter 5: This chapter includes the summary of the whole study and conclusions emerged from the study.

Chapter II
Public Employment Programmes in India and
Introduction to the Study Area

Introduction:

This chapter focuses on two important aspects of this work. In the first section, the various employment programmes have been studied. These employment programmes were started after Independence to mitigate the vulnerability of rural areas by providing employment and creating village infrastructure. The Panchayati Raj Institutions are the designed agencies for the implementation of these PEPs. The various aspects of Rajasthan as physiography, agro-climatic zones, demography and economy also make part of this chapter. The selected districts Churu, Jodhpur and Jaipur belong to distinct agro-climatic sub-zones of the state.

2.1 Public Employment Programmes in India:

Public Employment Programmes are basically employment generation and poverty alleviation programmes, introduced at the different stages to mitigate the disastrous effects of natural calamity in different parts of the nation. These PEPs have been broadly classified into self-employment programmes, wage-employment programmes, food security programmes and area development programmes. Initially the self-employment programmes were designed in the name of IRDPs (Integrated Rural Development Programmes) to provide skills, subsidized credit and infrastructure support to small farmers and agricultural labourers so that they could find new sources of income.

In the 1980's the focus of the self employment programmes were extended to cover target groups such as scheduled castes and tribes, women and rural artisans.¹ The beneficiaries were given subsidized credit, training, and infrastructure, so that they could find new sources of earning. The activities included were fishery, animal husbandry, and forestry. IRDPs suffered from certain shortfalls and poor targeting led to collapse of the scheme.

Considering the shortfalls of this scheme, the government replaced this programme with *Swarnjayanti Gram Swarozgar Yojana (SGSY)* in 1999. The objective of

¹“Poverty Alleviation in Rural India-Programmes and Strategies”, Chapter 4, 10th Five Year Plan, Planning Commission, Government of India, New Delhi.

the SGSY was to bring the assisted rural families above the poverty line by providing them income-generating assets through Bank Credit and Governmental Subsidy. It was conceived as a holistic programme of micro enterprise covering all aspects of self employment as organization of the rural poor into self help groups (SHGs) and their capacity building, planning of activity clusters, infrastructure build up, technology, credit and marketing. Micro enterprises in the rural areas are sought to be established by building on the potential of the rural poor and set up with an emphasis on the cluster approach.

SGSY is more an empowering process and it focused on mainstreaming the poor to join the economic development of the country. By using the existing banking system of the country, the government has mainstreamed the rural poor into the formal financial system and to the market economy. The strength of the micro-credit programme of India is the linkage between SHG and the existing banking institutions. It has helped the rural masses hitherto outside the mainstream economy, to come within the mainstream economy of the country. Since the existing banking infrastructure is used, the administrative cost is found to be low. It also gave the bank the opportunity to penetrate into the rural areas and expand the banking operations in the country.

Wage employment programmes were first started as pilot projects in the form of *Rural Manpower (RMP)* 1960-61, *Crash Scheme for Rural Employment (CRSE)* 1971-72, *Pilot Intensive Rural Employment Programme (PIREP)* 1972, *Small Farmers Development Agency (SFDA)*, *Marginal Farmers and Agricultural Labour Scheme (MFAL)* to benefit the poorest of the poor. The main purpose of the wage employment programmes is to provide a livelihood during the lean agricultural season as well as during drought and floods. Under these programmes, villagers worked to improve the village infrastructure such as deepening the village ponds, constructing village schools and improving the rural roads. Thus the programmes not only provided employment to the villagers but also improved village infrastructure and created village public assets.

The full-fledged wage employment programme was started as *Food for Work Programme* in 1977. Later in the 1980's this programme was further streamlined into the *National Rural Employment Programme (NREP)* and *Rural Landless Employment Guarantee Programmes (RLEGP)*. These two programmes were later merged in 1989 into *Jawahar Rozgar Yojana (JRY)*.

The Employment Guarantee Scheme of Maharashtra which emerged due to political mobilization of the poor in 1972 - one of the most researched and discussed programmes in the country and commended by the UNDP's Human Development Report (1993) as one of the largest public works programmes in the developing world. EGS became an instrument of contestation and class conflict as the people's movements demanded further radical change within EGS, such as work to be provided year round, wages to be equivalent to minimum agricultural wages.

The JRY was recast in April 1999 and was named as *Jawahar Gram Samridhi Yojana (JGSY)*. The primary objective of the JGSY was creation of demand driven community village infrastructure including durable assets at the village level and assets to enable the rural poor to increase the opportunities for sustainable development. The secondary objective was generation of supplementary employment for the unemployed poor in the rural areas. The wage material ratio of 60:40 has to be maintained so as to enable the building up of demand driven rural infrastructure.

During 1999-2000, 5.84 lakh works were completed as against a target of 8.57 lakh works. An expenditure of Rs. 1841.80 crore was incurred as against a target of 2209.24 crore.² Since the programme was implemented by the panchayats, many did not have the capacity and experience to implement the programme. Further, the allocation of funds was inadequate to manage the programme. There are also incidences of corruption by way of fudging the muster rolls.

Employment Assurance Scheme (EAS) was launched on October 2, 1993 especially for the drought prone, desert, tribal and hill area blocks in the country. It was

² Ibid. p.4.

further expanded to all the blocks in 1997-1998. The EAS is also meant for providing employment during lean season. The main thrust of the programme was creation of additional wage employment opportunities during the period of acute shortage of wage employment through manual work for the rural poor living below the poverty line. While the scheme emphasized on creating economic and social assets in the village, it prohibited construction of panchayat buildings, secondary school and college buildings and religious structures.

Considering the fragmented efforts of different wage employment programmes in the country, all these programmes were merged into *Sampoorna Gramin Rozgar Yojana (SGRY)* in 2001. The main objectives of this programme are generation of employment for the rural poor, creation of community assets and infrastructure, and ensuring food and nutrition security for the rural poor.

2.2 Area Development Programmes:

Despite of these PEPs, some programmes were started to develop the watershed in the country. The *Drought Prone Area Programmes (DPAP)*, *Desert Development Programmes (DDP)* and *Integrated Wastelands Development Programmes (IWDP)* were being implemented in 1995 on a watershed basis, as per the recommendations of the Technical Committee on DPAP and DDP headed by Dr. C.H. Hanumantha Rao. The thrust of the DPAPs was to minimize the adverse effects of drought on production of crops and livestock, productivity of land, and water and human resources leading to the drought proofing of the affected areas. DDPs have been envisaged as land based activity and conceived as a long term measure for restoration of ecological balance by conserving, developing and harnessing land, water, livestock and human resources.

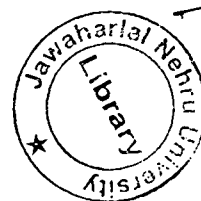
Integrated Wastelands Development Programmes have been under implementation since 1989-90 wherein wastelands are being developed with the active participation of stakeholders like user groups, self help groups and PRIs. The projects are implemented through the Project Implementing Agencies which can be a Line

Department or a reputed NGO having sufficient experience in the field of watershed development. The stakeholders prepare these plans after taking into consideration land capability, site conditions and local needs. The scheme also helps in generation of employment in rural areas besides enhancing people's participation in the wastelands development programmes at all stages. The major activities taken up under the scheme are: (i) soil and moisture conservation measures like terracing, bunding, trenching; (ii) planting and sowing of multi-purpose trees; (iii) promotion of agro-forestry and horticulture, etc.

A review of different wage employment programmes in the Ninth Plan showed that there had been erosion in the programme in terms of resource allocation and employment generation. There was steady decline in employment generation in these programmes. The allocation for these programmes came down from Eighth Plan to Ninth Plan. Ninth Plan allocation was only 88 per cent of the Eighth Plan. Further, the cost of generating employment had gone up during this period. As a result, only 2.86 billion mandays of labour were produced during the Ninth Plan as against 5.13 billion man-days of labour produced during the Eighth Plan period. Even the allocated fund was very poorly utilized.

2.3 Mahatma Gandhi National Rural Employment Guarantee Act (2005):

The National Rural Employment Guarantee Act (now MNREGA) passed on August 23, 2004 and enacted on September 5, 2005 has been hailed as a major initiative in the Government of India's commitment to providing an economic safety net to India's rural poor. It has been implemented in three phases. In Phase I, 200 backward districts of the country were selected and in Phase II additional 130 districts were selected in 2007-08. The scheme has been extended to the remaining 285 districts from April 1, 2008 in Phase III. The MNREGS follows a set of legally enforceable employment norms. It is based on the assumption that every adult has a right to basic employment opportunities at the statutory minimum wage. The Panchayati Raj Institutions are the designed agencies for the implementation of MNREGS in all the states of the country. The act holds the



prospect of transforming the livelihoods of the poorest; generate rural infrastructure, increase land productivity and heralding a revolution in rural governance in India.

Salient features of the MNREGS are

- (i) every household in the rural areas of India shall have a right to at least 100 days of guaranteed employment every year for at least one adult member, for doing casual manual labour at the rate of Rupees 60 per day;
- (ii) The identification of preferred works shall be based on the economic, social and environmental benefits of different types of works, their contribution to social equity, and their ability to create permanent assets;
- (iii) Centre-sponsored scheme; state governments will bear the cost of unemployment allowance; one-fourth of the material components, one-fourth of the wages of skilled and semi-skilled workers, and expenditure of the State Employment Council;
- (iv) PRIs to be the principal agencies for planning and implementation of the scheme;
- (v) Society-oriented demand-driven process and social auditing of the scheme
- (vi) Worker's entitlement to four facilities at work site: i) drinking water, ii) shelter, iii) first aid iv) crèche for children below 6 years of female workers
- (vii) Emphasis on schemes of water conservation and water harvesting, drought proofing, irrigation facilities, renovation of traditional water bodies, land development and rural connectivity.

The creation of productive assets as water conservation structures, drought proofing, flood control and rural connectivity is a part of long term development approach. The objectives of these productive assets are to provide basic livelihood facilities through 100 days of employment and creation of rural infrastructure. The type of productive assets created under MNREGS depends upon the availability of infrastructure in a particular area. The geographical conditions of a particular area also affect the pattern of types of works created under MNREGS.

2.4 Role of PRIs in the Implementation of Public Employment Programmes:

The 73rd Constitutional Amendment Act, 1992 has given impetus to democratic decentralization in the country by conferring Constitutional status on the Panchayati Raj Institutions (PRIs). Article 243 (G) of the 73rd Constitutional Amendment Act endows the PRIs with the requisite financial and administrative powers to enable them to function as effective institutions of local self-government. It envisages the establishment of a democratic decentralized development process through people's participation in decision making, in implementation of various programmes and in the delivery process.

The year of 1999-2000 was declared as 'Year of the Gram Sabha' by the Government of India in recognition that the Gram Sabha is potentially the most significant institution for participatory democracy and decentralization. To ensure greater transparency and accountability the importance of social audit in the implementation of development programmes especially rural development programmes through Gram Sabha is vital. Rural development and poverty alleviation programmes are implemented on a decentralized basis throughout the country.

The Ministry of Rural Development has been implementing the programmes in the rural areas for which it releases central share of funds for policy formation, overall guidance, monitoring and evaluation of the rural development programmes. The PRIs have a great role to play in the MNREGS. The panchayats have direct control on the employment under the scheme. The issue of job cards, the selection of site and the types of works requisite in the local environment, all depend upon the gram panchayats. The concept of Gram Sabha and social audit further strengthen the power of gram panchayats.

2.5 Study Area: Rajasthan

The history of Rajasthan is replete with tales of heroic sacrifices, generous high-mindedness and glorious selfless valor. The excavated prehistoric sites, ancient ruins, historic battle fields, epic poetry and rich folk lore point towards a distinguishing feature of Rajasthan's culture. The total area of Rajasthan is 3, 42,239 sq. km, which is about 11 percent of the total land area of the country and consists of 32 districts (Census of India, 2001). Jaisalmer is the largest district with 38401 sq. km. area, covering 11.22% of the total area of the state. Barmer (8.2%), Bikaner (8%), and Jodhpur (6.7%) are the other big districts in terms of area. The state of Rajasthan has 7 divisions as follows Ajmer, Bharatpur, Bikaner, Jaipur, Jodhpur, Kota and Udaipur.

2.6 Physiography of Rajasthan:

The state is located in the north western region of India between 23° 3' and 30° 12' North latitudes and 69° 30' and 78° 17' East longitudes. It occupies the western most position and shares an international boundary with Pakistan in the west. It is adjoined by Punjab and Haryana in the north, Uttar Pradesh in the north east, Madhya Pradesh in the south east, and Gujarat in the south west. Geographically, the state is sharply divided by the Aravallis that cut across the state from south east to northwest.

The north western part of Rajasthan, known as the Western Sandy Plain constitute about 60 percent of the state area and is the most arid and infertile chunk. The western most portion of this region is a part of the Thar Desert, which has a vast and unending sea of sand marked with protruding rocks. This area receives low and erratic rainfall, experiences extreme temperatures and has low vegetation, high density of animal population and low density of human population. The eastern part of this tract is bit different and forms a transitional zone between the Marusthali and the Aravalli. The south-eastern part is diverse in nature and is comparatively better drained and more fertile and consists of extensive hilly ranges, long stretches of rocky surfaces and wood lands, wide vales, and fertile tablelands.

Rajasthan has extremes of temperature, sandstorms, and a paucity of rainfall, especially in the west. The summer temperature ranges between 40°C and 45°C, May and June being the hottest month. January is the coldest month when the average mean temperature varies from 12°C in the north to 16°C in the south.

The distribution of annual rainfall is also uneven and decreases from southeast to northwest. The normal annual rainfall in Rajasthan is 57.51 cm.³ Banswara (95 cm), Baran and Sawai Madhopur (both 87 cm), and Jhalawar and Chittorgarh (both 84 cm) are the districts with highest normal annual rainfall. The western and north-western arid districts Jaisalmer (18.55 cm), Ganganagar (22.64 cm), Bikaner (24.3 cm), Barmer (26.57 cm) and Hanumangarh (27.35 cm) experience the lowest normal annual rainfall in the state.

2.7 Agro-Climatic Zones in Rajasthan:

The Planning Commission divided the country into 15 broad agro-climatic zones based on physiography and climate. The emphasis was on the development of resources and their optimum utilization in a sustainable manner within the framework of resource constraints and potentials of each region. According to Planning Commission classification, Rajasthan comes under Western Dry Region, and Central Plateau and Hills Region. Under the National Agricultural Research Project, each state/zone was divided into subzones. As a result, a map of 127 sub-zones, based on rainfall, existing cropping pattern and administrative units, was prepared. According to this classification, the state of Rajasthan comes under 9 sub agro-climatic zones.

a. Arid Western Plain Zone-Mandore:

This region comprises of Bikaner, Jaisalmer and Barmer districts, Phalodi, Shergarh, Osian and Jodhpur tehsils of Jodhpur district and Dungargarh, Sujargarh, Ratangarh and Sardarshahar tehsils of Churu district. This is the most arid part of the state where the annual rainfall varies from 10 to 40 cm.

³“ Statistical Abstract, Rajasthan (2009)”, Directorate of Economics and Statistics, Rajasthan, Jaipur.

The drainage system is not well developed and there are also no flowing streams. Owing to poor rainfall, surface water resources do not exist while ground water resources are often deep and brackish. Mainly rainfed crops bajra, kharif pulses, guar, etc. are sown during the kharif season. Rabi crops like wheat, rape-seed and mustard are grown only in the areas where irrigation facility is available.

b. Irrigated North-Western Plain Zone-Ganganagar:

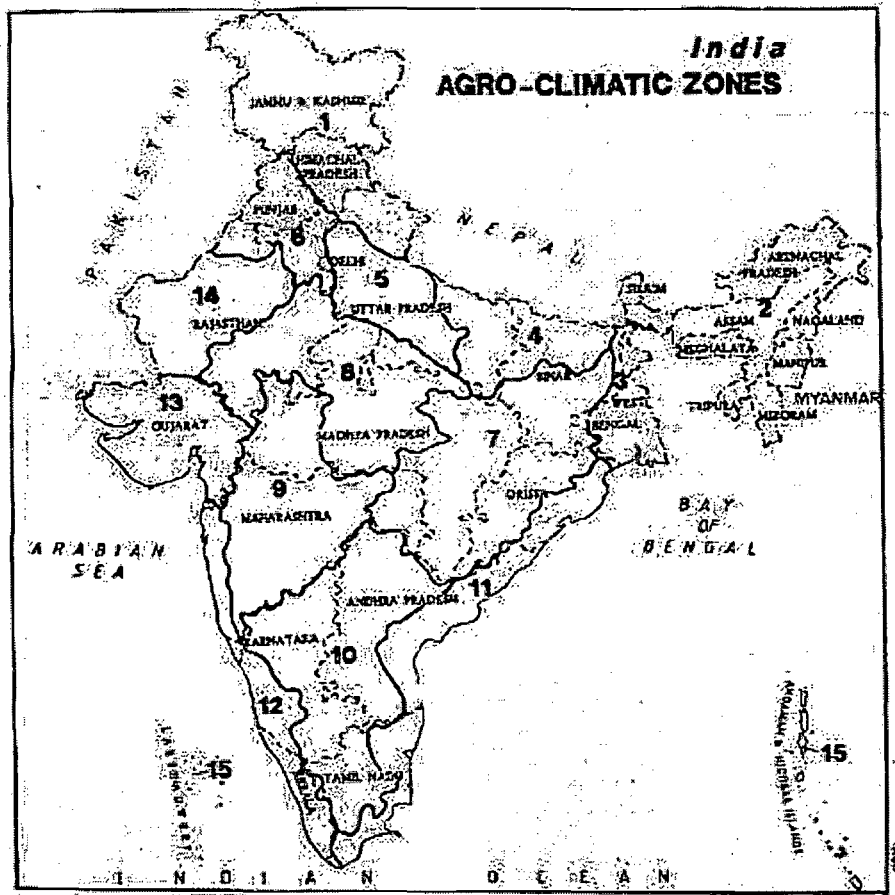
The entire Ganganagar district, which is an alluvial and aeolian plain, forms this agro-climatic zone. Extreme aridity, marked with high summer and low winter temperatures, is its usual climatic characteristic. The area is rich in agricultural production on account of a well-developed system of canal irrigation. Amongst the Kharif crops cotton, sugarcane and pulses are of importance. In the Rabi season, wheat, mustard, gram, vegetables and fruits are produced. The total Production as well as productivity levels of all crops is relatively much higher in this zone as compared to other parts of the state.

c. Transitional Plain Zone of Inland Drainage-Fatehpur (Sikar):

This zone comprises Nagaur, Sikar and Jhunjhunu districts, and Taranagar, Churu and Rajgarh tehsils of Churu district. This area is covered with sand dunes and interdunal sandy plains. The drainage system is not well developed, streams which flow in the rainy season, disappear in sandy fields after covering some distance. Climatically, this zone is slightly better as compared to the adjoining zone of the Arid Western Plain. Rainfall is slightly higher, temperatures in summer months do go very high but the winters are very cold. Irrigation is restricted to areas with good ground-water potential.

d. Transitional Plain Zone of Luni Basin-Jalore:

This area is situated between the Aravalli ranges and western arid region. It encompasses the districts of Jalore and Pali, Reodhar and Sheoganj tehsils of Sirohi district, and Bilara and Bhopalgarh tehsils of Jodhpur district.

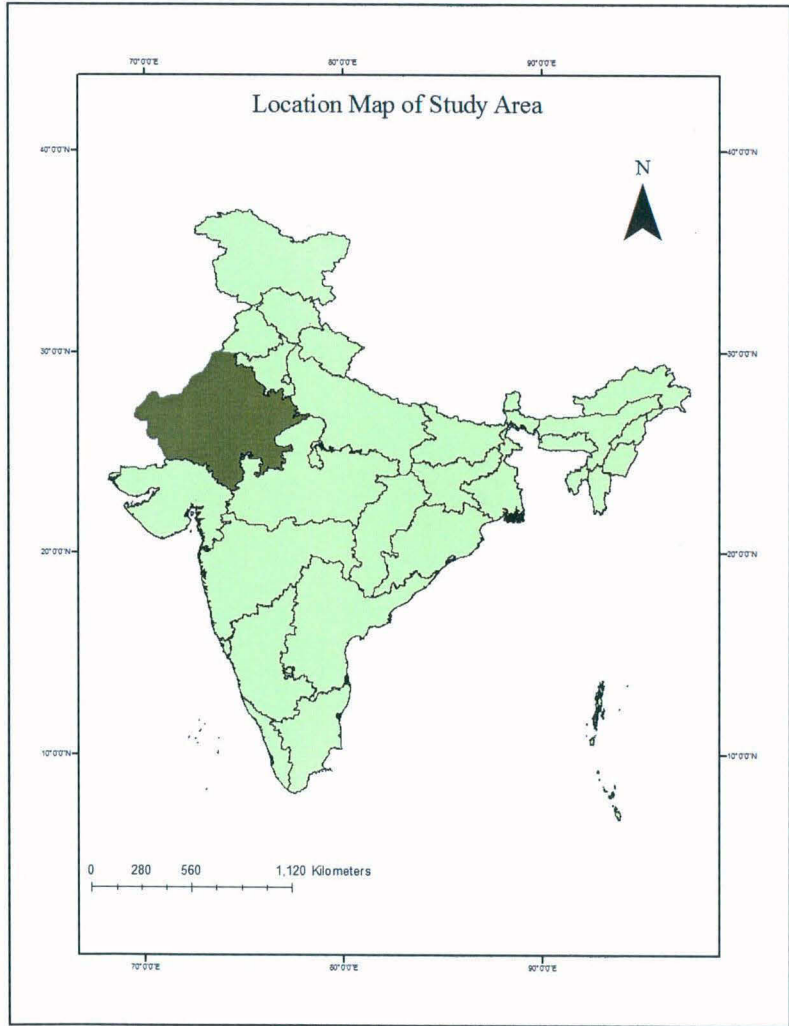


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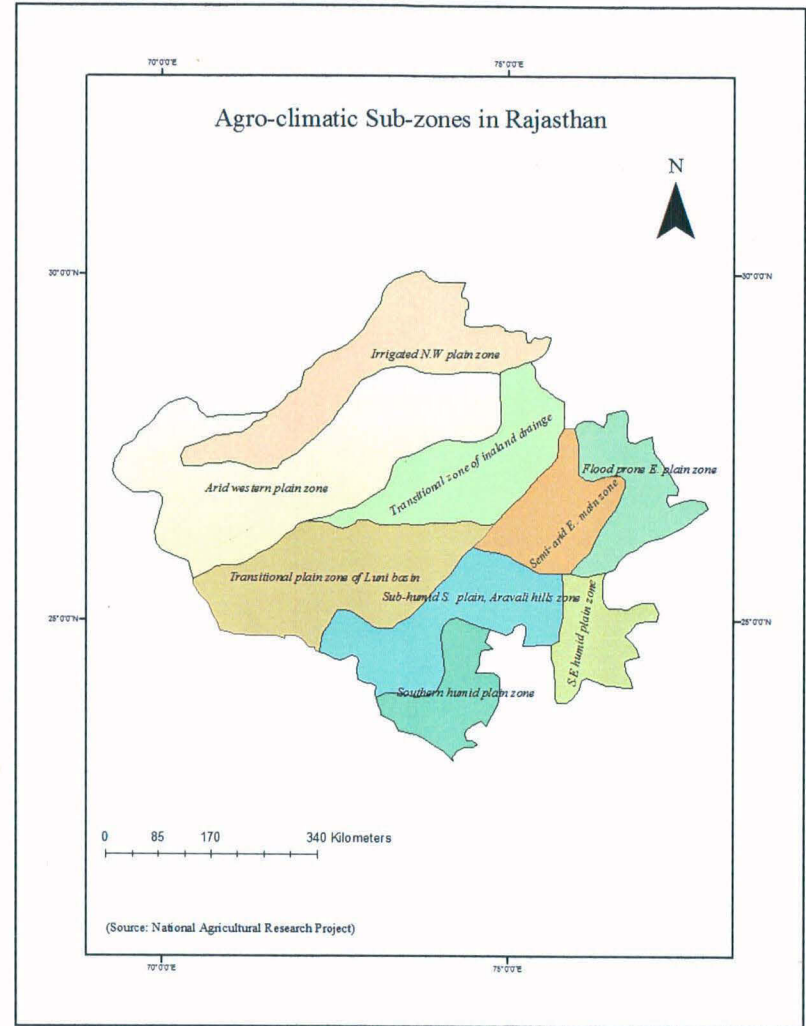
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|-----------------------------------|--------------------------------------|
| 1. Western Himalayan Region | 8. Central Plateau & Hills Region |
| 2. Eastern Himalayan Region | 9. Western Plateau & Hills Region |
| 3. Lower Gangetic Plains Region | 10. Southern Plateau & Hills Region |
| 4. Middle Gangetic Plains Region | 11. East Coast Plains & Hills Region |
| 5. Upper Gangetic Plains Region | 12. West Coast Plains & Ghats Region |
| 6. Trans-Gangetic Plains Region | 13. Gujarat Plains & Hills Region |
| 7. Eastern Plateau & Hills Region | 14. Western Dry Region |
| | 15. The Island Region |

Map: 2.1 showing agro-climatic zones of India

Source: Velayutham, M., Mandal, D. K., Mandal, C. and Sehgal, J. (1999), 'Agro-ecological Subregions of India for Planning and Development', NBSS, Publ. 35, pp.372, NBSS&LUP, Nagpur, India.



Map 2.2



Map 2.3

The region has semi-arid climate with an annual rainfall of 30 to 50 cm. It is drained by the river Luni which is seasonal and flows only during rainy season. A number of paleo-channels also exist in this area. The western part of the region is dotted with sand dunes, interspersed in alluvial soil. The climatic conditions are almost the same as in the western arid region except that the rainfall is slightly higher. The groundwater level is high in the river basins, and has been usefully tapped for irrigation. Vegetation is xerophytic and sparse in the western part but in the eastern part and on the slopes of the Aravalli ranges, there is mesophytic vegetation in the form of woodlands, open forests and grasslands.

e. Semi-arid Eastern Main Zone-Durgapur (Jaipur):

This region comprises Jaipur, Dausa, Tonk and Ajmer districts. On the western side, the region is flanked by the low Aravalli hills which extend from the south-west to the north-east. The annual rainfall of the region varies from 50 to 60 centimeters with an increasing trend towards the east. The water table varies from 15 to 25 meters but the annual fluctuations are high, especially in the years when the south-west monsoon fails and the yearly replenishments are low. Surface water sources are scarce and so harnessing of ground water resources has been going on at an accelerated pace. Banas, with its several tributaries, forms a rich fertile plain. Natural vegetation is of both xerophytic and mesophytic type, but owing to heavy felling of trees, the surface mantle has been robbed of its natural wealth.

f. Flood Prone Eastern Plain Zone-Alwar:

This region comprises the districts of Alwar, Bharatpur and Dholpur and the northern part of Sawai Madhopur. Except for few low hills which exist in Alwar and Sawai Madhopur districts, the entire region is a flood plain of the Banganga and the river Ghambhiri. The region has rich alluvial soils, the fertility of which is replenished every year by the flood water of the rivers. Natural vegetation exists on mountain slopes, wetland areas, and protected zones but the excessive plundering of forests has disturbed the natural cover.

g. Sub-humid Southern Plains & the Aravalli Hills Zone-Udaipur:

This agro-climatic sub-zone covers Bhilwara district, all tehsils of Udaipur district except Dharyawad, Salumber and Sarada, all tehsils of Chittorgarh district except Chotti Sadri, Pratapgarh, Arnod and Bari Sadri and Abu Road and Pindwara tehsils of Sirohi district. This is a region of low Aravalli hills with the inter-mountain plateau, deeply dissected by streams and rivers. The region has a moderately warm climate in summers and with mild winters. The surface rocks are granitic and highly metamorphosed, so the depressions on the surface are filled with rain water in the form of natural tanks.

The area is rich in natural vegetation, which grows on the slopes of the Aravallis, and in the wetland areas but excessive felling of trees has degraded these open forests. Tank water irrigation is most common. The area produces maize as the chief food crop of the Kharif season but in irrigated areas, paddy is also grown. In the Rabi season, wheat, gram and oil seeds are the main crops.

h. Southern Humid Plain Zone-Banswara:

The districts of Dungarpur and Banswara, parts of Udaipur (Dharyawad, Salumber and Sarada tehsils) and Chittorgarh (Chotti sadri, Bari Sadri, Pratapgarh and Arnod tehsils) are included in this region. The area comprises of low Aravalli hills with intrusions of black lava rocks. This is mostly a tribal area where Bhils, Garasiyas and Damors live amidst forests and hills. The area has humid climate with an average rainfall of more than 70 cm per year. The humidity is always high and all these factors, combined together, promote a profuse growth of natural vegetation. The mountain slopes have an abundance of natural forests. Cotton and sugarcane are the chief cash crops grown in the black soil region. Maize, sorghum and paddy are the chief food crops of the Kharif season.

i. South-Eastern Humid Plain Zone-Kota:

The region includes the districts of Kota, Baran, Bundi and Jhalawar and two tehsils of Sawai Madhopur (Khandar and Sawai Madhopur). The black soil of this region

is fertile which is used for cultivation of sugarcane, cotton and opium. The region has low hills of the Gwalior series, interspersed with broad plateaus of Vindhyan rocks. The Chambal is the main river along with its main tributaries. The development of canal irrigation system with a series of dams and barrages on the Chambal has made this area rich in agricultural production. Natural vegetation exists in the form of woodlands, parklands and open forests. Paddy and sorghum are the chief food crops grown in the Kharif season. Wheat, barley, grain and mustard are grown in winter.

2.8 Agro-Ecological Sub-Regions in Rajasthan (NBSS&LUP):

The 20 agro-ecological regions map was published in 1992. It was the outcome of superimposition of broad physiography and soil as well as of generalized climate and 5 classes of LGP. For sub regionalization of each AER, information about soil physiography and LGP has been narrowed down. Rajasthan was divided into different sub agro-ecological zones. These are:

- i) Marusthali hot, hyper arid eco-subregion-Barmer, Bikaner, Jaisalmer, western and central parts of Ganganagar and major parts of Jodhpur.
- ii) Rajasthan Bagar, North Gujarat Plain and South-Western Punjab Plain, hot, typic arid eco-subregion-Pali, Sirohi, Jalore, Sikar, Nagaur, Jhunjhunu, Churu and eastern half of Jodhpur and eastern fringe of Ganganagar.
- iii) North Punjab Plain, Ganga-Yamuna Doab and Rajasthan Uplands, hot, dry semi-arid eco-subregion-Jaipur, Alwar, Sawai Madhopur, Bharatpur, Dholpur and Dausa.
- iv) North Gujarat Plain (inclusive of Aravalli range and Eastern Rajasthan Uplands) hot, dry semi-arid eco-subregion-Tonk, Ajmer, Udaipur, Bhilwara, Dungarpur, Rajsamand, Chittorgarh and northern half of Bundi.

2.9 Demography of Rajasthan:

The population size of the state is 56,507,188 persons, with 29,420,011 males and 27,087,177 females (Census of India, 2001). The pressure of population varies greatly within the state as population density is very high in the eastern and central districts, and

very low in the desert districts in the western region of the state. The population density of the state is 165 persons per square km. which is much lower than the national average. Jaipur (471) and Bharatpur (414) are the highly dense districts of the state. Jaisalmer (13), Bikaner (61), and Barmer (69) are the districts with very low population density. These districts are situated in the western parts of the state and highly vulnerable in terms of living conditions. Jaipur is the largest district with population size of 52,51,071 persons, 9% of the total population of the state. Alwar (5.3%), Jodhpur (5.1%), Nagaur (4.9%), Udaipur (4.7%) and Sikar (4%) are the other large districts with significant share of population size. Jaisalmer with 0.9% population size is the smallest district in the state.

The decadal growth rate of population is 28.41% in the state. Jaisalmer is the fast growing district with decennial growth rate of 47.52%. Barmer (36.7%), Bikaner (38.24%), Jaipur (35%) and Jodhpur (34%) are the districts where decennial growth rate is high than other districts. The Decennial growth rate is lowest in Rajsamand (20%). The sex ratio of the state is 921 females per 1000 males which is lower than the national level. But across districts there is a huge variation. There are a couple of districts where the female population is more than the male population. Dungarpur (1022) and Rajsamand (1000) are the districts where sex ratio is in favor of females. However there are many districts where the sex ratio is lower than the state average in Rajasthan. Bharatpur (854), Jhunjhunu (827), Jaisalmer (821), Karauli (855), and Sawai Madhopur (889) are the districts where sex ratio is less than 900 females per 1000 males that presents very alarming situation in these districts.

The state has more than 76% population living in the rural areas according to 2001 Census. Banswara, Dungarpur and Barmer (all 93%), and Jalore (92%) are the districts with more than 90% population living in the rural areas. Alwar, Baran, Bharatpur, Chittorgarh, Dausa, Dholpur, Jaisalmer, Jhalawar, Karauli and Nagaur are the other districts where more than 80% population lives in the rural areas. Jaipur (49%) and Ajmer (40%) are the districts with very low share of rural population.

The state has literacy rate of 60.4% for persons, 75.7% for males and 43.9% for females (Census of India, 2001). However in the rural areas these figures are as 55% for persons, 72% for males and 37% for females. Kota (73.5%), Jhunjhunu (73%) and Sikar

(70%) are the most literate districts in the state. Jaipur (70%), Churu (67%), Ajmer (64.5%), Bharatpur (64%), Alwar and Dausa (both 62%), and many more districts have literacy rate more than the state average. Banswara (44.6%), Jalore (46%) and Dungarpur (48.5%) are the most backward districts in terms of literacy rate. The condition of female literacy rate is even very worse in many districts. The rural female literacy rate is lower than 30% in many districts and explains the worse situation in the rural areas.

2.10 Economy of Rajasthan:

Rajasthan is one of the poorest states in the country. Along with Bihar, Madhya Pradesh and Uttar Pradesh, Rajasthan is considered a BIMARU state, implying its low status in all the major development indicators. The per capita income in the state is low and highly fluctuating from year to year mainly because of the fluctuating agricultural production that depends mostly on the erratic and low rainfall.

Rajasthan is predominantly an agricultural state with nearly 77 percent of the population living in the rural areas. Agriculture is the single largest sector in the economy, employing about 69 percent of labour force. Agriculture in Rajasthan is largely dependent on the vagaries of the monsoon. The coefficient of variation in rainfall is very high, from less than 100 mm in Jaisalmer to 1000 mm in some areas of Chittorgarh, Jhalawar, Baran and Kota districts.

Rajasthan has total area 34,266,090 hectares available for land utilization according to 2005-06⁴. The state grows both Kharif and Rabi crops but the former is more important than the latter. The principal crops cultivated in the state are barely, jowar, millet, maize, gram, wheat, oilseeds, pulses, cotton and tobacco. The land use statistics shows that the state has 7.8% area under forest cover, 12.44% uncultivated land including barren land, 13.4% culturable wasteland to the total area available for land utilization. The state has approximately 63% area as total cropped area and 49% net sown area to the total reporting area.

The average size of operational holdings in Rajasthan is 3.96 hectares according to 2001. Barmer (10.95 ha), Jaisalmer (10.7 ha), Bikaner (10.16 ha), Jodhpur (8.08 ha)

⁴ Directorate of Economics and Statistics, Ministry of Agriculture, Govt. of India, New Delhi.

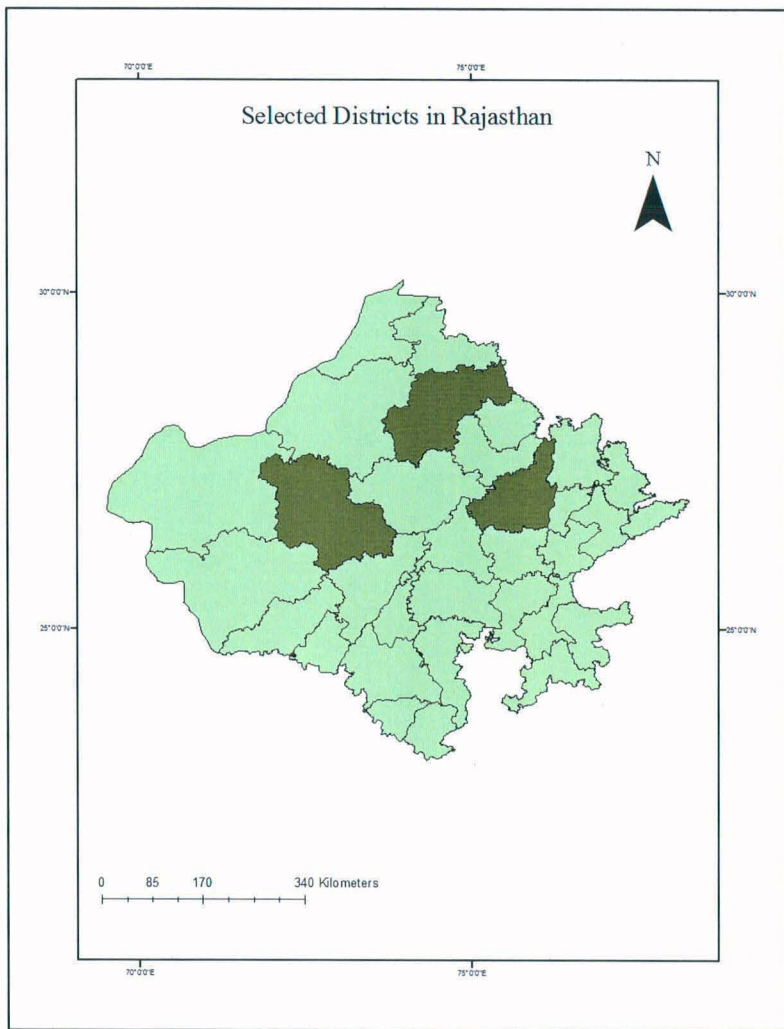
and Churu (8.02 ha) are the districts with large size of operational holdings. Dungarpur (1.33 ha), Banswara (1.36 ha), Dholpur (1.41 ha) and Udaipur (1.57 ha) are the districts with small size of operational holdings. (Statistical Abstract, Rajasthan, 2009)

As regards agricultural development, the developed districts are Ganganagar (which is irrigated by Indira Gandhi canal), Jaipur, Hanumangarh, Bundi, Bharatpur and parts of Pali. These districts have irrigation facilities. In the rest of the districts, rain fed agriculture is being practiced.

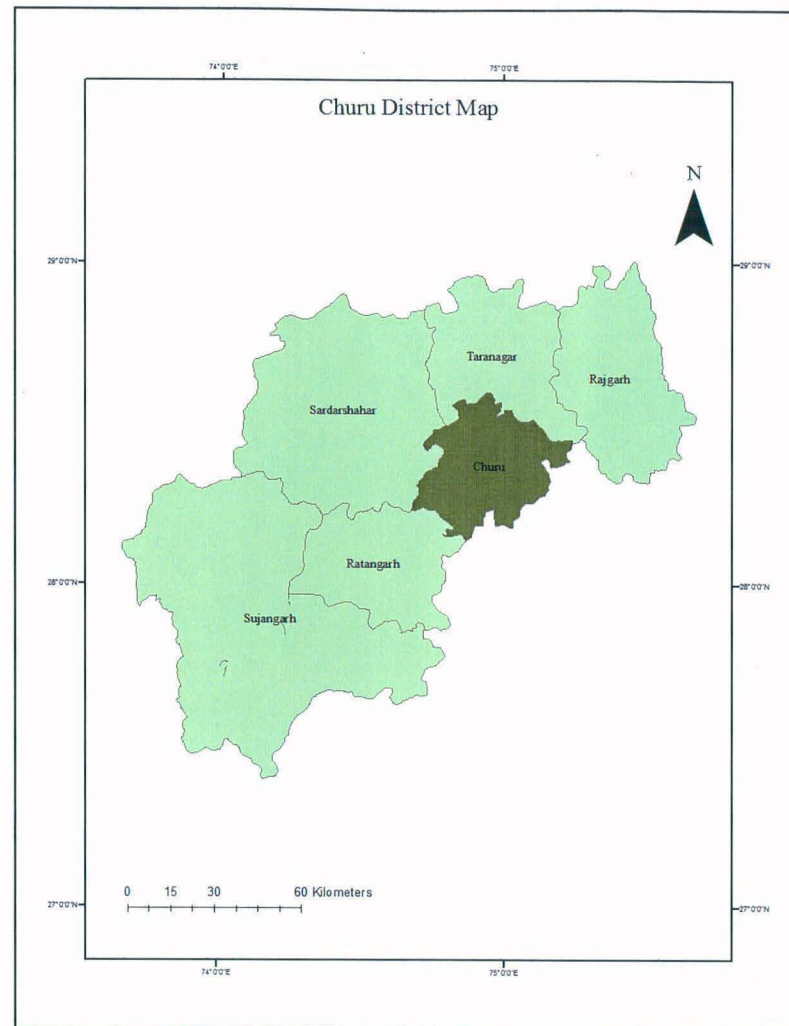
Endowed with a rich culture, Rajasthan is rich in minerals and is fast emerging on the industrial scenario of the country. Some of the important Central undertakings are Zinc Smelter Plant at Devari, (Udaipur), Copper Plant at Khetri Nagar (Jhunjhunu), and Precision Instrument Factory at Kota. Other major industries are textiles and woolens, sugar, cement, glass, sodium plant, zinc, fertilisers, etc. Besides, precious and semi precious stones, caustic soda, calcium carbide etc., are important units. Rajasthan has rich deposits of zinc concentrates, emerald, garnet, and gypsum, silver ore, asbestos, feldspar and mica. The state also abounds in rock phosphates, salt, marble and red stone deposits. Mining is the main economic activity in Kota, Sirohi and Dholpur districts.

2.11 Study Area: Churu

Churu, located in the north-eastern Rajasthan, is bounded by Ganganagar district in the North, by Sikar and Jhunjhunu in the east, by Nagaur in the south and in the west by Bikaner. Geographically, it lies in $28^{\circ} 18' N$ latitude and $74^{\circ} 58' E$ longitude. The total geographical area of the district is 16,830 square kilometers which is 4.92% of the total state area. Churu has six tehsils- Churu, Sujangarh, Ratangarh, Rajgarh, Sardarshahar and Taranagar. Churu comes under the Rajasthan Bagar hot typic arid agro-eco subregion. The agro-climate of the subregion is characterized by hot, typic arid with hot and dry summers and cold winters.



Map 2.4



Map 2.5

The region is characterized by uncertain rainfall and wide fluctuations in annual rainfall. The monsoonal rainfall accounts for 80% of the total annual rainfall. The dominant soils are deep to very deep calcareous/non calcareous sandy in nature occupying gently sloping plains with sporadically dotted hummocks. The rainfed agriculture is the traditional practice followed by the average farming community.

The erratic and scanty rainfall, result in high water deficit leading to frequent crop failure under dryland farming by traditional farming. Soil sodicity and salinity result in physicochemical droughtiness to the standing crop as well as pose nutrient imbalance. The district has vast area with saline groundwater with pockets of high SAR saline and alkali ground water posing problems for ground water development for irrigated agriculture.

The total population of the district as per 2001 Census is 19, 23,878 persons which is 3.4% of the state population. The population density of Churu is 114 persons per square kilometers. The sex ratio of the district is 948 females per 1000 males. 72% of the total population lives in rural areas in Churu. The literacy rate for Churu is 66.8% for persons, 79.7% for males and 53% for females. While in the rural areas the literacy rate falls by 2 %.

The average size of operational holdings for Churu is 8.02 hectares according to 2000-01. According to 2005-06 land use statistics, the net area sown is 84% to the total reporting area for land use statistics in Churu. The forest cover in the district is 0.5% and wasteland area is 0.8% to the total area available for land use. The total uncultivated land is 8% and area under fallow land is 7% of the total reporting area. The total cropped area is more than the total reporting area available for land use statistics. The major sources of irrigation are wells and canals.

2.12 Study Area: Jodhpur

Jodhpur, one of the largest districts of Rajasthan, is centrally situated in the western part of the state. The district stretches between 26° 00' and 27° 37' north latitude and between 72° 55' and 73° 52' east longitudes. The district touches the boundary

with Nagaur in east, Jaisalmer in west, Bikaner in north and Barmer as well as Pali in the south.

The total area of the district is 22,850 sq. kms which is 6.68% of the state area. Jodhpur has seven tehsils- Phalodi, Osian, Bhopalgarh, Jodhpur, Shergarh, Luni and Bilara according to 2001 Census. The major parts of Jodhpur district comes under the Marusthali hot, hyper arid eco-sub-region. The agro-eco sub-region represents hot and hyper arid agro-climate which is characterized by very hot, dry summers and cool winters. The area receives mean annual rainfall of 100 to 300 mm covering less than 15% of the mean annual PET demand of 1700-2000 mm (NBSS& LUP). The rainfall meets about 22 to 31 % of water need during the monsoon season which adversely affects crop growth.

FAO (1983) calculation yields zero growing period in most of the areas of the subregion, but the low available moisture is utilized for raising fodder crops and coarse millets with poor yields as such the moisture availability period is taken as less than 60 days in a year. The dominant soilscapes representing the area are Aeolian soils gently to very gently sloping alluvium derived soils. The soils of dunes or interdunal plains are deep and excessively drained calcareous/non-calcareous in nature. These are deep soils, having very low clay content, slightly increasing with depth.

The rainfed agriculture is the traditional practice followed by the marginal farmers growing short duration drought resistant cultivars. The area is mainly affected by the loss of top soil and terrain deformation due to wind erosion in addition to fast degradation of forest cover due to deforestation and over grazing causing accelerated erosion and desertification and also increasing the uncertainty of rainfall. Severe dusty winds, resulting in sand dunes and salty fallout deposits in cropped areas affect crop growth. The poor quality of ground water, with high SAR saline water and saline water, has severe limitation in ground water development for irrigation.

According to Census of India 2001, the total population of the district is 28, 86,505 persons which is 5.11% of the total state population. The district has 66% of the total population living in the rural areas. The share of the scheduled caste population is

16% of the total district population. The population density of the district is 126 per sq. kms. The district has literacy rate of 56.7% for persons, 73% for males and 38.6% for females. The literacy rate in rural areas shows great variations with 46% for persons, 66% for males and only 25% for females.

According to 2005-06 land use statistics, the district has 10% area under culturable wastelands, 26% area under fallow lands and 11% area under uncultivated land according to 2005-06. The NSA is 56% and Total cropped area is 61% to the total land area available for land use statistics. Due to arid climate of the district, negligible percentage of the total reporting area for the land use in the district, are covered under forests. Due to sandy soil, only scrub and thorny bushes are found in the forest areas.

Due to non availability of adequate water, cropping pattern in the district is mainly single only. Only 2.9% of the net cultivated area is being utilized for double or multiple cropping. The major kharif crops are Bajra, Guar, Moth, Moong, Till, Goundnut, Wheat, Isabgol and Mustard. The major minerals of the district are sand stones and lime stones.

2.13 Study Area: Jaipur

The district is situated in the eastern part of the state bounded by Sikar in the north, Tonk in the south, Alwar, Dausa and Sawai Madhopur in the east and Nagaur and Ajmer in the west. The district of Jaipur comes under the Rajasthan upland, hot, dry semi-arid eco-subregion. The agro-climate of the subregion is characterized by hot dry semi-arid with dry summers and cool winters. The mean annual rainfall of the subregion varies from 600-800 mm covering 42-45% of the mean annual PET ranging between 1400-1800 mm (NBSS&LUP). The monsoonal rainfall covers nearly 85% of the total rainfall in the subregion. The moisture index of the subregion varies from 47 to 62% indicates that most of the area falls under the semi-arid (dry) bioclimatic type.

The soils of the area represents the alluvium derived soils. The natural vegetation constitutes the Northern tropical thorn forest. The principal crops of the subregion are wheat, rice, bajra, maize, jowar, etc. Over exploitation of groundwater resulting in the lowering of groundwater table in some areas impose limitation to carrying

capacity. Unscrupulous input of water coupled with imperfect drainage at some places result in rapid development of surface and subsurface salinity or sodicity at places.

The geographical area of the district is 11143 sq. km which is 3.25% of the total state area (Census of India, 2001). The population size of Jaipur district is 52, 51,071 persons with 27, 68,203 males and 24, 82,868 females. The population density of the district is 471 persons per sq km which is the highest amongst all the districts. The sex ratio of the district is 897 females per 1000 males. The decennial growth rate of the district is 35.06% from 1991-2001. In Jaipur district, 49% population lives in the urban areas making the most urbanized district after Kota.

The literacy rate is nearly 70% for persons, 83% for males and 55% for females. While in the case of rural areas these figures are 62% for persons, 79% for males and 44% for females. The average size of operational landholdings is only 2.77 hectares. According to 2005-06 land use statistics, Jaipur has 7% area under forest cover, 3% area under culturable wasteland and 22% area is unavailable for cultivation. The area under fallow land is 14%, net area sown is 56% and total cropped area is 90% of the total land available for utilization. In Jaipur, 33% area is sown more than once according to land use statistics 2005-06.

Chapter: III

Employment Generation under the MNREGS

Introduction:

Mahatma Gandhi National Rural Employment Guarantee Scheme is an employment generation programme. The main approach of the programme is to create employment in the rural areas involving every household of the village. By providing minimum wages, the prospect of the scheme is to enhance the livelihoods of the rural people. In this chapter, an attempt has been made to study the work participation rate, occupational structure of rural workforce and the employment generation under the scheme.

3.1 Work Participation Rate and Occupational structure of workforce in rural areas: A State Level Analysis

The Work Participation Rate in rural areas is of varying nature among Indian states owing to certain factors. It is low in the states of Uttar Pradesh (32%), Bihar (35%) and Kerala (33%). Jammu & Kashmir, Uttrakhand, Punjab, West Bengal, Orissa are the states where WPR is slightly high. Chhattisgarh, Andhra Pradesh, Tamil Nadu, Himachal Pradesh and Mizoram are the states where work participation rate is more than 50%. The other states have work participation rate from 40% to 50%. Rajasthan, Gujarat, Maharashtra, Karnataka, Haryana, Madhya Pradesh and some north eastern states constitute this category.

Table 3.1: Comparative work participation rate for India and Rajasthan

2001	Persons	Males	Females
India	41.72	52.08	30.77
Rajasthan	45.85	50.71	40.63

(Source: B Series, Census of India, 2001)

The work participation rate for rural males is higher in the southern states like Andhra Pradesh, Karnataka and Tamil Nadu. Himachal Pradesh, Uttar Pradesh, Bihar and Assam are the states where the work participation rate is lower than 50%. The work participation rate for rural females shows some interesting distributions. The local factors like traditions, customs play a great role in the case of female work participation rate in

rural areas. The status of the family is also a determining factor for a woman to participate to earn. The female work participation rate is lowest in Kerala (15%). Uttar Pradesh (19%), Bihar (20%), Punjab (23%), West Bengal (21%), Tripura (23%) and Assam (22%) are the states having low female work participation rate in rural areas. Rajasthan, Madhya Pradesh, Maharashtra, Chhattisgarh, Andhra Pradesh and Tamil Nadu are the states where female work participation rate is more than 50%. (See the maps 3.1 & 3.2) The north eastern states also have high rural female work participation rate.

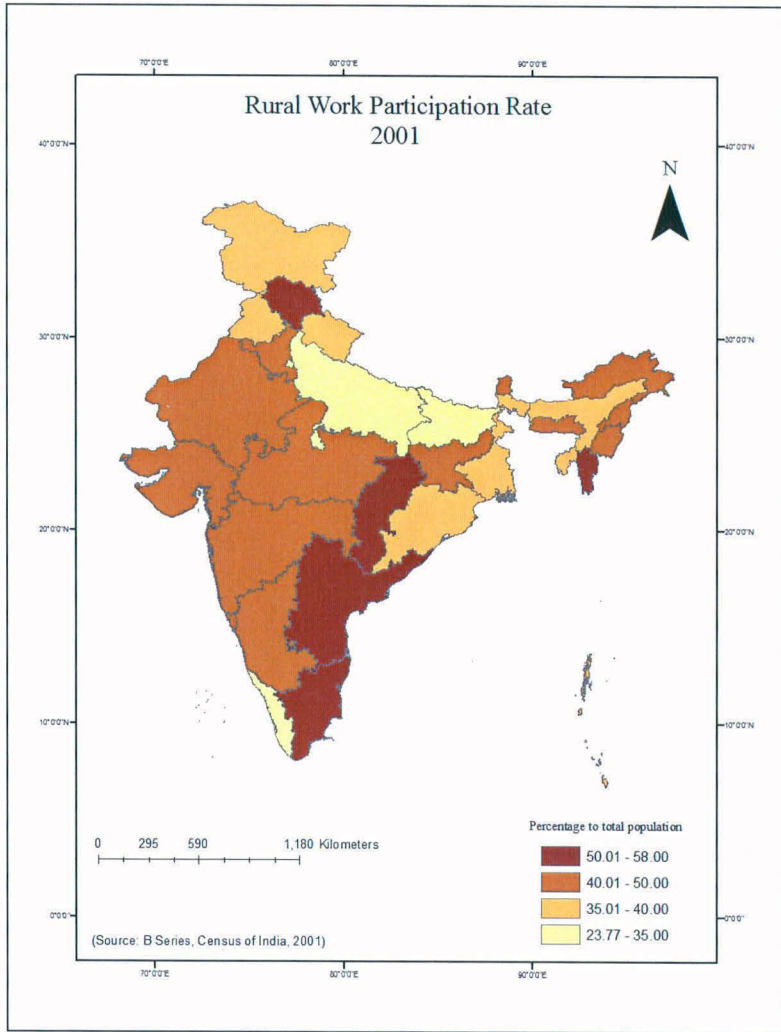
As the rural employment guarantee programme is linked to the rural areas, the study of occupational structure becomes more relevant. The occupational structure of any region provides us the economic background of that region. Mizoram (81%), Nagaland (73%) and Himachal Pradesh (70%) are the states with higher share of workers as cultivators. Rajasthan, Madhya Pradesh, Chhattisgarh, Uttar Pradesh, Uttarakhand and Arunachal Pradesh are the states where the share of cultivators to the total workers is more than 50%. Andhra Pradesh, Tamil Nadu, Kerala, West Bengal and Goa are the states where cultivation workers are very low.

Table 3.2: Occupational structure of rural workforce for India and Rajasthan

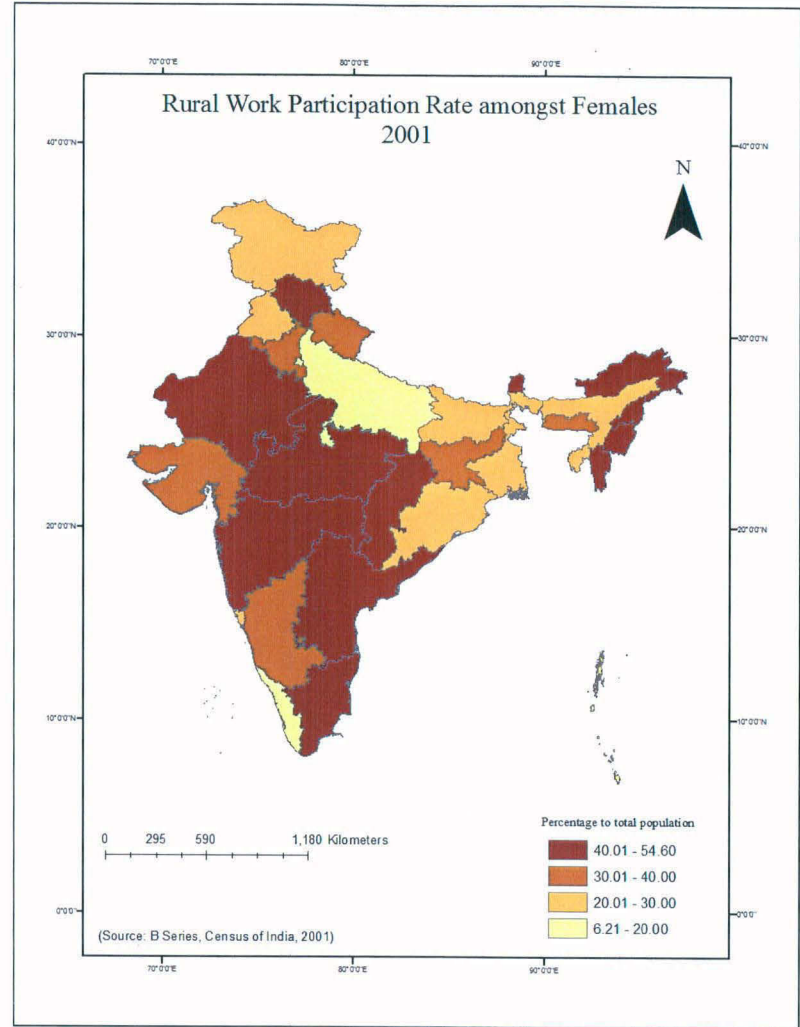
	Cultivators		Agricultural labourers		Allied Activities		Secondary Sector		Services	
	Persons	Females	Persons	Females	Persons	Females	Persons	Females	Persons	Females
India	37.15	40.26	42.98	33.07	5.34	4.40	8.62	10.50	5.92	11.77
Rajasthan	65.09	70.65	12.27	16.84	5.23	5.93	8.76	4.31	8.64	2.27

(Source: B Series, Census of India, 2001)

Bihar (51%), Andhra Pradesh and Tamil Nadu (42% both) are the states with higher share of workers as agriculture labourers.



Map 3.1

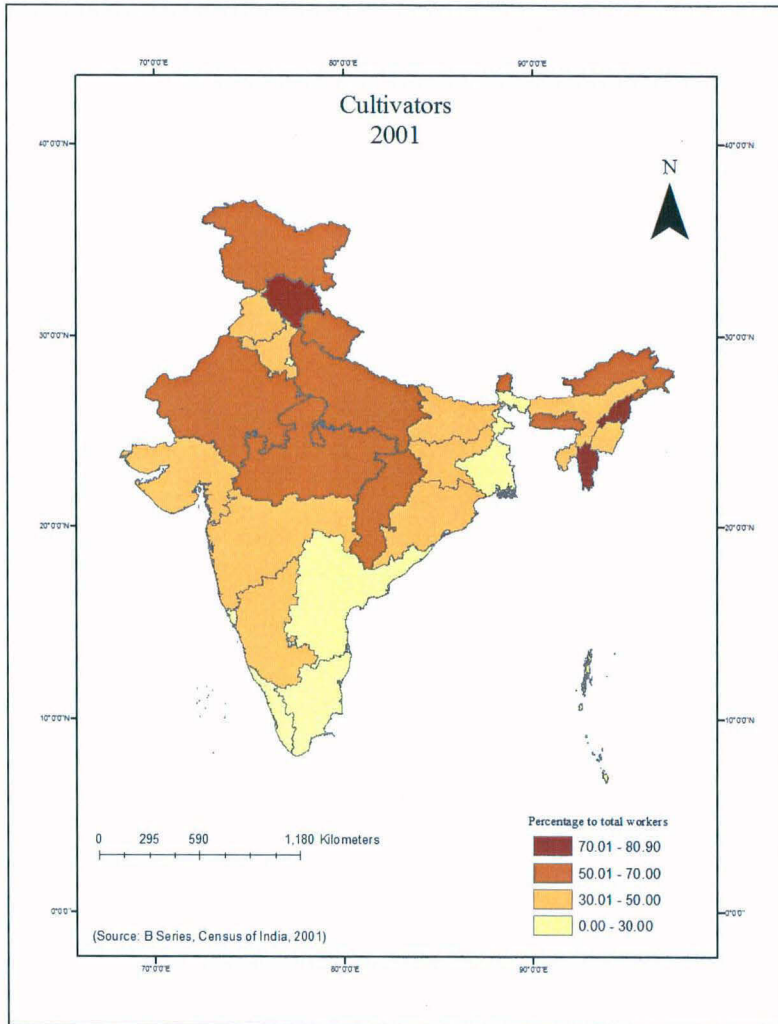


Map 3.2

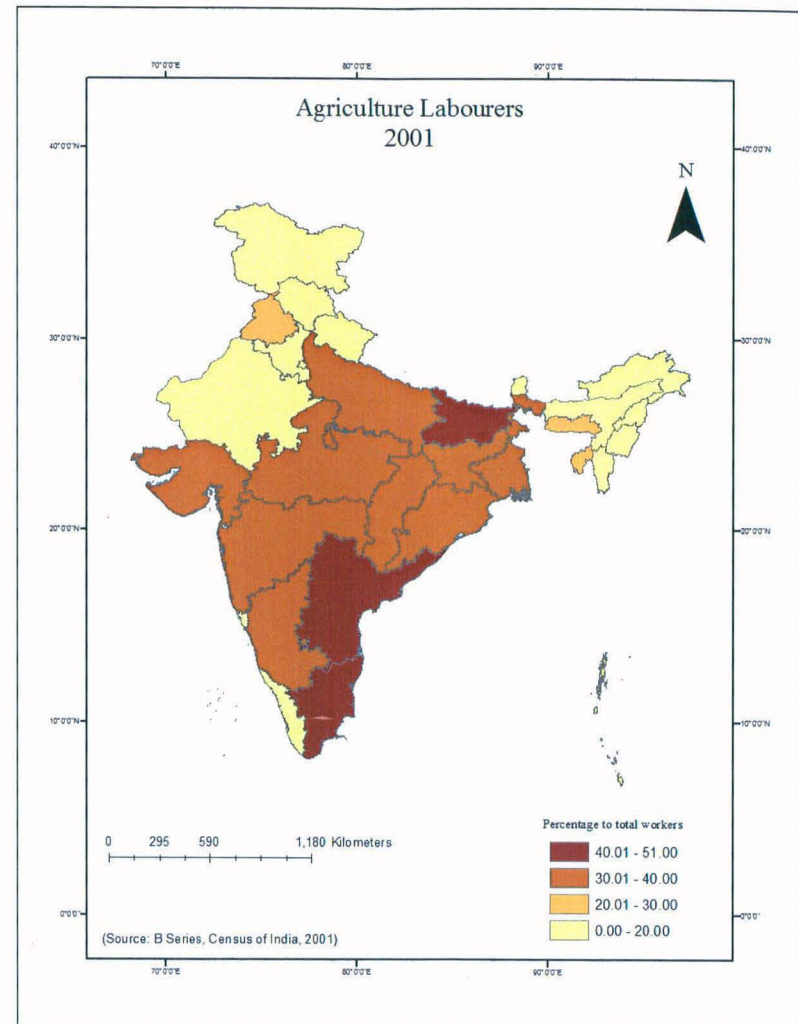
Table 3.3: Rural workforce in agricultural activities in major states

State	Cultivators		Agri. Labourers	
	Persons	Females	Persons	Females
Jammu & Kashmir	52.71	59.77	7.68	5.46
Himachal Pradesh	70.32	88.20	3.34	3.01
Punjab	31.60	16.81	22.04	21.04
Uttaranchal	62.16	82.63	9.77	6.24
Haryana	46.15	48.82	19.10	23.04
Delhi	8.72	18.77	2.73	5.68
Rajasthan	65.09	70.65	12.27	16.84
Uttar Pradesh	51.11	39.02	30.38	42.64
Bihar	31.33	23.79	51.01	63.82
Sikkim	54.90	66.85	7.09	8.99
Arunachal Pradesh	68.51	82.04	4.39	4.69
Nagaland	73.36	82.25	4.03	4.31
Manipur	48.58	48.85	12.82	16.43
Mizoram	80.89	86.73	3.78	4.26
Tripura	31.95	31.51	28.03	38.65
Meghalaya	55.98	59.39	20.01	22.02
Assam	44.35	43.91	14.97	17.20
West Bengal	25.45	16.74	32.99	38.28
Jharkhand	45.01	45.18	32.79	41.38
Orissa	33.57	21.38	39.36	57.02
Chhattisgarh	50.86	47.06	36.10	46.12
Madhya Pradesh	51.36	46.88	34.15	43.24
Gujarat	37.97	31.44	33.21	43.34
Maharashtra	42.45	42.55	37.85	47.47
Andhra Pradesh	27.56	22.16	47.55	60.46
Karnataka	39.02	29.27	34.45	50.15
Goa	16.72	25.15	11.32	19.69
Kerala	9.04	6.00	19.63	26.01
Tamil Nadu	27.22	24.24	42.96	54.10

(Source: B Series, Census of India, 2001)



Map 3.3



Map 3.4

Most of the states have 30-40% workers as agriculture labourers according to 2001 census. The hilly states of Jammu Kashmir, Uttrakhand, Himachal Pradesh and the north eastern states have very low share of workers as agriculture labourers. (See the maps 3.3 & 3.4) The occupational structure of rural females varies across states. It becomes clear that the women in the hilly areas are more engaged with work as cultivators. Himachal Pradesh, Uttrakhand, Arunachal Pradesh, Nagaland and Mizoram are the states where 80% of the rural females work as cultivators. Rajasthan (70%) and Meghalaya (59%) are other states where more rural females work as cultivators.

Bihar (64%), Andhra Pradesh (60%), Orissa (57%), Tamil Nadu (54%) and Karnataka (50%) are the states where rural females work as agricultural labourers. 33% rural female workers in Punjab work in allied activities. 24% rural female workers in West Bengal and 27% in Kerala work as workers in secondary sector.

3.2 Occupational Structure of workforce in rural areas in Rajasthan:

The occupational structure of rural workforce suggests that largely the workers are engaged as cultivators in the state. Even the female workers are more prone towards cultivators than males in some districts. Churu (84%), Banswara (79%), Barmer (77%), Bikaner (74%) and Chittorgarh (73%) are the districts with high share of workers engaged in cultivation activities. In most of the other districts also, the high share of workers are engaged as cultivators. Ganganagar, Kota, Pali and Sirohi are the districts where less than 50% of the total workers are engaged in cultivation activities. The females are more engaged in cultivation activities. In most of the districts where workers are more engaged in cultivation activities, the share of female workers is higher than persons in cultivation. Kota, Sirohi, Pali and Ganganagar are the districts where females are less engaged in cultivation activities.

The workers are less engaged in agriculture as agricultural labourers in the state. In the districts of Baran, Ganganagar, Kota, Jhalawar and Pali, the share of workers as agricultural labourers varies from 20-28%. In other districts, very low share of workers are engaged as agricultural labourers.

Table 3.4: Rural workforce in agricultural activities in Rajasthan

Districts	Cultivators		Agricultural labourers	
	Persons	Females	Persons	Females
Ganganagar	46.37	42.66	27.89	34.33
Hanumangarh	68.48	72.94	17.70	18.79
Bikaner	74.42	80.17	7.22	7.57
Churu	84.59	91.04	4.96	4.61
Jhunjhunun	70.12	81.80	7.95	7.36
Alwar	67.84	72.57	9.57	12.71
Bharatpur	68.96	70.83	14.30	21.24
Dhaulpur	54.38	37.37	7.94	9.59
Karauli	66.62	73.80	10.93	17.52
Sawai Madhopur	72.27	79.05	9.27	13.38
Dausa	71.04	80.68	6.96	10.58
Jaipur	60.17	72.27	7.08	10.70
Nagaur	68.43	78.37	11.50	14.65
Sikar	68.59	82.02	6.55	7.08
Jodhpur	65.34	74.96	12.73	17.34
Jaisalmer	52.68	62.16	9.05	12.64
Barmer	76.77	84.06	4.77	5.79
Jalor	69.13	72.27	11.51	14.83
Sirohi	37.27	36.11	20.60	34.80
Pali	42.75	41.36	23.01	37.00
Ajmer	53.32	60.80	14.08	21.75
Tonk	66.37	70.87	11.92	17.75
Bundi	64.87	66.22	15.01	21.37
Bhilwara	64.84	72.83	8.09	11.87
Rajsamand	44.72	54.18	14.72	24.23
Udaipur	61.15	66.74	12.45	19.88
Dungarpur	62.31	62.76	16.56	24.45
Banswara	78.56	79.00	10.75	15.48
Chittaurgarh	73.34	77.74	11.40	15.23
Kota	46.46	43.78	25.80	41.41
Baran	57.36	52.59	28.54	40.45
Jhalawar	64.69	62.07	22.95	33.01

(Source: B Series, Census of India, 2001)

Table 3.5: Correlation Matrix between cultivators, agricultural labourers and scheduled caste and scheduled tribe population

		Cult_p	cult_f	sc	st	ag_p	ag_f
Cult_p	Pearson Correlation	1	-.441*	-0.141	.576**	-.441*	-.466*
	Sig. (2-tailed)		0.017	0.465	0.001	0.017	0.011
	N	29	29	29	29	29	29
cult_f	Pearson Correlation	-.441*	1	.440*	-0.295	1.000**	.987**
	Sig. (2-tailed)	0.017		0.017	0.12	0	0
	N	29	29	29	29	29	29
sc	Pearson Correlation	-0.141	.440*	1	-.598**	.440*	.399*
	Sig. (2-tailed)	0.465	0.017		0.001	0.017	0.032
	N	29	29	29	29	29	29
st	Pearson Correlation	.576**	-0.295	-.598**	1	-0.295	-0.294
	Sig. (2-tailed)	0.001	0.12	0.001		0.12	0.121
	N	29	29	29	29	29	29
ag_p	Pearson Correlation	-.441*	1.000**	.440*	-0.295	1	.987**
	Sig. (2-tailed)	0.017	0	0.017	0.12		0
	N	29	29	29	29	29	29
ag_f	Pearson Correlation	-.466*	.987**	.399*	-0.294	.987**	1
	Sig. (2-tailed)	0.011	0	0.032	0.121	0	
	N	29	29	29	29	29	29

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

Note: Cult_p shows the share of cultivators to the total workers population

Cult_f shows the share of female cultivators to the total female workers in rural areas.

Ag_p shows the share of agricultural labourers to the total workers in rural areas

Ag_f shows the share of female agricultural labourers to the total female workers in rural areas.

Sc and St shows the share of scheduled caste and scheduled tribe population in rural areas

The females are more engaged in the agriculture sector as agricultural labourers than males and persons. Kota, Baran, Pali, Sirohi, Ganganagar and Jhalawar are the districts with more than 30% female workers work as agricultural labourers.

The correlation matrix shows that the share of cultivators and agricultural labourers are correlated with the share of scheduled caste and scheduled tribe population. The table shows that the share of cultivators and scheduled tribe population are correlated at the 0.01 significance level. While the share of agricultural labourers and the scheduled caste population is correlated at the 0.05 significance level. The cultivators and agricultural labourers are negatively correlated at the 0.05 significance level.

3.3 Job Cards Issued and Employment provided at the state level:

In 2008-09, 45,518,907 rural households demanded employment in India in all the states and UTs. And out of it, 45,115,358 rural households were provided employment. It shows that almost all the rural households have been provided employment during 2008-09. In Rajasthan, highest number of rural households (63,75,314) demanded employment. Andhra Pradesh, Madhya Pradesh and Uttar Pradesh are the other states where a large number of households demanded employment under the employment scheme. While during 2009-10, 52,920,154 rural households demanded employment under the scheme. Rajasthan, Uttar Pradesh, Madhya Pradesh and Tamil Nadu are the states where a large amount of rural households were demanded employment. Those households demanded employment were provided employment in the same year.

3.4 Households Completed 100 Days of Employment:

Though the MNREGS guaranteed the 100 days of employment to every rural household seeking employment yet the share of households completed 100 days of employment varies across states. During 2008-09, only Mizoram was the state where 53% of the total rural households completed 100 days of employment under the MNREGS scheme. After Mizoram, Rajasthan and Manipur were the states where 41% and 36% respectively of the total rural households completed 100 days of employment. All the other states were far behind in achieving this goal.

During 2009-10, the highest share of households completed 100 days of employment was relatively low but a few states improved their status in this respect. The highest value was 37% in Tripura but the states like Andhra Pradesh, Sikkim and Nagaland improved their previous share of rural households completed 100 days of employment. (See the maps 3.5 & 3.6)

3.5 Average Person days Generated per Household:

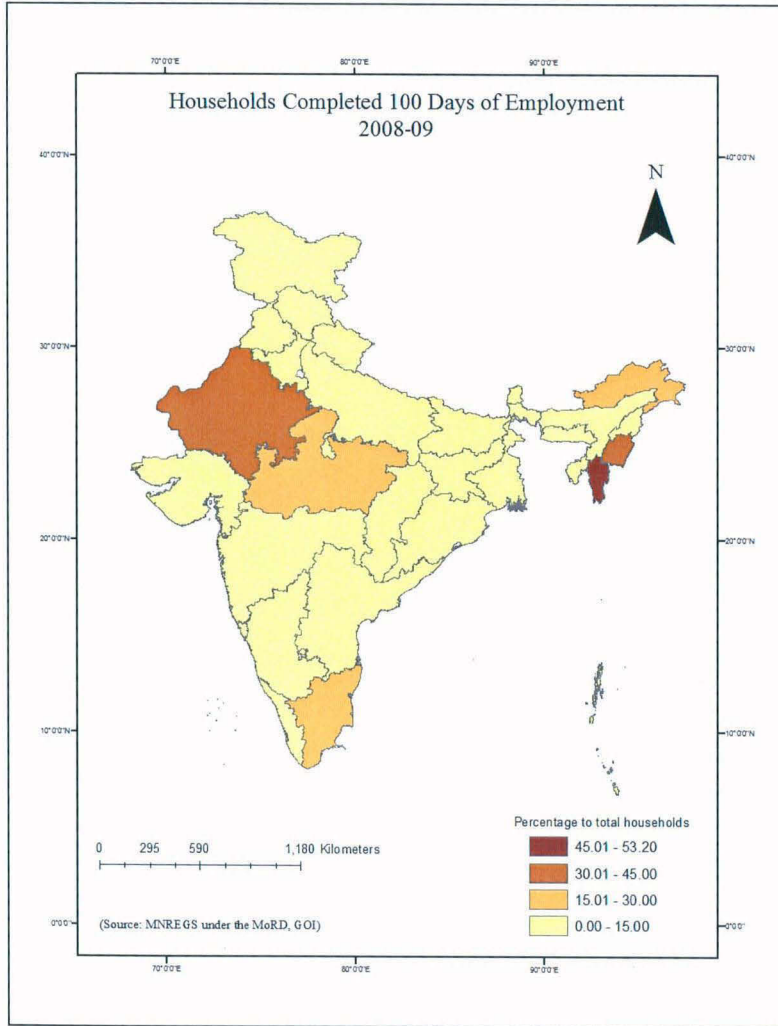
The average person days generated per household shows the average number of days a household has been provided employment under the employment guarantee scheme. However it is evident that the share of households completed 100 days of employment is very low in most of the states but the average person days generated per household is very near to 100 days in some states. Rajasthan, Manipur, Tripura, Nagaland and Mizoram are the states where more than 60 person days of employment per household been generated during 2008-09 under the scheme. In the states of Himachal Pradesh, Haryana, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Andhra Pradesh and Jharkhand 40-60 person days of employment have been generated under the MNREG scheme.

During 2009-10, many states improved their status and generated more number of person days of employment per household. In the north-eastern states like Sikkim, Tripura, Mizoram and Nagaland 80 or more person days of employment have been generated under the scheme. Rajasthan (69), Uttar Pradesh (65) and Andhra Pradesh (66) are the other well performing states. Most of the states have generated 40-60 person days of employment during 2009-10 financial year. (See the maps 3.7 & 3.8)

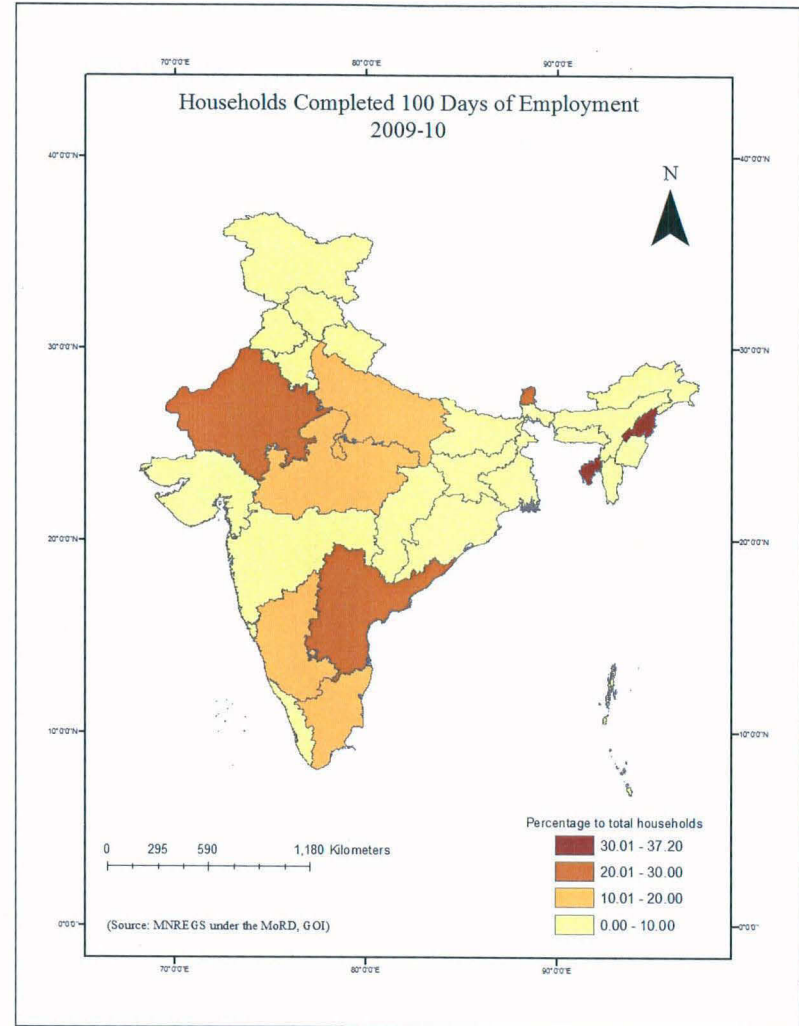
3.6 Person days Generated by Social Groups (SCs, STs, & Women):

In this particular section, persondays generated by social groups (SCs, STs and Women) have been studied. These social groups are considered more vulnerable regarding socio-economic status.¹

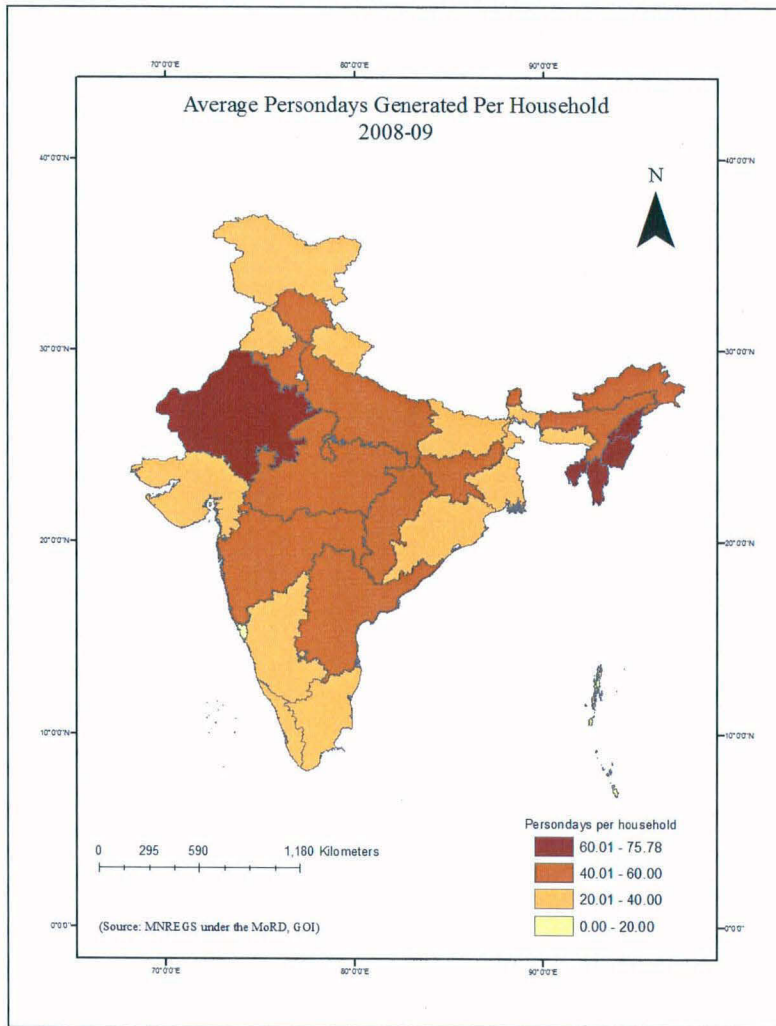
¹ Sundaram, K. and Tendulkar, S. D. (2003), "Poverty among Social and -Economic groups in India in 1990s", *Economic and Political Weekly*, Vol. 38, No. 50, Dec. 13-19, pp.5263-5276.



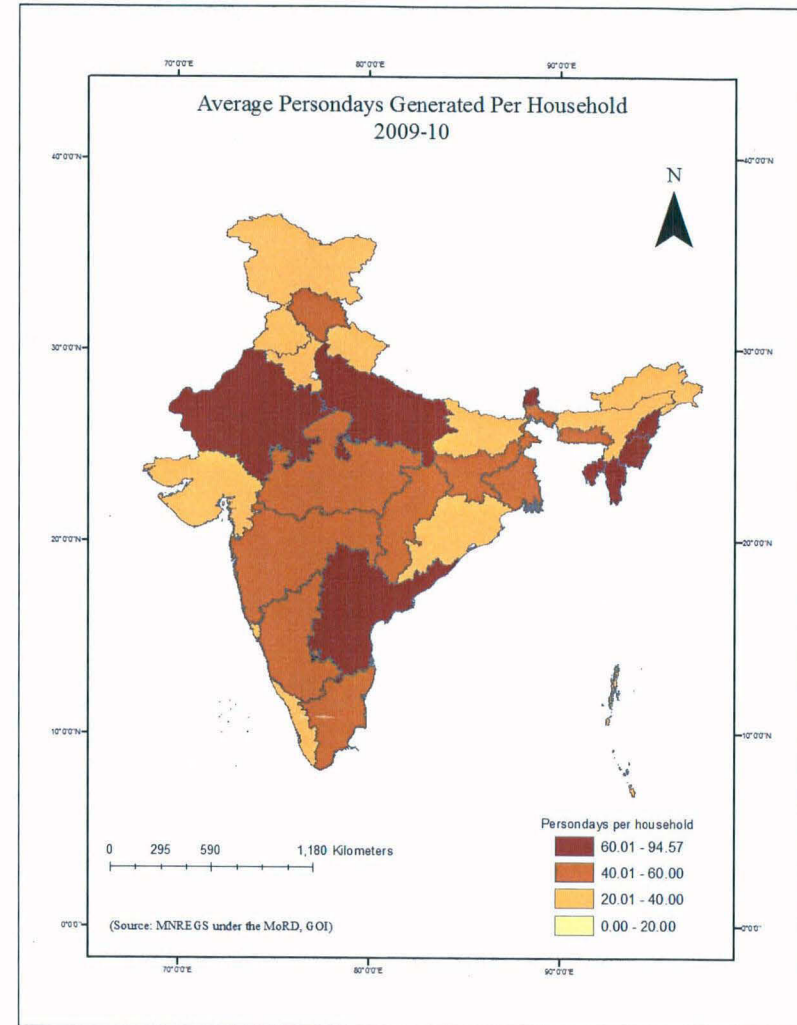
Map 3.5



Map 3.6



Map 3.7



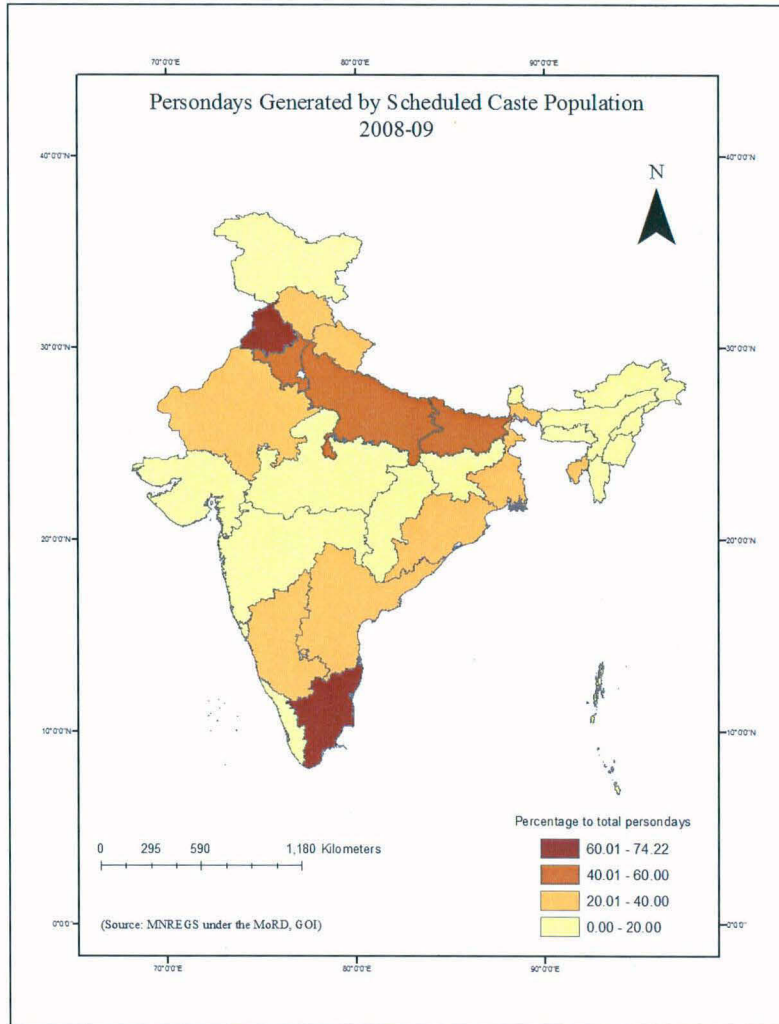
Map 3.8

Thus the participation of these social groups at the local level becomes very significant. During 2008-09, Punjab (74%) and Tamil Nadu (60%) are the states where a large chunk of person days have been generated by the scheduled caste population. After these states Uttar Pradesh (54%), Haryana (53%), and Bihar (50%) are the states where the share of person days generated by scheduled caste population is higher than other states. During 2009-10, the state wise person days generated by scheduled caste remained more or less same. (See the maps 3.9 & 3.10)

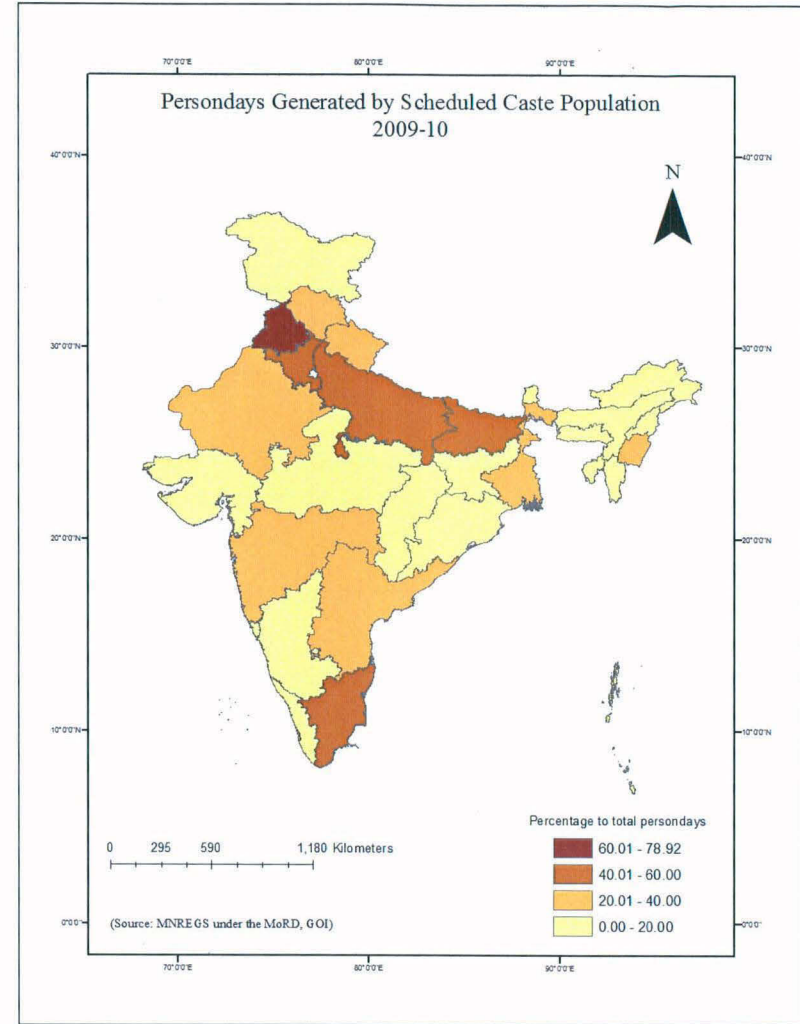
The scheduled tribe population is concentrated in the states of north-eastern part and central part of the nation. The Indo-Gangetic belt is devoid of scheduled tribe population. Thus the share of person days generated by the scheduled tribe population is limited to some states only. During 2008-09, Meghalaya (95%), Mizoram and Nagaland (100% both) were the states where almost all the person days have been generated by the scheduled tribe population. Manipur and Arunachal Pradesh are the other states where more than 70% person days have been generated by the scheduled tribe population.

Gujarat, Madhya Pradesh, Chhattisgarh, Maharashtra and Assam are also the states where the scheduled tribe population has generated a large share of person days of employment. During 2009-10, along with Meghalaya, Mizoram, Nagaland and Arunachal Pradesh become the other states where more than 90% persondays were generated by scheduled tribe population. In Rajasthan, 23% persondays were generated by the scheduled tribe population in both the years. (See the maps 3.11 & 3.12)

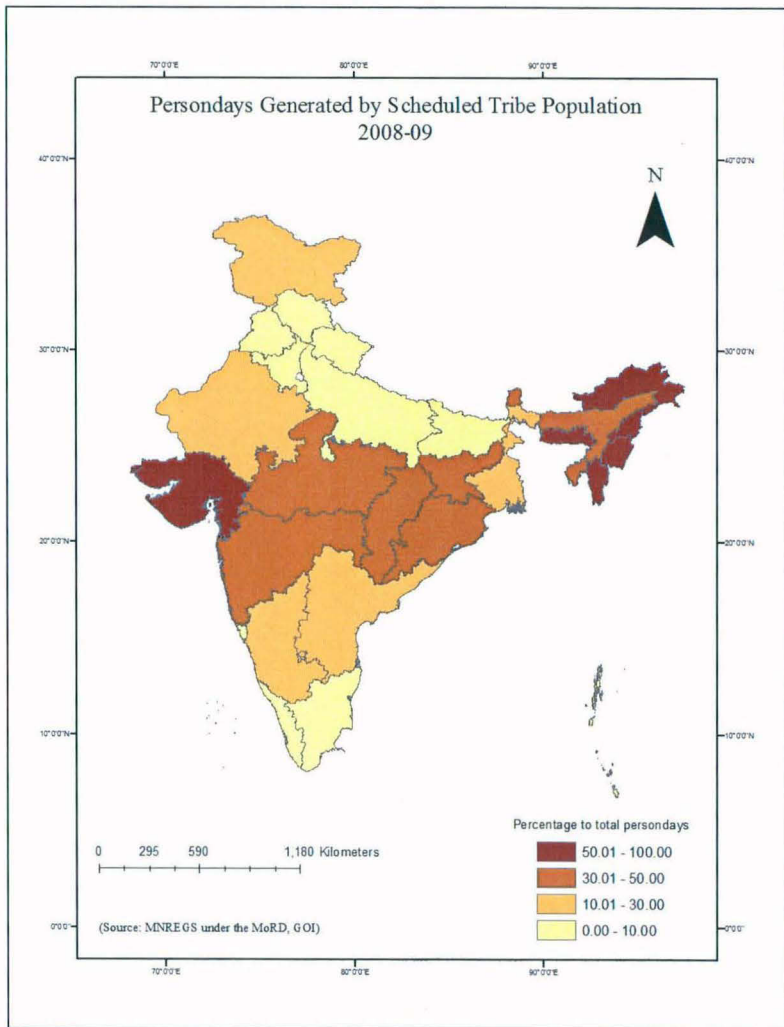
The very interesting point that emerged out is the high participation of women in MNREGS in all the states. During 2008-09, Rajasthan (67%), Tamil Nadu (80%) and Kerala (85%) were the states with large share of person days generated by women. Gujarat, Madhya Pradesh, Andhra Pradesh, Maharashtra, Chhattisgarh and Karnataka are the other states where the share of persondays generated by women is significant. During 2009-10, the situation improved in some states and the women continued to generate more person days. (See the maps 3.13 & 3.14)



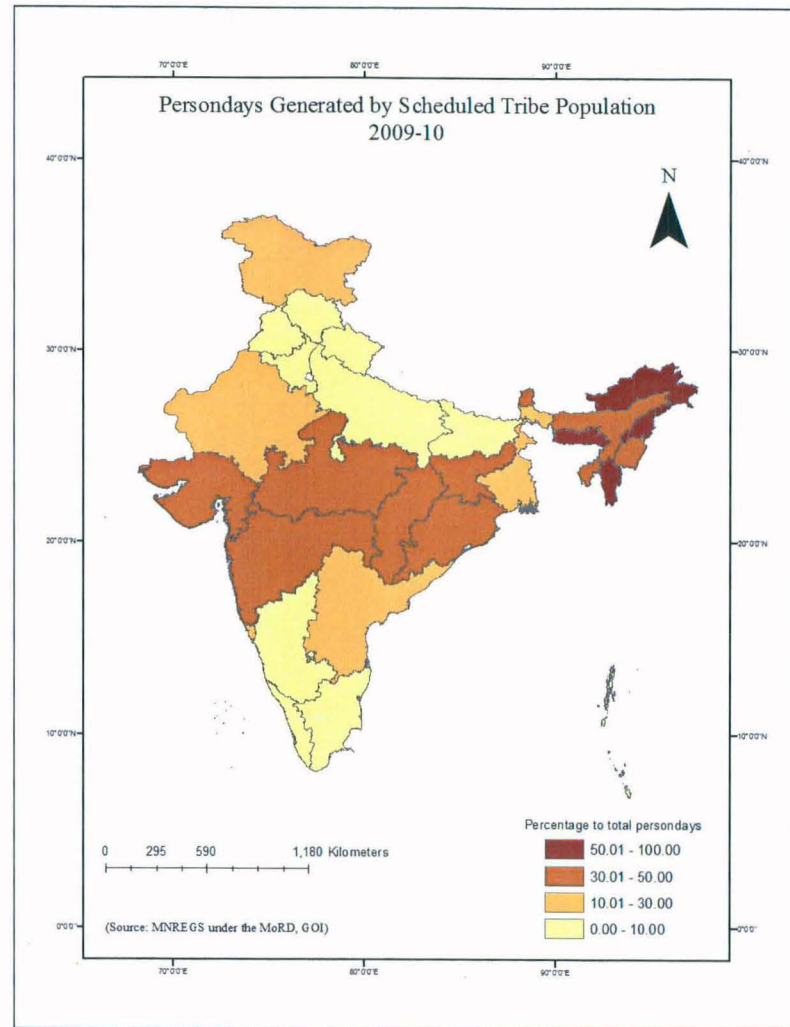
Map 3.9



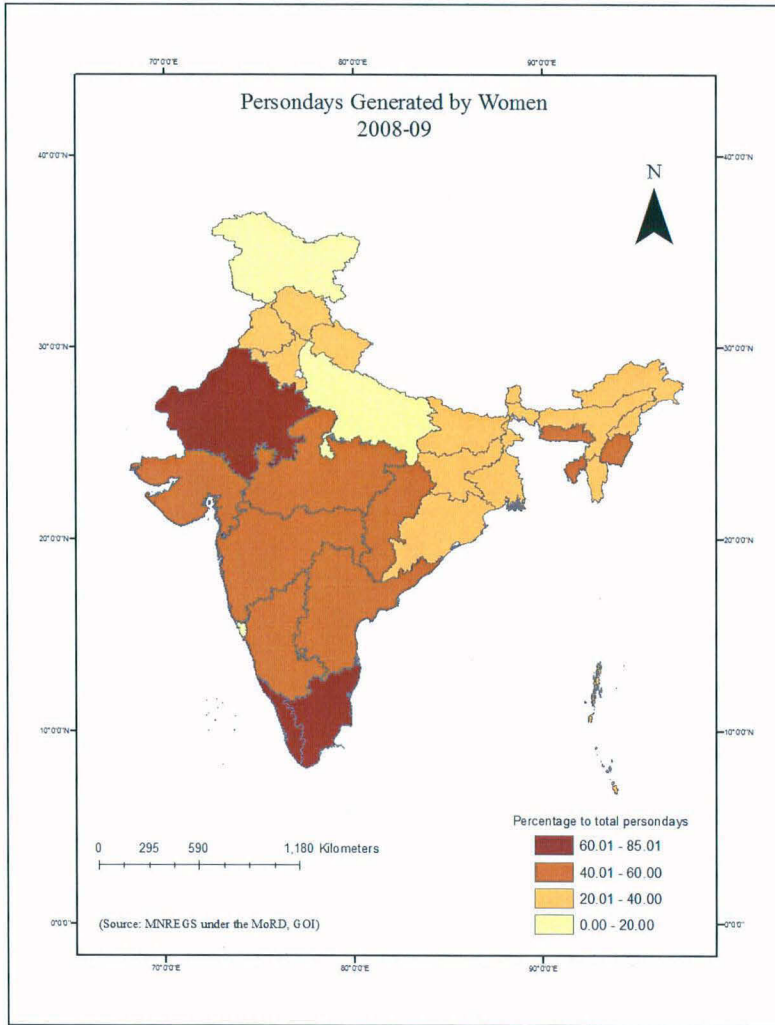
Map 3.10



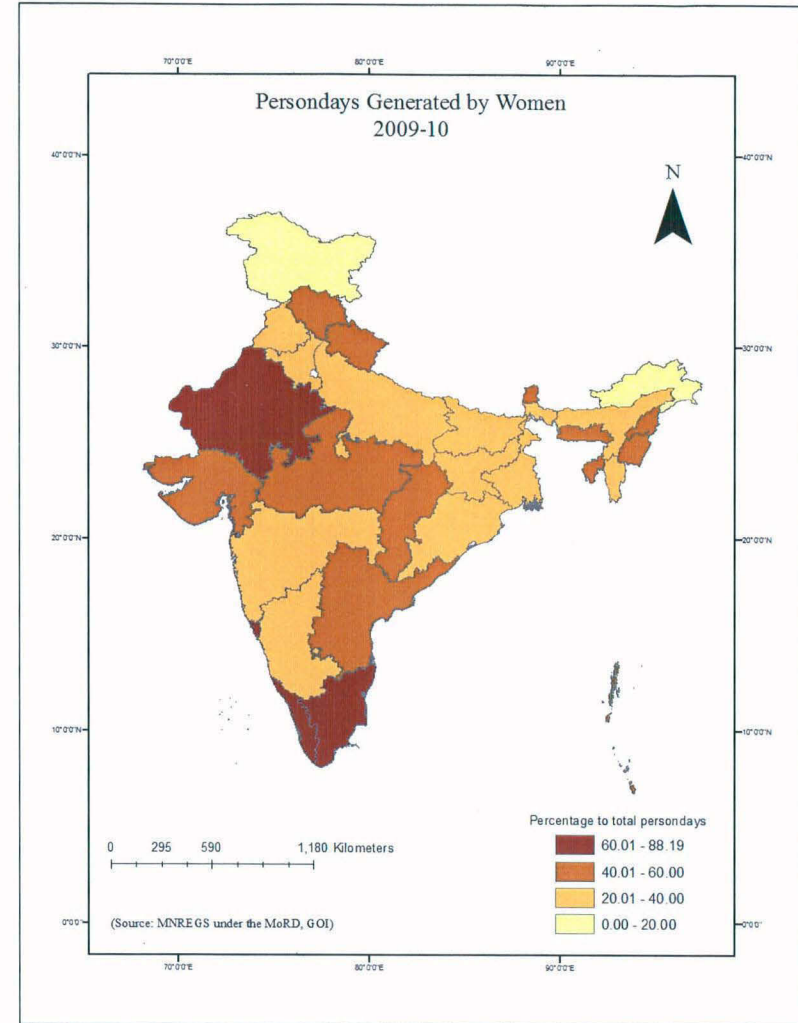
Map 3.11



Map 3.12



Map 3.13



Map 3.14

The above analysis shows that mainly hilly states and north eastern states possess higher share of workers as cultivators. Bihar, Andhra Pradesh, Tamil Nadu and Uttar Pradesh are the states where agriculture labourers are more than cultivators. Rural female workers work more as cultivators in most of the north eastern states and in Rajasthan. If we look at the employment generation under the MNREG scheme, the above mentioned states perform better than others states.

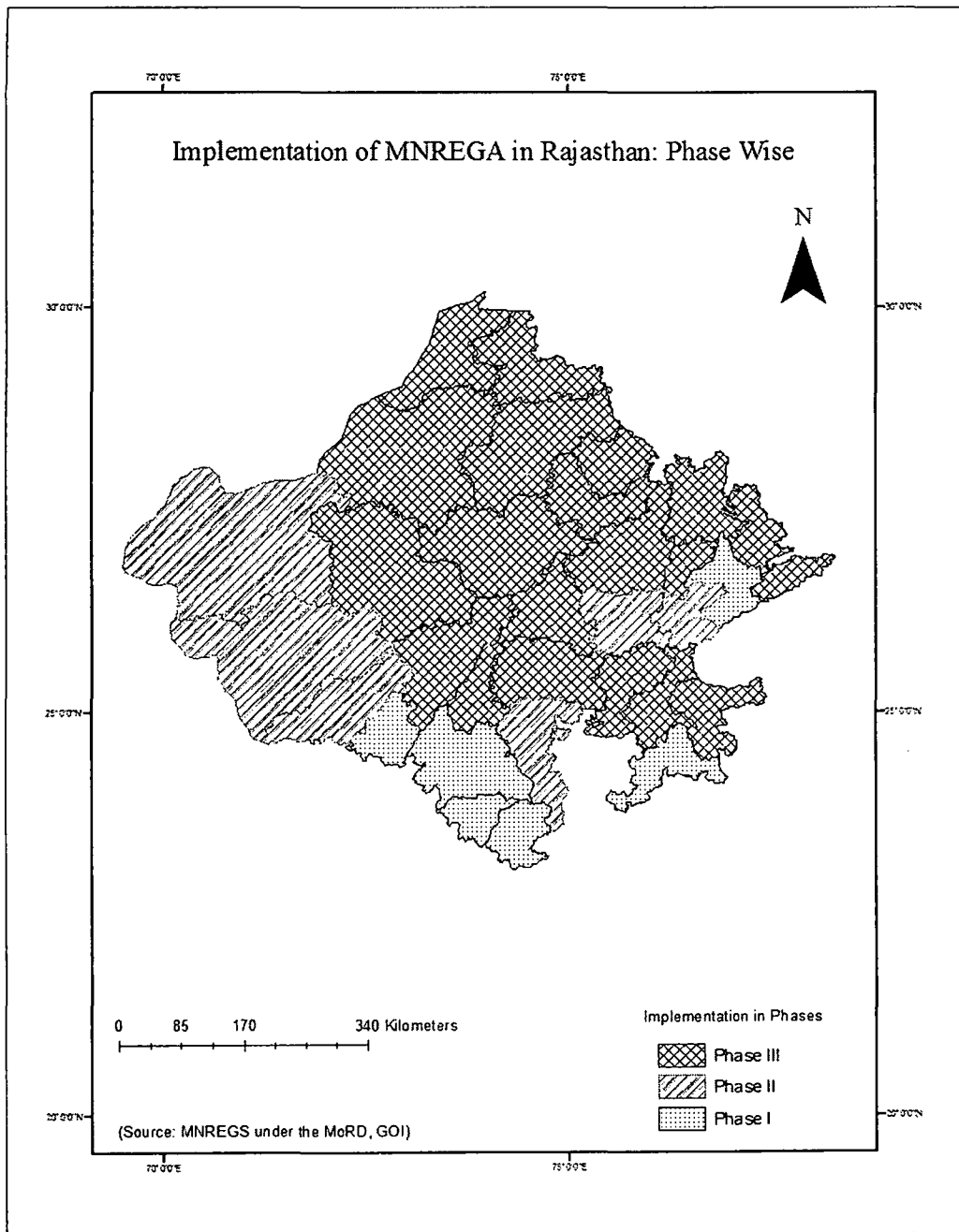
The average person days generated per household is more in the states where the share of cultivators is more. The states of Rajasthan, Andhra Pradesh, Madhya Pradesh, Tamil Nadu and Kerala performed well under the scheme.

3.7 Job Cards Issued and Employment Provided to Rural Households in Rajasthan:

During 2007-08, 28,69,457 rural households have been issued job cards in Rajasthan. The highest numbers of job cards have been issued in Udaipur (4.5 lakh). All the rural households have been provided job cards. Chittorgarh is the exception where 78% of the total rural households have been provided job cards. Approximately, all the job card issued households have been provided employment during 2007-08. During 2008-09, 84,68,740 rural households have been issued job cards. And also from this year, all the districts have been included under the MNREG scheme. All the job card issued rural households have been provided employment. During 2009-10, more rural households have been issued job cards and provided employment.

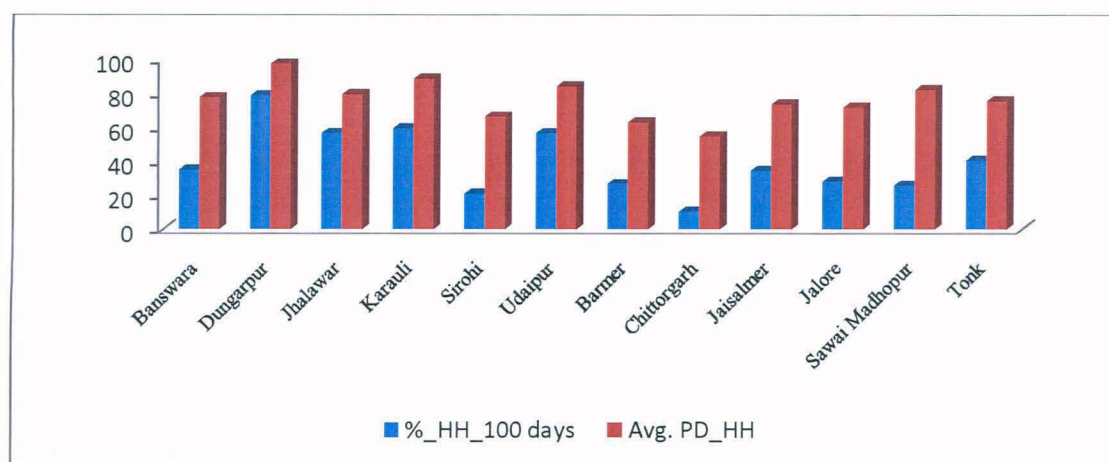
3.8 Households Completed 100 Days of Employment in Rajasthan:

In Rajasthan, district level analysis shows some variation regarding rural households completed 100 days of employment under the employment guarantee scheme. During 2007-08, Dungarpur (79%), Karauli (60%), Udaipur and Jhalawar (57% both) are the districts with high share of rural households completed 100 days of employment. Chittorgarh, Sirohi, Sawai Madhopur and Barmer present the glooming picture with very little share of households completed 100 days of employment.



Map 3.15 showing the implementation of the MNREGA in Rajasthan

Fig. 3.1: Average person days generated per household and households completed 100 days of employment in Rajasthan (2007-08)



Note 1: %_HH_100 days shows the households completed 100 days of employment in percentage

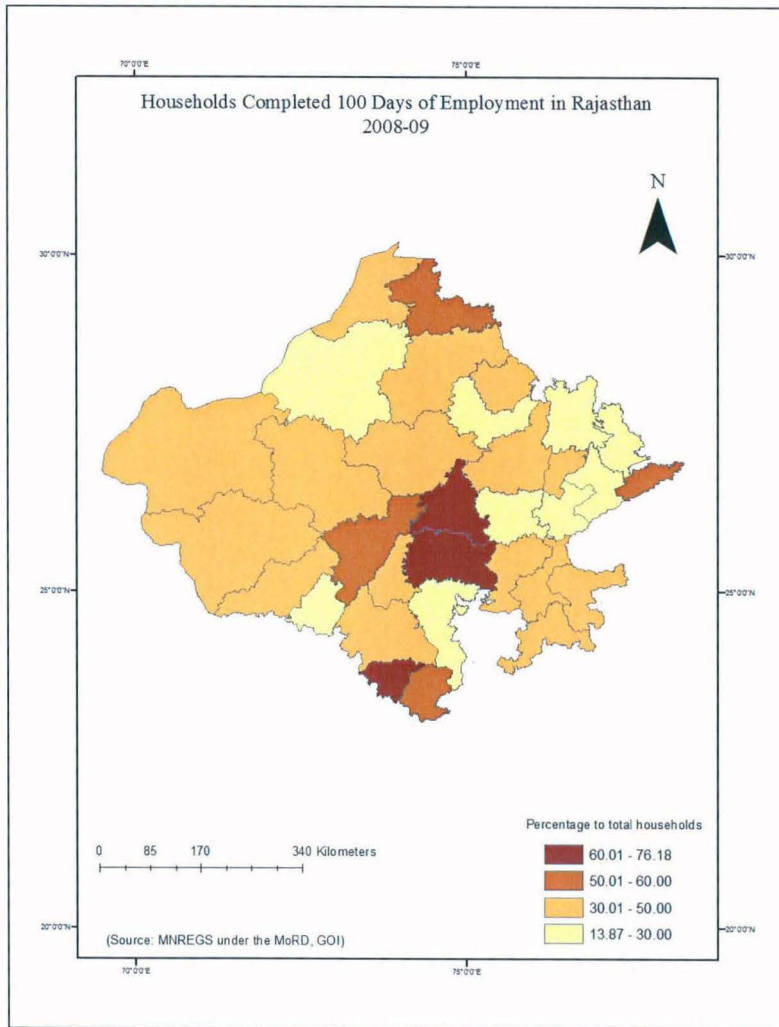
2: Avg. PD_HH shows average person days generated per household

During 2008-09, Dungarpur (76%), Bhilwara (68%) and Ajmer (62%) are the districts with high share of rural households completed 100 days of employment. Banswara and Pali (55% both), Hanumangarh (52%), and Dholpur (51%) are the other well performing districts with more than 50% households completed 100 days of employment under the scheme. Bikaner, Tonk, Alwar and Sawai Madhopur performed very bad having very little share of rural households completed 100 days of employment.

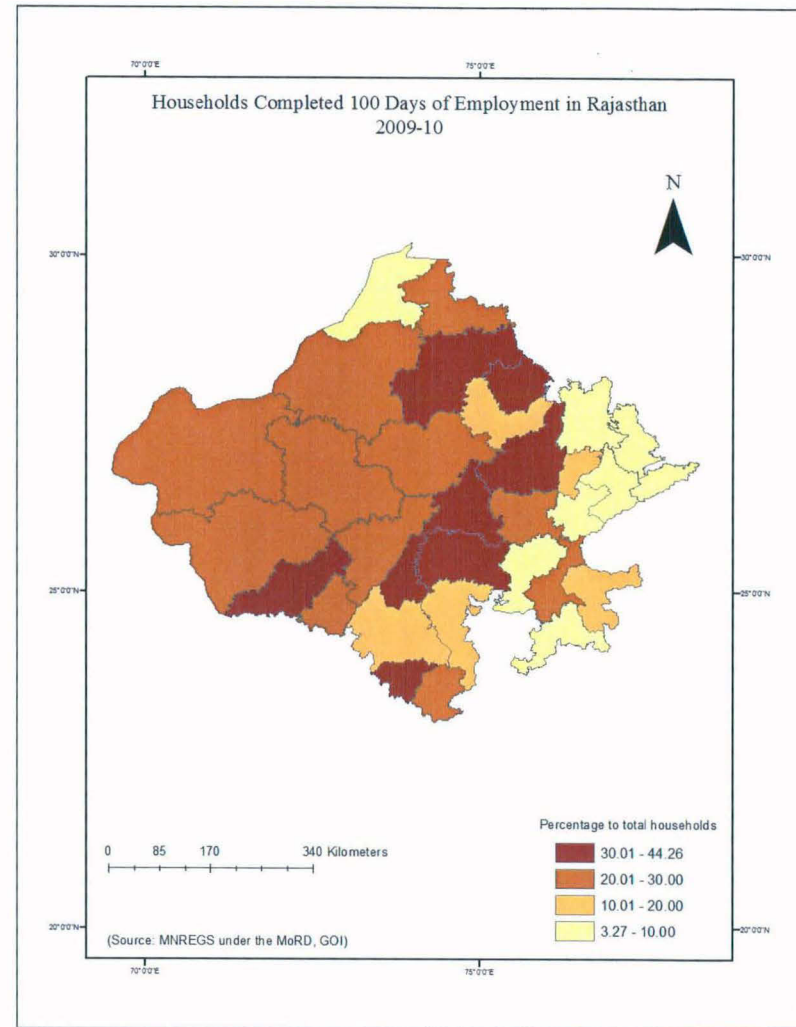
During 2009-10, rural households completed 100 days of employment were decreased in some of the districts. Dungarpur with 44% households completed 100 days of employment was at the top. In most of the districts this share remains below than 30%. The north-eastern districts are far behind with only less than 10% households completed 100 days of employment. In 2010-11, the situation remains the same. (See the maps 3.25 & 3.26)

3.9 Average Person days Generated per Household in Rajasthan:

During 2007-08, Dungarpur (98), Karauli (89), Udaipur (84) and Sawai Madhopur (82) are the districts where more than 80 person days of employment per



Map 3.16



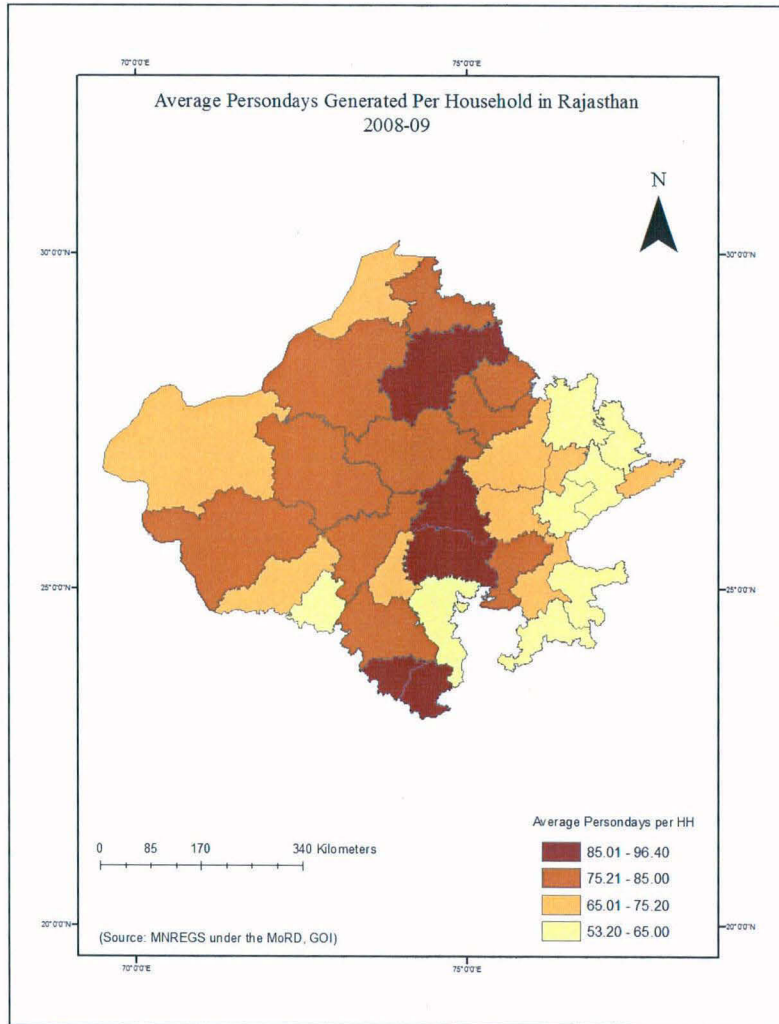
Map 3.17

household have been generated. In other districts also, the situation is good regarding person days generated per household. During 2008-09, Banswara (96), Dungarpur (91), Ajmer (93), Churu (86) and Bhilwara (90) districts are far ahead regarding average persondays generated per household under the MNREG scheme. The central, the north and the north-western part also generated significant share of persondays per household. The north-eastern districts are far behind in terms of persondays generated per household in that year.

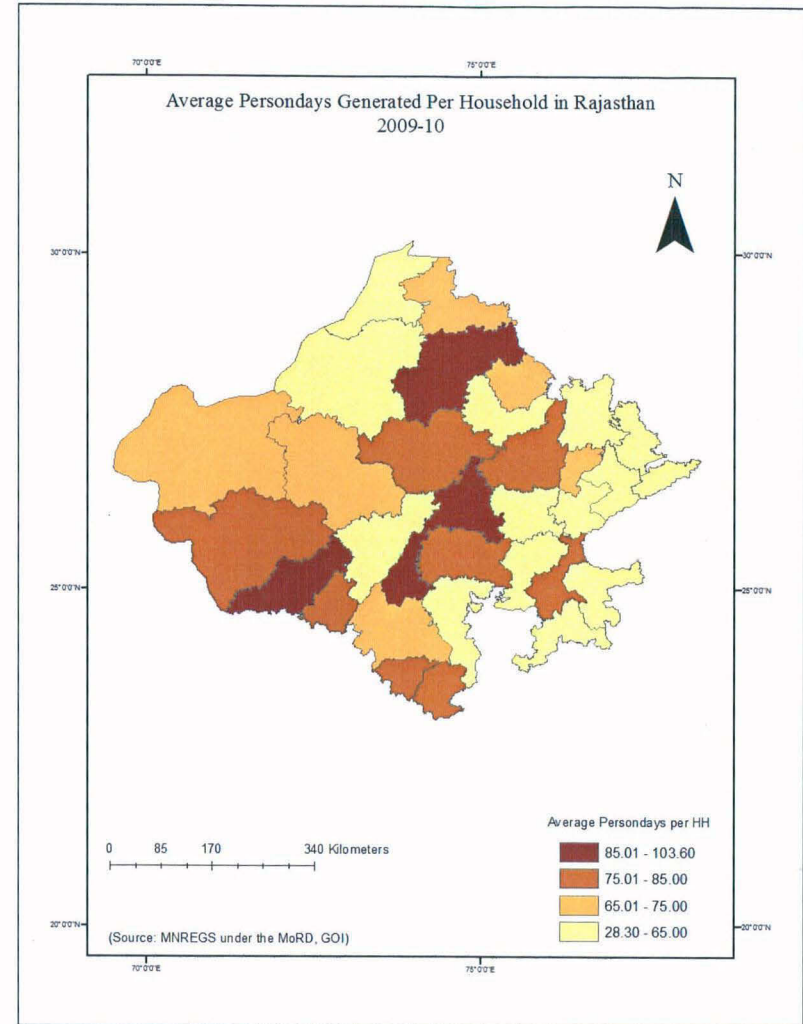
During 2009-10, Ajmer generated 103 persondays per household which is a great achievement. Jalore (86), Churu (90), and Rajsamand (89) generated more than 85 persondays of employment per household. Banswara, Sirohi, Jaipur, Nagaur and Bhilwara are the other districts where more than 75 person days of employment have been generated per household. Again in this year, the north-eastern districts performed badly (less persondays generated per household). During 2010-11, all the districts generated very less number of person days per household. It is because of incomplete data for the current year. The data is extracted before the completion of the year 2010-11. The highest value for this year is 50 persondays per household in Banswara. (See the maps 3.27 & 3.28)

3.10 Person days Generated by Scheduled Caste Population in Rajasthan:

The scheduled caste population generated a large share of persondays in the north and north-western districts of Rajasthan. During 2007-08, Sirohi generated 40% person days by scheduled caste population. The tribal population pockets Udaipur, Dungarpur and Banswara generated the lowest share of person days by scheduled caste population. During 2008-09, Ganganagar (57%), Hanumangarh (45%), Jhunjhunu and Jodhpur (50% both), and Bikaner (44%) are the districts where a large share of person days have been generated by scheduled caste population. In other north and north eastern districts the share varies from 30 to 40% person days per households.



Map 3.18



Map 3.19

Ganganagar (58%) generated higher share of person days per household for scheduled caste population during 2009-10. The number of districts generated higher share of person days for scheduled caste population decreased during 2010-11. Only Ganganagar and Jhunjhunu generated approximately 50% of the person days for scheduled caste population. (See the maps 3.29 & 3.30)

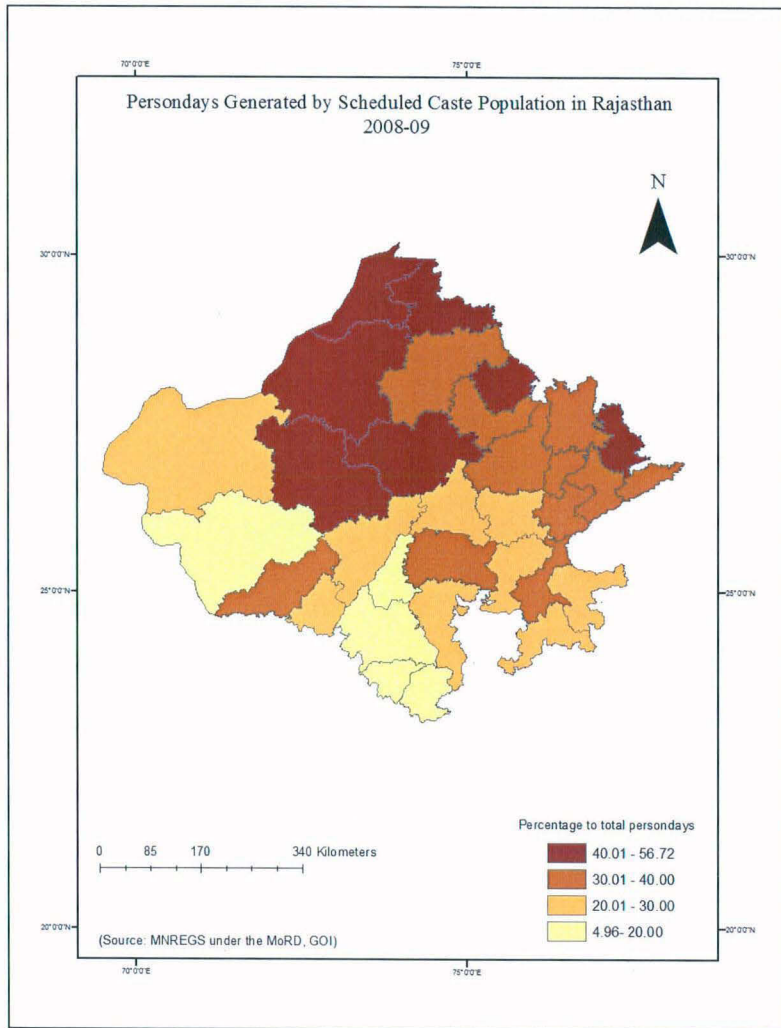
3.11 Person days Generated by Scheduled Tribe Population in Rajasthan:

The person days generated by scheduled tribe population in Rajasthan is limited to some districts only. During 2007-08, Banswara (88%), Dungarpur (80%) and Udaipur (74%) districts generated a large part of person days by scheduled tribe population. Sawai Madhopur, Chittorgarh and Sirohi are the other districts where a significant share of person days has been generated by the scheduled tribe population. In 2008-09, Banswara (86%), Dungarpur (80%) and Udaipur (73%) were the same districts generated a large share of person days for scheduled tribe population. The situation remains same during 2009-10 and 2010-11. (See the maps 3.31 & 3.32)

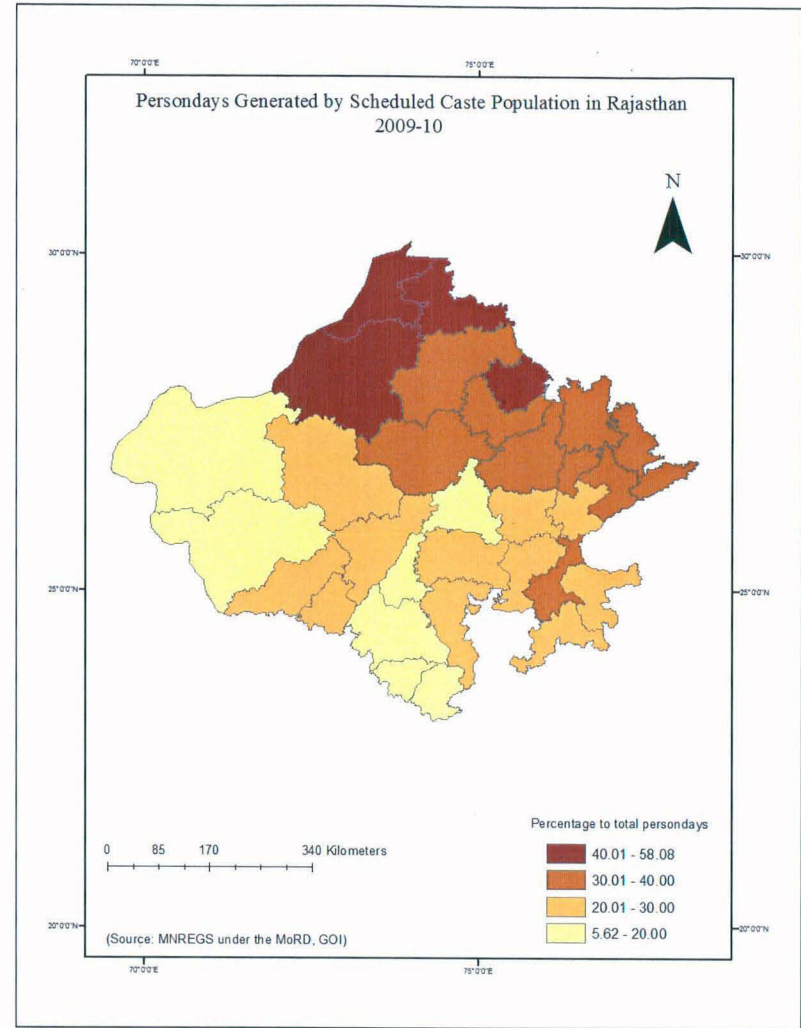
3.12 Person days Generated by Women in Rajasthan:

The very interesting point emerged out from the MNREG scheme is the more participation of women. The share of person days generated by women is more than other social groups in most of the cases. During 2007-08, women generated more than 60% person days of employment in all the districts under the MNREG scheme. It was 80% in the case of Jalore. During 2008-09, Bhilwara (83%), Ajmer (84%) and Jodhpur (90%) generated more than 80% person days for women.

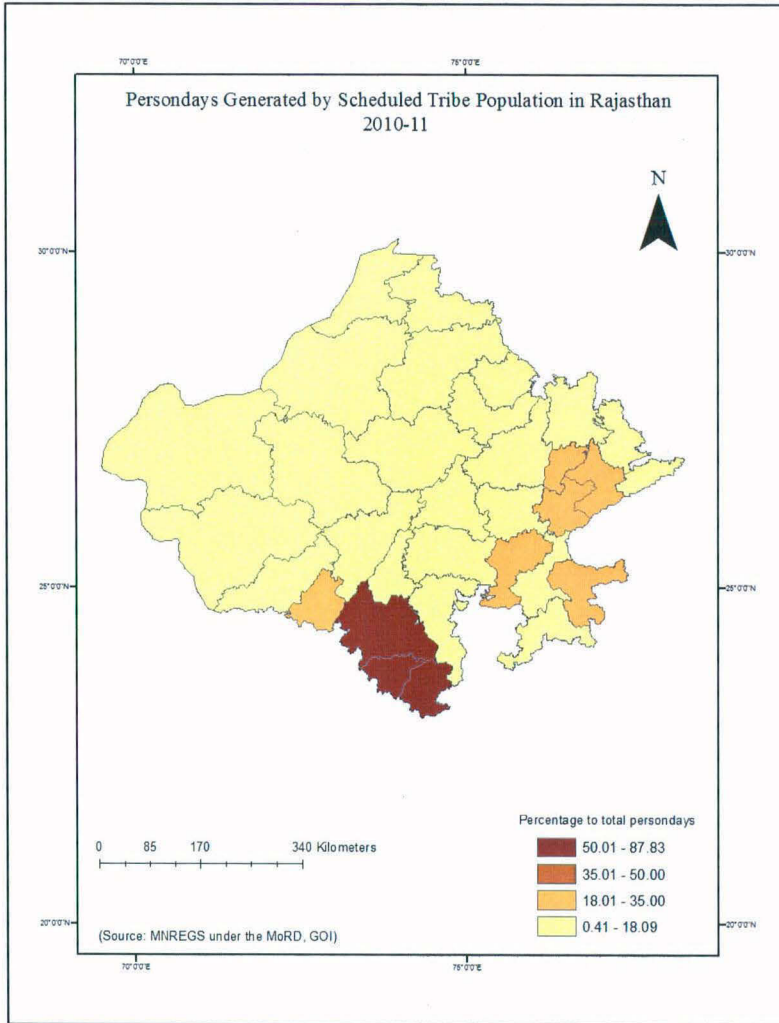
The number of districts generated 60 to 80% person days for women were large. In all the districts (except Hanumangarh, Sikar and Dhaulpur) women generated more than 50% person days of employment under the employment guarantee scheme during 2008-09. The situation further improved and women generated more person days of employment in all the districts during 2009-10.



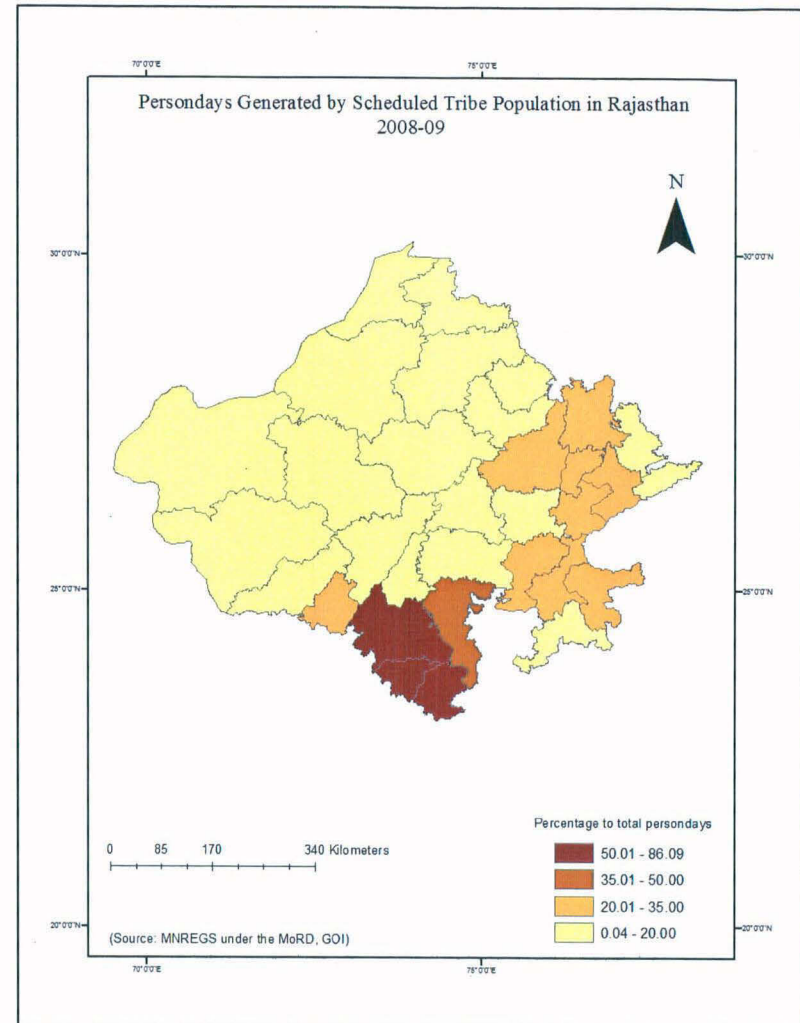
Map 3.20



Map 3.21



Map 3.22



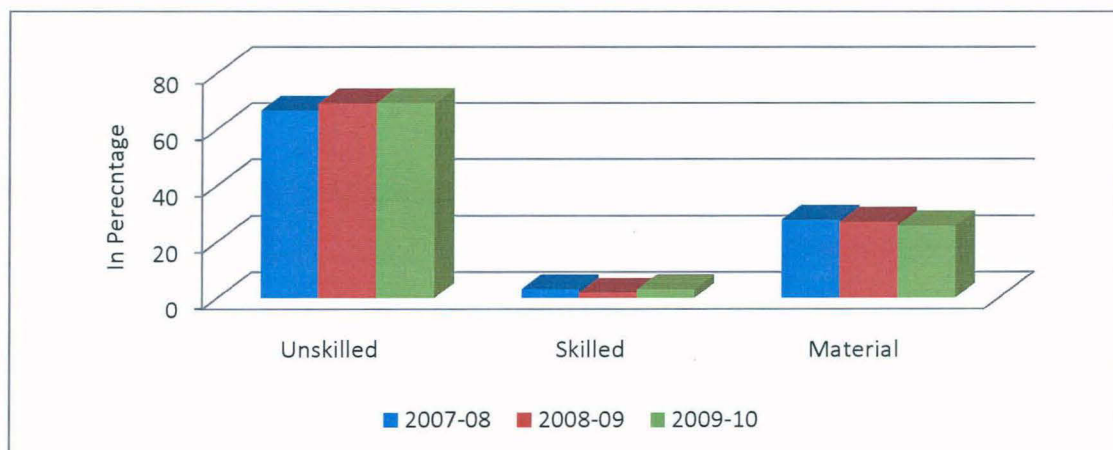
Map 3.23

The districts that were lagging behind in 2008-09 also improved their status. Jodhpur, Nagaur, Ajmer, Bhilwara, Chittorgarh and Udaipur all districts generated more than 70% person days under the MNREG scheme. Dholpur is the exception where only 29% person days have been generated by women during 2009-10. In 2010-11 also the same picture emerges without any significant change. (See the maps 3.33 & 3.34)

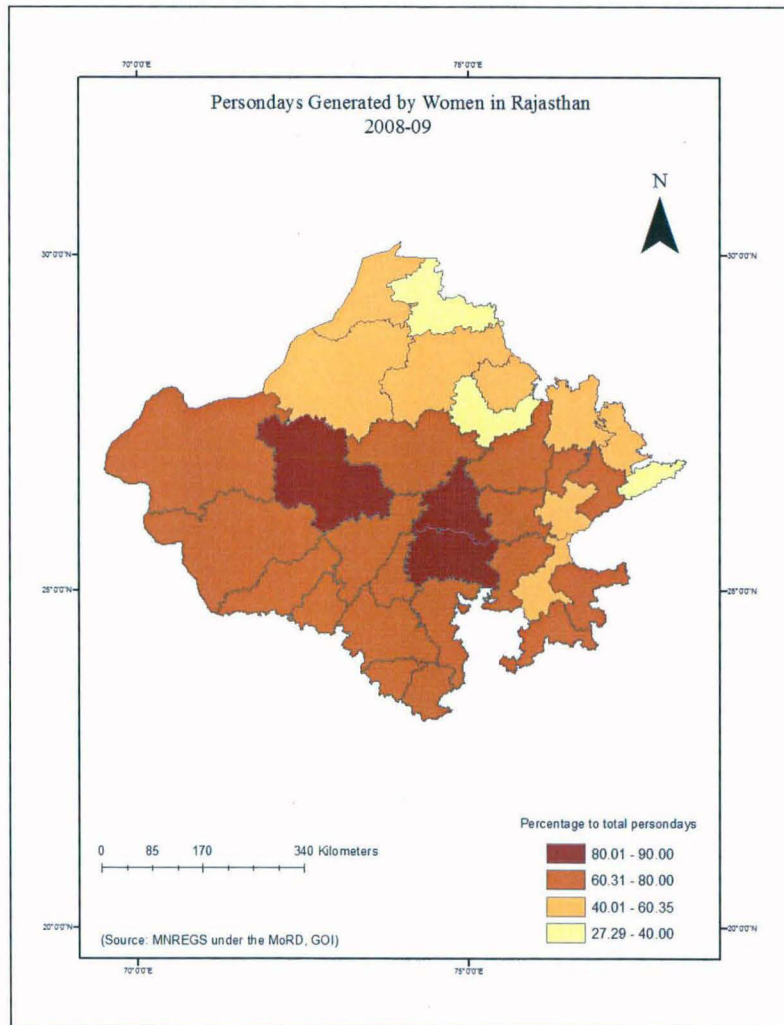
3.13 Wage Rate and MNREGS expenditure:

The fund released by centre is being spent on unskilled wages, skilled & semi skilled wages and on material. The larger part is spent on unskilled wages and rest on unskilled and material. As larger part of expenditure is spent on wages so wage rate becomes an important factor. Under the employment guarantee scheme, statutory minimum wage rate is provided which is the main cause of enhancement in the livelihood of the rural people.

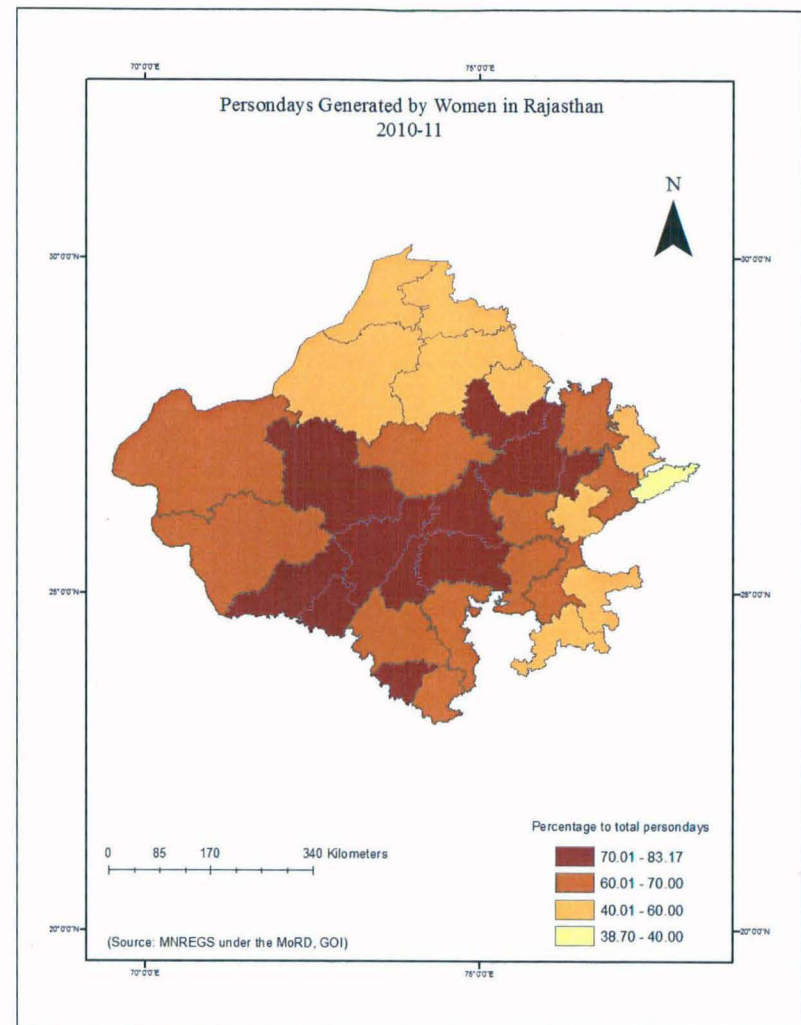
Fig. 3.2: Composition of MNREG scheme expenditure in Rajasthan



The wage rates differs district wise as well as year wise. The average wage paid per person days varied from Rs.30.8 in Jaisalmer to Rs. 78.5 in Jhalawar in 2007-08. However the minimum wage rate was 100 in 2007-08. During 2008-09 and 2009-10, the average wage paid per person days has increased against minimum wage rate of 100. It was Rs. 104 in Pali in 2009-10 and Rs. 109 in Sirohi in 2008-09 while minimum wage rate is 100.

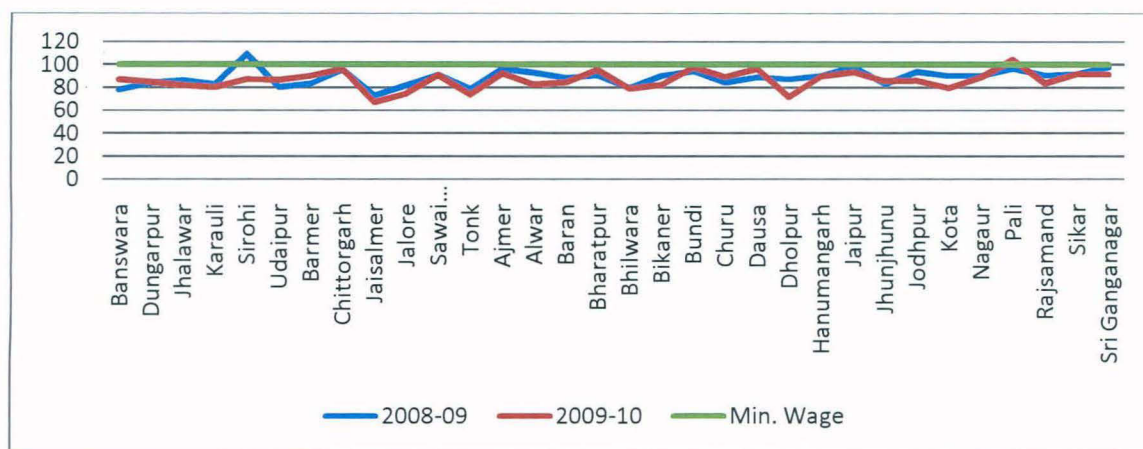


Map 3.24



Map 3.25

Fig.3.3: Wage rate provided against minimum wage rate under the scheme in Rajasthan



The employment generation under the MNREGS in Rajasthan is not even rather explains various factors. Bhilwara, Ajmer, Dungarpur and Churu are the districts where the rural households have been provided employment for longer duration. The eastern districts are far behind in terms of employment generation. The performance of the western districts is improving timely. Ganganagar, Hanumangarh, Bikaner, Jodhpur and Jhunjhunu are the districts where scheduled caste population is getting more employment under the employment guarantee scheme. Banswara, Dungarpur and Udaipur emerged as the largest employment generating area for scheduled tribe population. The women have been provided employment in all the districts at large scale under the scheme. These are the districts where the MNREGS has generated more employment than other parts of the state.

In the districts of Ganganagar, Hanumangarh, Bikaner, Churu and Jodhpur scheduled caste population has generated more share of person days than other social groups. These are the districts with higher share of scheduled caste population to the total population. The persondays generated by scheduled tribe population confined to only Banswara, Dungarpur and Udaipur districts. These districts are the main area of inhabitants for scheduled tribes in Rajasthan. The share of person days generated by women is not much in the northern and north-eastern district of the state. It mainly

confined to the central part and southern districts of the state. Jodhpur, Bhilwara, Ajmer, Sikar, Dungarpur, Pali, Sirohi, Jaipur and Jalore are these districts.

Chapter: IV

Physical Works and Resource Creation

Introduction:

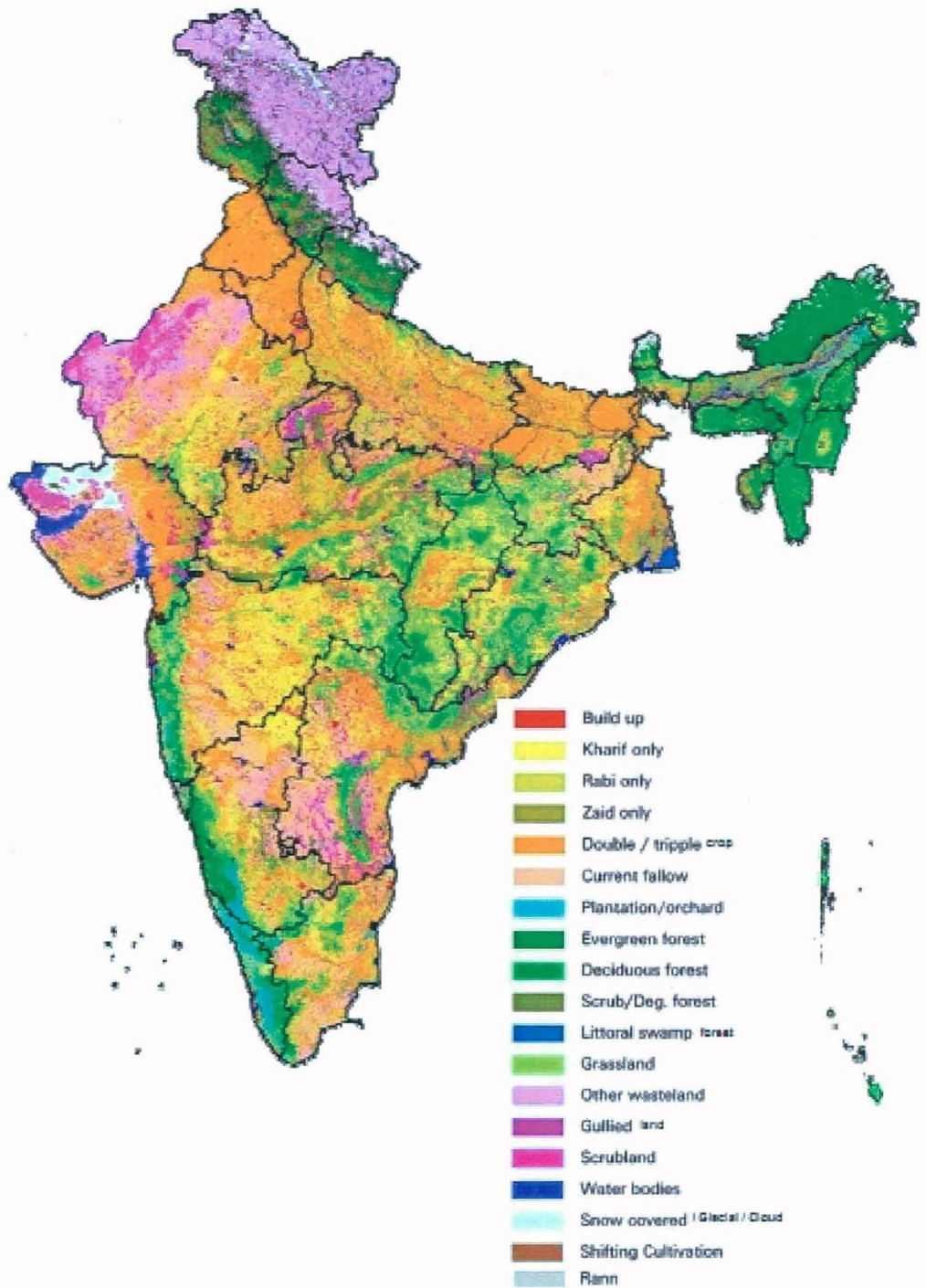
Mahatma Gandhi National Rural Employment Guarantee scheme is an employment generation programme but the creation of physical works is an important aspect of the scheme. The pattern of consistence NSA and current fallows give an idea of the spatial pattern of land use and land cover. In the background of this land use land cover scenario the pattern of physical works creation under the MNREGS has been studied in this chapter. These works are water conservation and water harvesting, works linked with drought proofing, micro irrigation works, provision of irrigation to land owned by SCs and STs, renovation of traditional water bodies, works linked with land development like plantation, flood control and flood protection, and rural connectivity. The main focus of these types of works is to preserve and conserve the land and water of the rural area. These works except rural connectivity are linked with soil and water conservation in the rural areas.

4.1 Land Use and Land Cover Classifications-India (2006-07):

This section presents the data based on the actual Land Use and Land Cover existing as on the date of satellite data used. The development of national spatial databases on temporal dynamics of agricultural ecosystems, forest conversions, surface water bodies, reclamation of wastelands, etc. is realized as an urgent need to facilitate national accounting of natural resources and planning at regular intervals. LULC system in India exhibit high degree of spatial and temporal variations due to the influence of climate and local land use practices on agriculture, compositional and phenological variability's of forest ecosystems, biotic pressures and reclamation activities of marginal and underutilized lands. In order to precisely capture these variations and develop reliable LULC map of India, the project under NNRMS has used temporally discriminate spectral signatures developed, based on intra annual variations observed using multi-temporal IRS-AWiFS data of entire country.

It is observed from the table 4.1 that during 2006-07 about 43% of the TGA of the country constitutes the NSA. Forest cover accounted for 67.06 M ha which is 20.4% of the TGA of the country.

Map 4.1 LULC Classifications 2006-07



(Source: NR Census-Land use and land cover mapping using multi-temporal AWiFS data, IRS-P6 AWiFS 2006-07)

Table 4.1: National Land use/land cover statistics (2006-07)

SR. No.	LUCL Class	Area (Million hectares)	% to TGA
1	Kharif only	53.99	16.43
2	Rabi only	27.63	8.41
3	Zaid only	1.41	0.43
4	Double/tripple cropped	53.7	16.34
5	Plantation	6.8	2.07
Net Sown Area*		141.06	42.92
6	Fallow land	40.84	12.43
7	Evergreen/semievergreen	17.42	5.30
8	Deciduous	34.26	10.43
9	Shrub/degraded/scrub	14.83	4.51
10	Littoral swamp/Mangrove/Fresh water swamp	0.54	0.17
Forest Cover		67.06	20.40
11	Grasslands & grazing lands	8.06	2.45
12	Other wastelands	29.66	9.03
13	Gullied/ravines	1.07	0.32
14	Scrub land	21.61	6.58
15	Water bodies	8.24	2.51
16	Shifting cultivation areas	0.2	0.06
17	Snow cover/glacial/cloud	4.34	1.32
18	Built up land (urban/rural)	2.06	0.63
19	Rann area	1.99	0.60
Others		77.22	23.50
Total Geographical Area		328.65	

* Areas under plantation in Assam and West Bengal were excluded from NSA.

(Source: NR Census-Land use and land cover mapping using multi-temporal AWiFS data, IRS-P6, AWiFS 2006-07)

In other LULC classes, other wastelands constitute 29.66 M ha which is 9% of the TGA. The scrub land and water bodies are 6.58% and 2.5% of the TGA respectively. The grasslands and grazing lands constitute only 2.45% of the TGA. Deciduous forest cover is more pronounced which is 10.4% of the TGA. In NSA, Kharif constitutes about

38.27% of the NSA followed by double cropped area which is 38.07%. The double cropped area estimated is 53.07 M ha (16.37% of the TGA). Plantation constitutes only 1% of the NSA.

Fig. 4.1: Distribution of Major LULC Classes (2006-07)

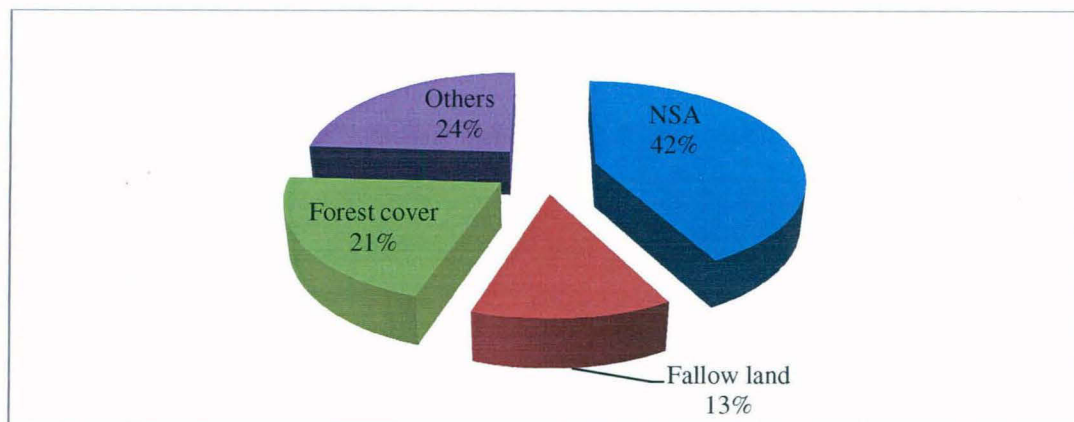
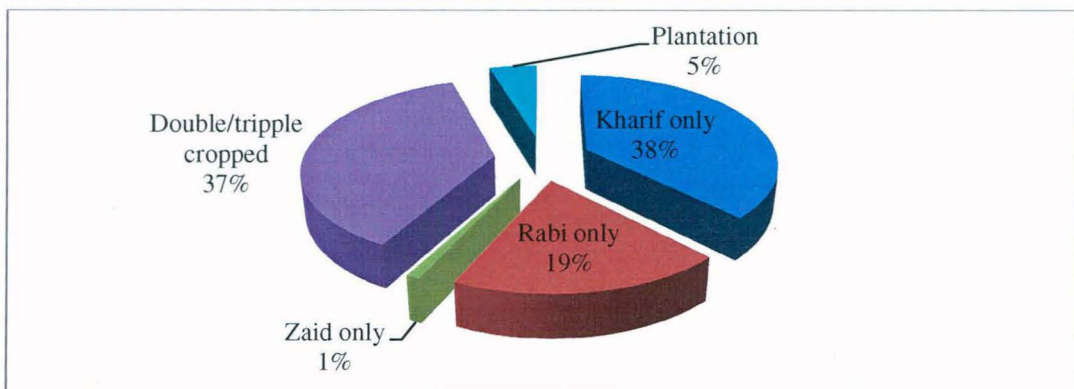
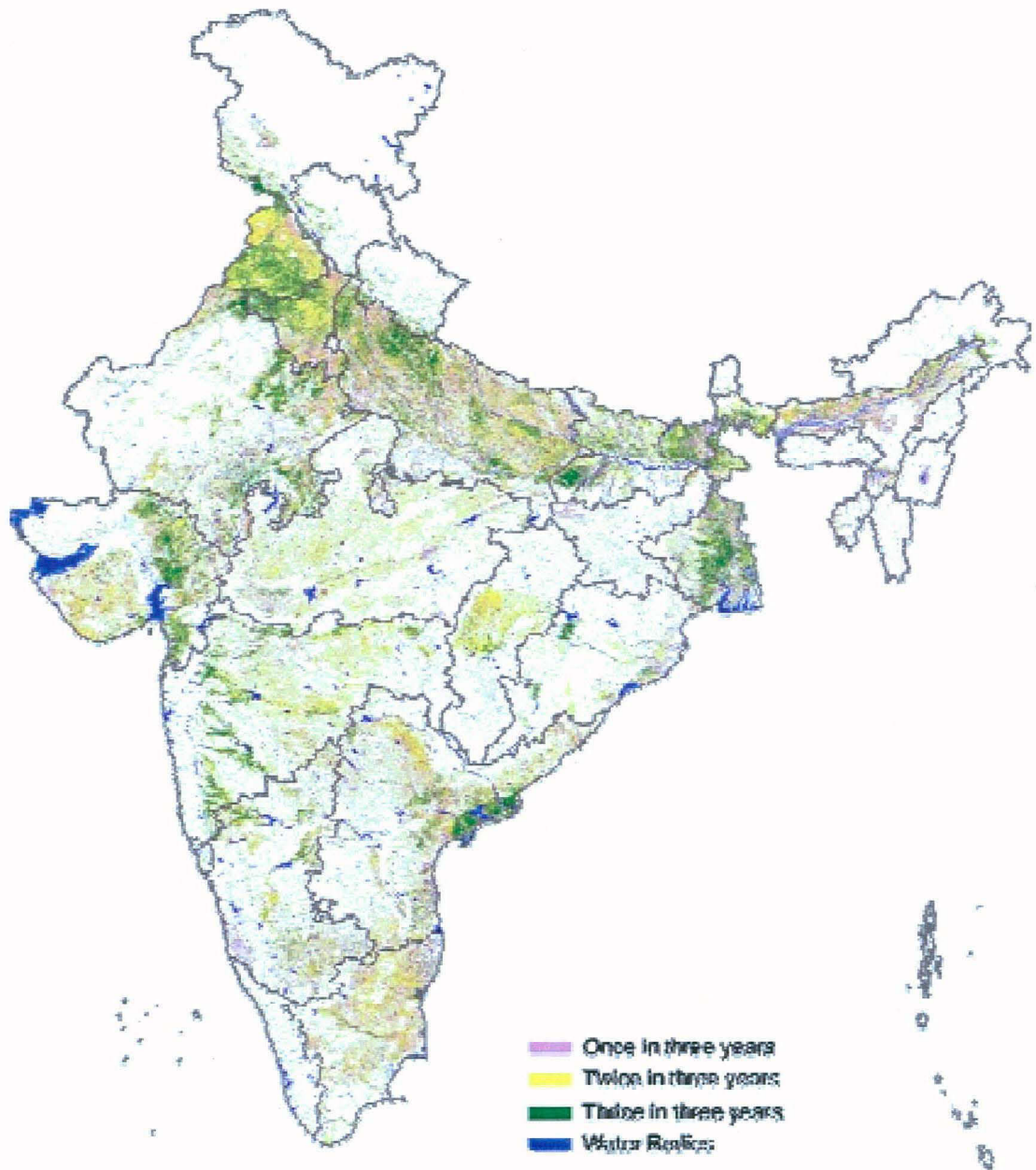


Fig. 4.2: Composition of Seasonal Components of NSA (2006-07)



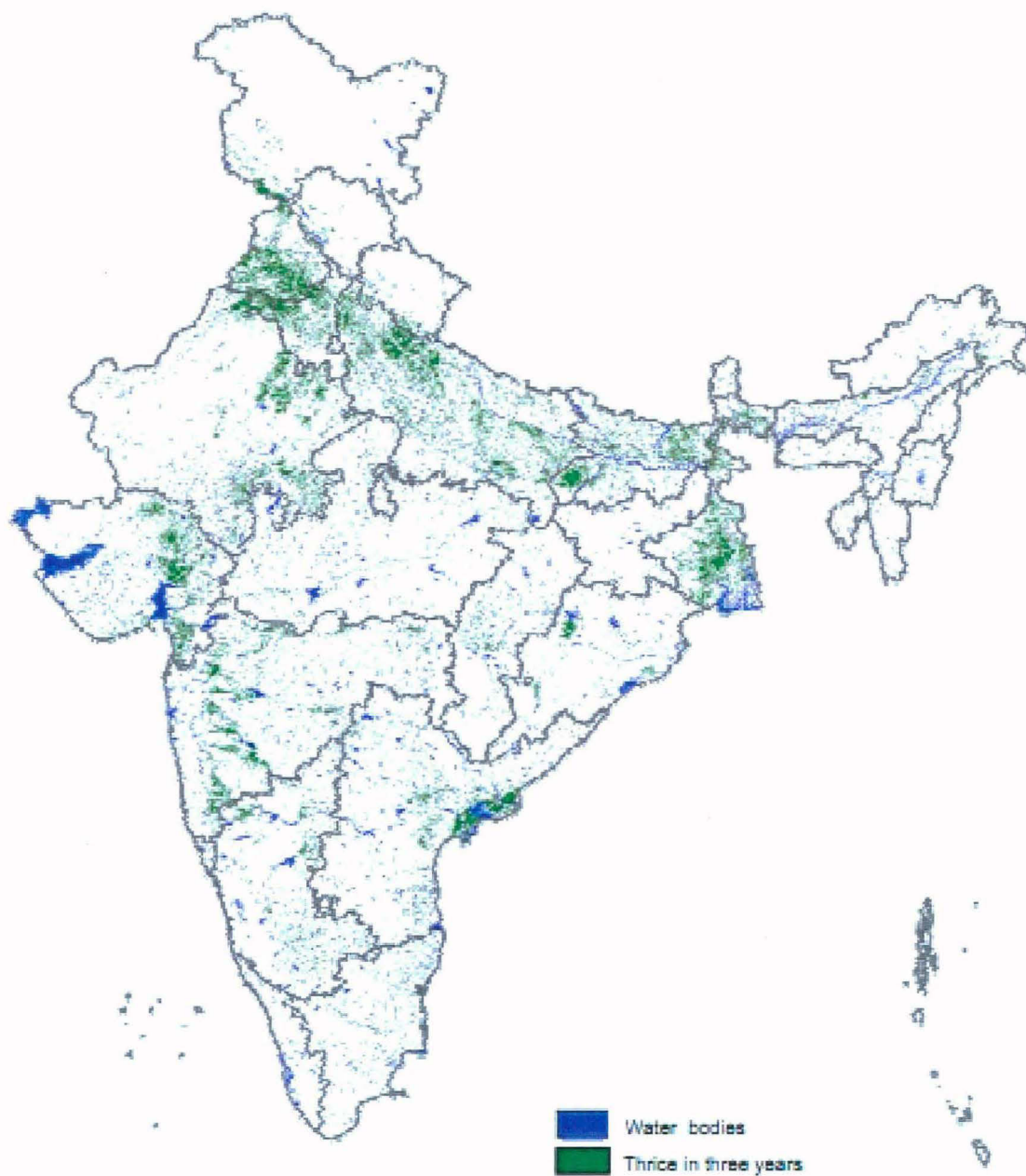
The spatial information on the consistence of single, double crop areas and current fallows over three cycles is of critical importance to understand the cropping patterns. The consistent double cropped areas are found in the major river basins and command areas. The state of Punjab, Haryana, western parts of Uttar Pradesh, Maharashtra, southern parts of West Bengal and small patches in Rajasthan constitute consistent double cropped areas over three cycles of LULC assessment. The hilly terrain, central and southern parts of the country, and western Rajasthan is devoid of consistency in double cropped areas.

Map 4.2 Occurrence of Double Crop in three cycles of LULC Assessment



(Source: NR Census-Land use and land cover mapping using multi-temporal AWiFS, IRS-P6 AWiFS 2006-07)

Map 4.3 Areas showing consistent Double Crop distribution in all three cycles



(Source: NR Census-Land use and land cover mapping using multi-temporal AWiFS, IRS-P6 AWiFS 2006-07)

Map 4.4 Areas showing consistent Fallow lands during all three cycles of LULC assessment

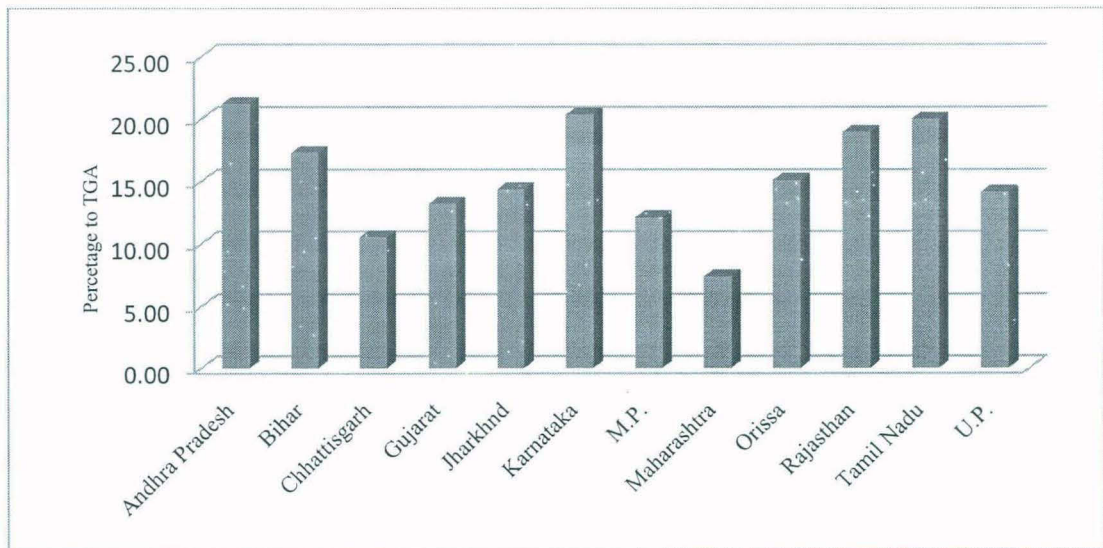


(Source: NR Census-Land use and land cover mapping using multi-temporal AWiFS, IRS-P6 AWiFS 2006-07)

The patterns of fallow lands over three cycles have been studied in order to understand the prevalent fallow areas and improvement of no vegetation categories. The fallows with high consistence during all three cycles constitute 11.4% of the gross fallow area estimated during three cycles. The high consistence fallow areas are prevalent especially in areas having less than 750 mm rainfall except in case of Jharkhand and Bihar. The areas of consistence fallow lands are western Rajasthan, Maharashtra, Karnataka, Andhra Pradesh, Bihar and Jharkhand.

It is found from the fig. 4.3 that during 2006-07 Andhra Pradesh (21%), Tamil Nadu and Karnataka (both 20%), and Rajasthan (19%) are the major states with high share of fallow lands to the TGA of respective states. The temporal databases on these patterns would help to understand the dynamics of change in relation to various physical and biological controls of cropping systems.

Fig. 4.3: Fallow lands in some major states (2006-07)



4.2 Composition of Physical Works at the national level:

The composition of works under the MNREGS at the national level suggests that water conservation works (includes water conservation and water harvesting, and flood control and flood protection) are the most prioritized works followed by irrigation works

(includes micro irrigation works and irrigation facilities) during 2008-09. Out of total works, the share of rural connectivity works is 18% (Fig.4.3). The land development works have also been undertaken under the scheme. The works related with drought proofing also are also part of the scheme.

Fig. 4.4: Composition of physical works under the MNREGS (2008-09)

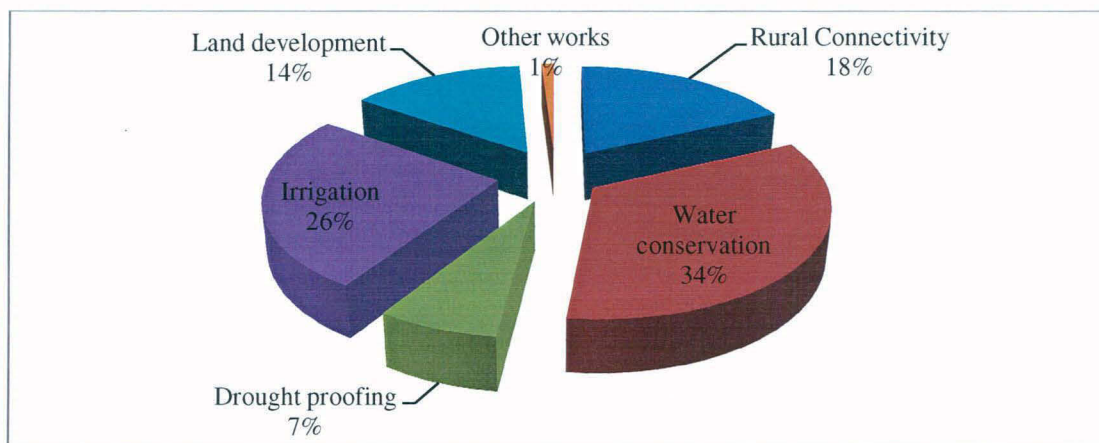
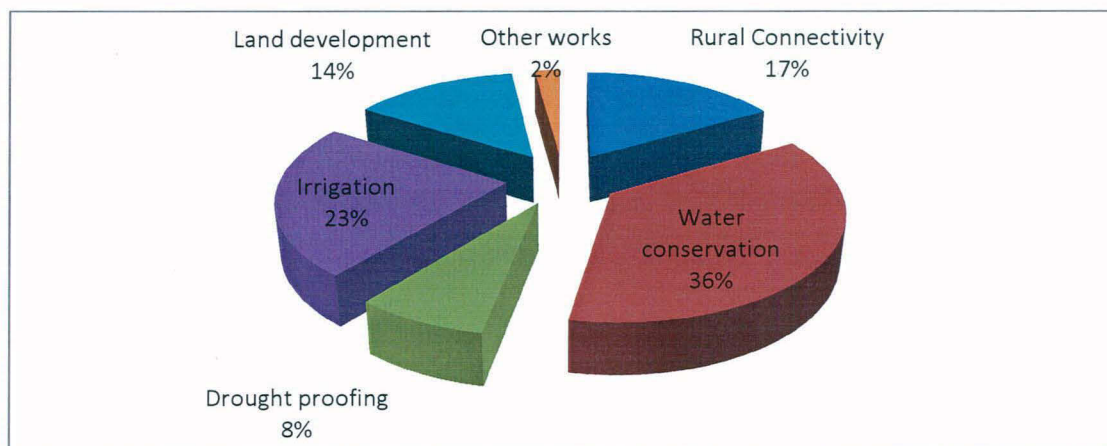


Fig. 4.5: Composition of physical works under the MNREGS (2009-10)



During 2009-10, the pattern of physical works remained same with little reshuffling within the physical works. The share of works under other works increased while irrigation works experienced slight reduction.

4.3 Completed Works against Total Works at the state level:

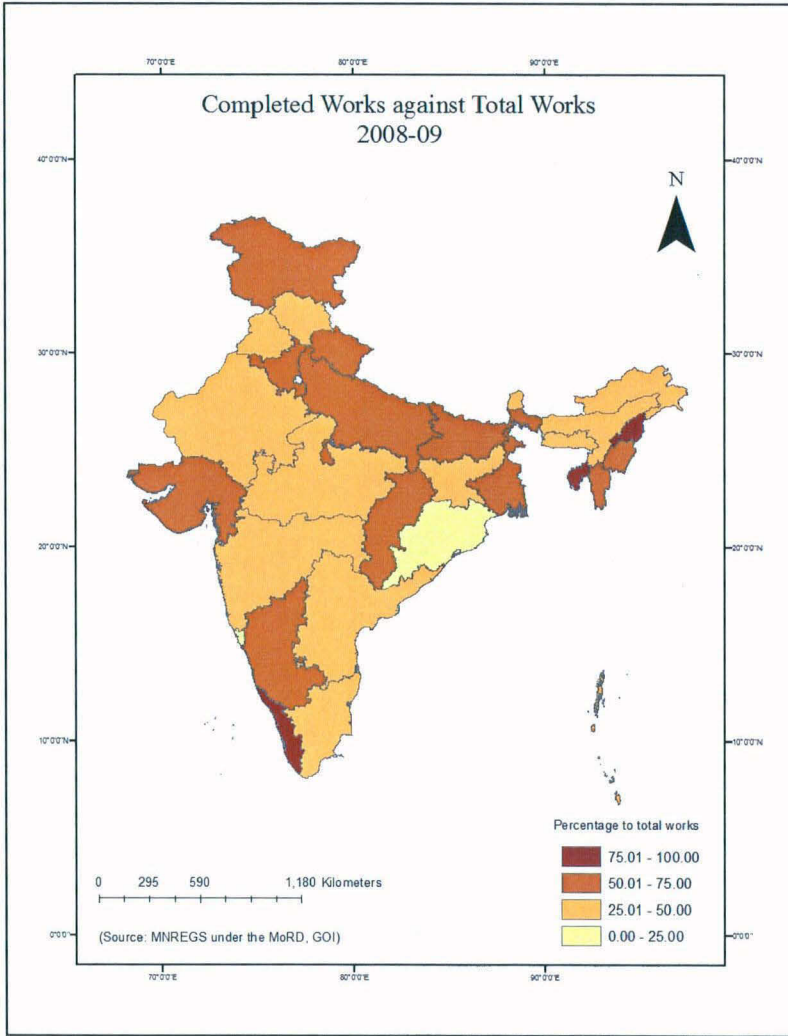
This section studies the percentage of works completed against total works undertaken under the MNREG scheme in India at state level. Tripura (92%), Kerala (88%) and Nagaland (83%) are the states with more than 80% works completed to the total works undertaken under the MNREG scheme during 2008-09. The other states with more percentage of completed works include Manipur (75%), Mizoram (73%), Gujarat (70%), Karnataka and Uttar Pradesh (both 61%), Haryana (56%), West Bengal (54%), Chhattisgarh (53%) and Uttrakhand (51%). Orissa is the only state with very low share (7%) of completed works against total works in the same year. In other states, 25 to 50% works have been completed against total works undertaken under the scheme.

During 2009-10, Gujarat (89%), Manipur (81%) and Mizoram are the states with more than 80% works completed against total works undertaken under the MNREG scheme. Sikkim and Uttrakhand (both 67%), Uttar Pradesh and West Bengal (66%), Jammu Kashmir, Meghalaya and Nagaland (all 63%), Himachal Pradesh (57%), Punjab (54%), Haryana (53%), and Andhra Pradesh and Kerala (both 52%), are the states with more than 50% works completed against total works undertaken. Orissa (13%) and Karnataka (23%) are the states with lowest share of works completed in 2009-10. Except Gujarat, there are no major changes in the share of works completed against total works undertaken under the MNREG scheme. (See the maps 4.5 & 4.6)

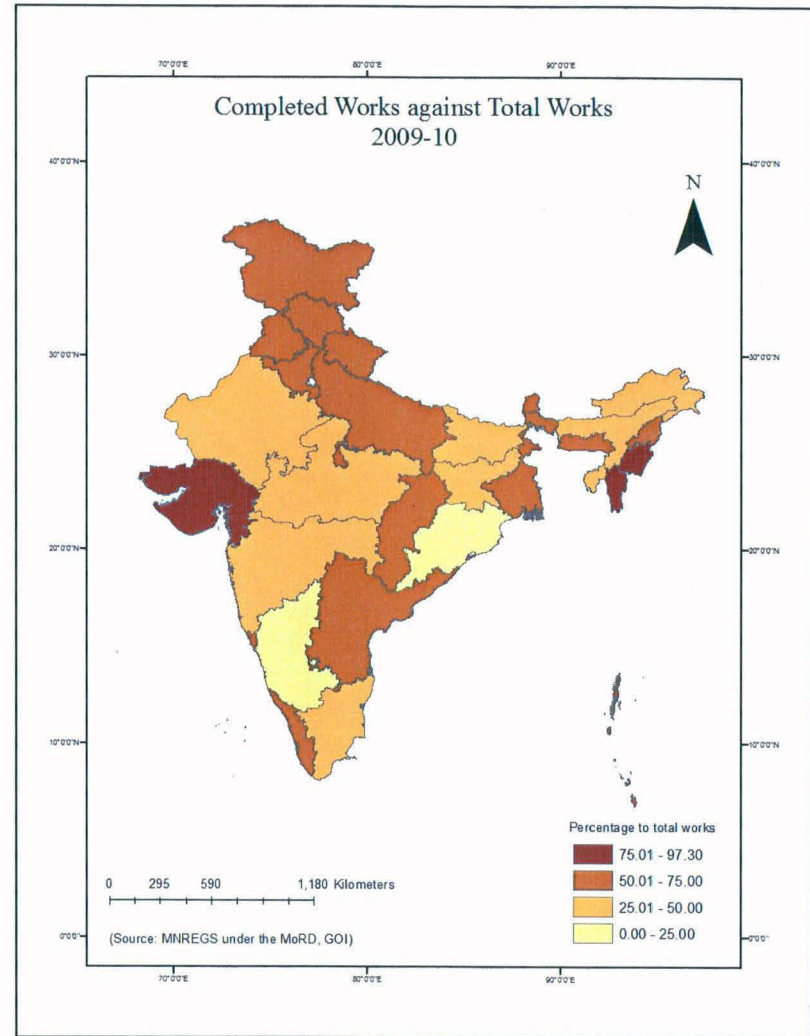
4.4 Water Conservation Works at the state level:

The water conservation works have been undertaken at a large scale in the states of Uttrakhand (80%) and Maharashtra (76%) during 2008-09. The other states are Haryana, Punjab, Gujarat, Kerala, Tamil Nadu and Manipur where more than 50% water conservation works have been undertaken. Chhattisgarh and Mizoram have been provided very low share of water conservation works. In all other parts of the country, 25 to 50% works were related with water conservation.

During 2009-10, the situation remains the same with little change. With Uttrakhand and Maharashtra, Gujarat (83%) also emerged as one of the states with high share of water conservation works.



Map 4.5



Map 4.6

Punjab, Bihar, Kerala, Tamil Nadu, Sikkim, Manipur and Nagaland are the other with more than 50% water conservation works. Mizoram was again the state with low share of water conservation works. (See the maps 4.7 & 4.8)

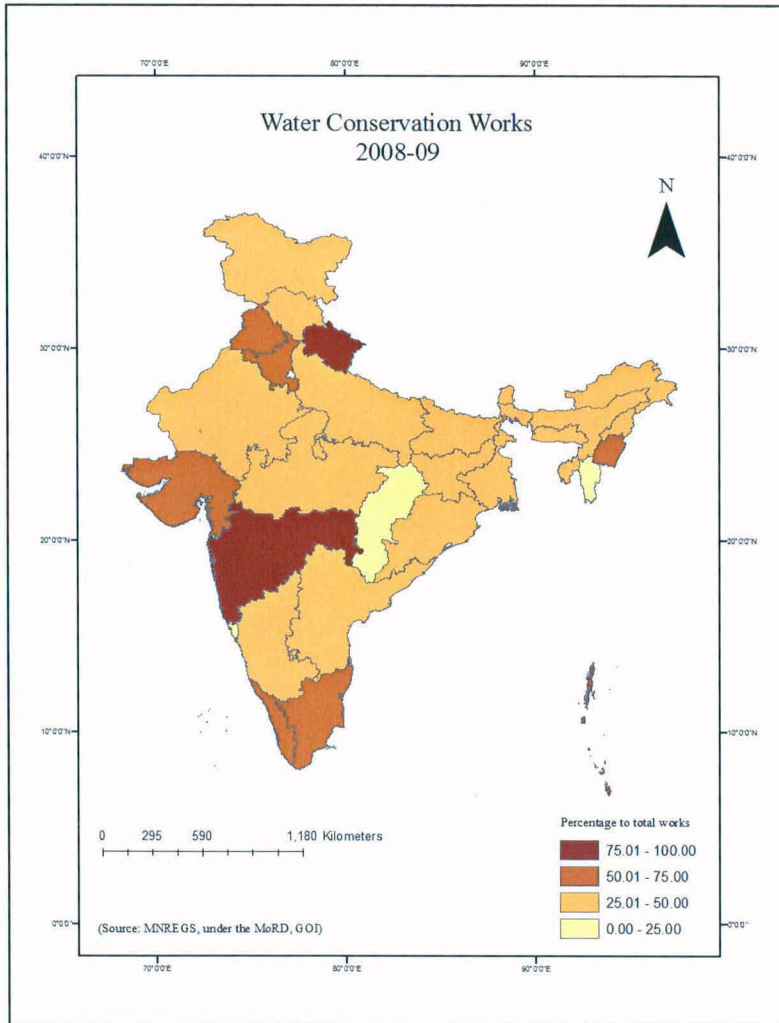
4.5 Irrigation Works and Land Development Works at the state level:

The irrigation works include the micro irrigation works and the works related with provision of irrigation facilities to the SC/STs owned fields. It is found that Rajasthan and Madhya Pradesh are the major states with high share of irrigation works to the total works undertaken under the MNREGS during 2008-09 and 2009-10. However there is a little reduction in irrigation works in Rajasthan during 2009-10. Apart from these states, Uttar Pradesh, Jharkhand, Chhattisgarh, Karnataka and Andhra Pradesh have undertaken irrigation works. (See the maps 4.9 & 4.10)

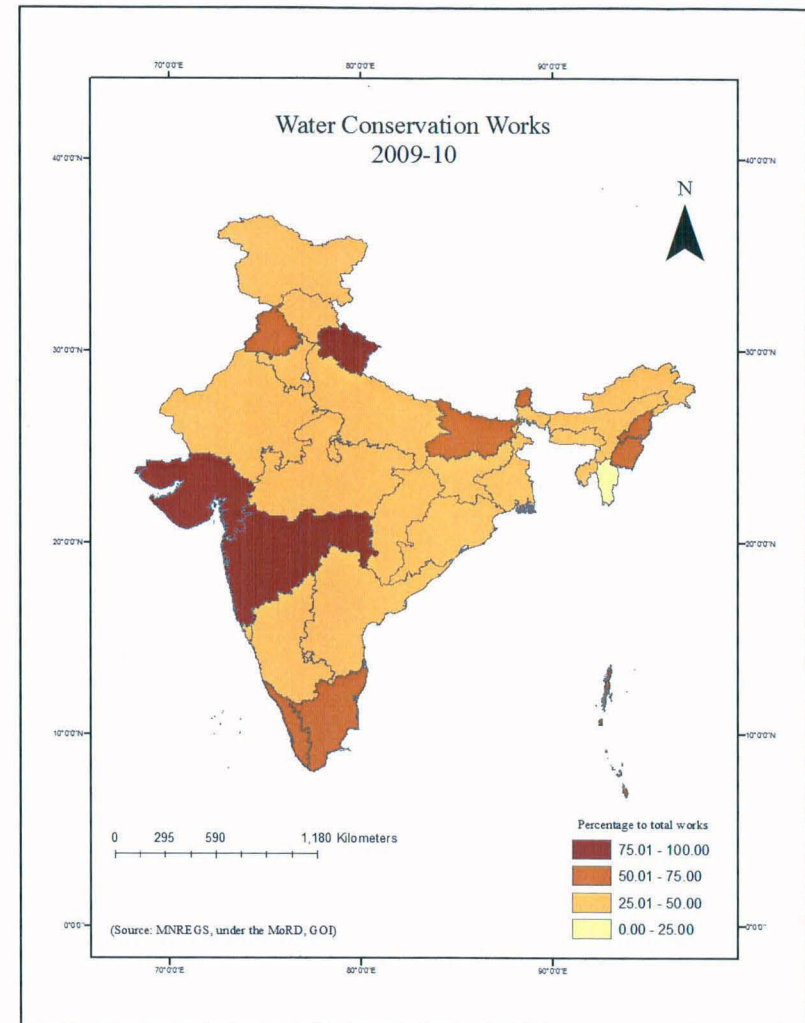
The land development related works have been undertaken in the states of Andhra Pradesh and Chhattisgarh (25% both), Karnataka (23%) and Mizoram (21%) during 2008-09. The other states with land development works are Tripura, Madhya Pradesh, and Uttar Pradesh. During 2009-10, Andhra Pradesh, Chhattisgarh, Tripura, Karnataka, Madhya Pradesh, Kerala and Jharkhand were the states with land development works.

4.6 Soil and Water Conservation Works at the state level:

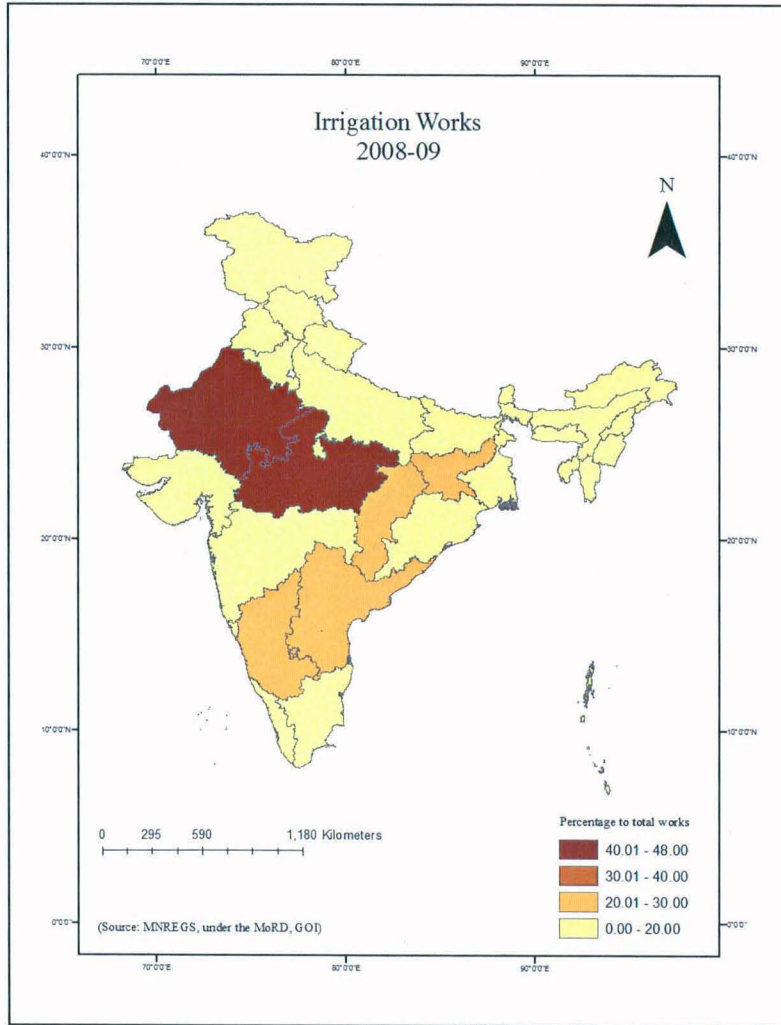
The soil and water conservation works are performed at a large scale under the MNREGS. The land development through soil and water conservation is one of the important aspects of the employment guarantee scheme. During 2008-09, Andhra Pradesh and Kerala (both 97%), Uttarakhand (96%) Karnataka (93%), Madhya Pradesh (90%), Maharashtra and Gujarat (both 89%), Tripura (84%) and Punjab (82%) are the states with higher share of works linked with soil and water conservation under the MNREGS. Rajasthan and Tamil Nadu (both 79%), Jharkhand (76%), Nagaland (75%), Chhattisgarh (74%), and Manipur (71%) are the other states where 70% to 80% works to the total works have been linked with soil and water conservation. Mizoram is the exception where only 30% works are linked with soil and water conservation. It means that 70% works are linked with rural connectivity in the state.



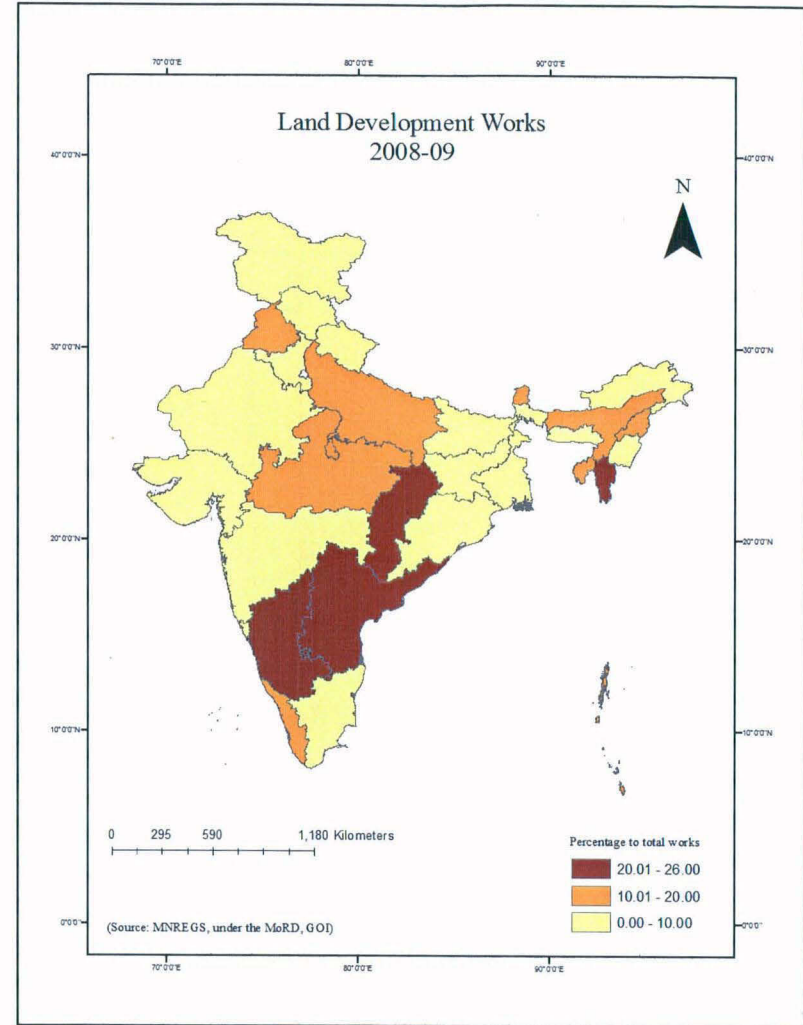
Map 4.7



Map 4.8



Map 4.9



Map 4.10

During 2009-10, Andhra Pradesh, Gujarat and Kerala (all 96%), Uttarakhand (95%), Karnataka and Maharashtra (both 90%), Madhya Pradesh (89%), and Sikkim (83%) are the states with more priority given to soil and water conservation works. Tripura and Jharkhand (both 79%), Tamil Nadu (77%), Manipur (75%), Rajasthan (74%) and Chhattisgarh (72%) are the states with high percentage of works linked with soil and water conservation. In Mizoram, only 24% works are linked with soil and water conservation. (See the maps 4.11 & 4.12)

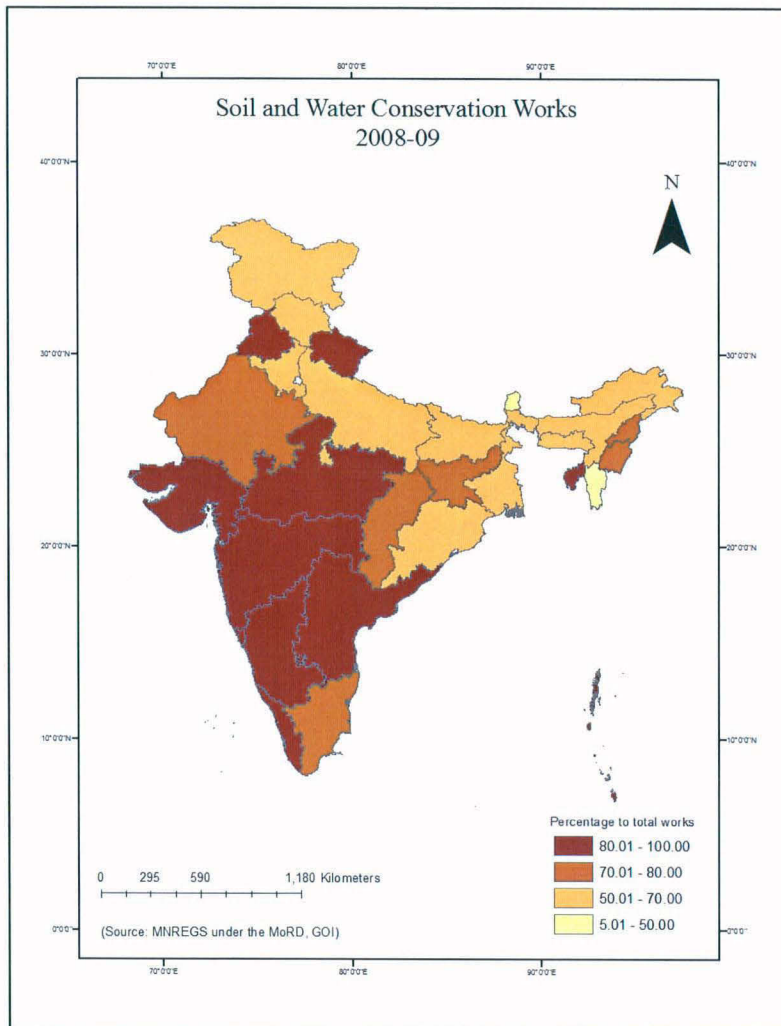
4.7 Rural Connectivity Works at the state level:

The rural connectivity works are mainly performed in the north-eastern states. Mizoram (70%) and Sikkim (51%) are the states with high share of rural connectivity works during 2008-09. The other states are Assam (50%), Himachal Pradesh (49%), Bihar (44%) and Meghalaya (47%) with a significant share of works is linked with rural connectivity.

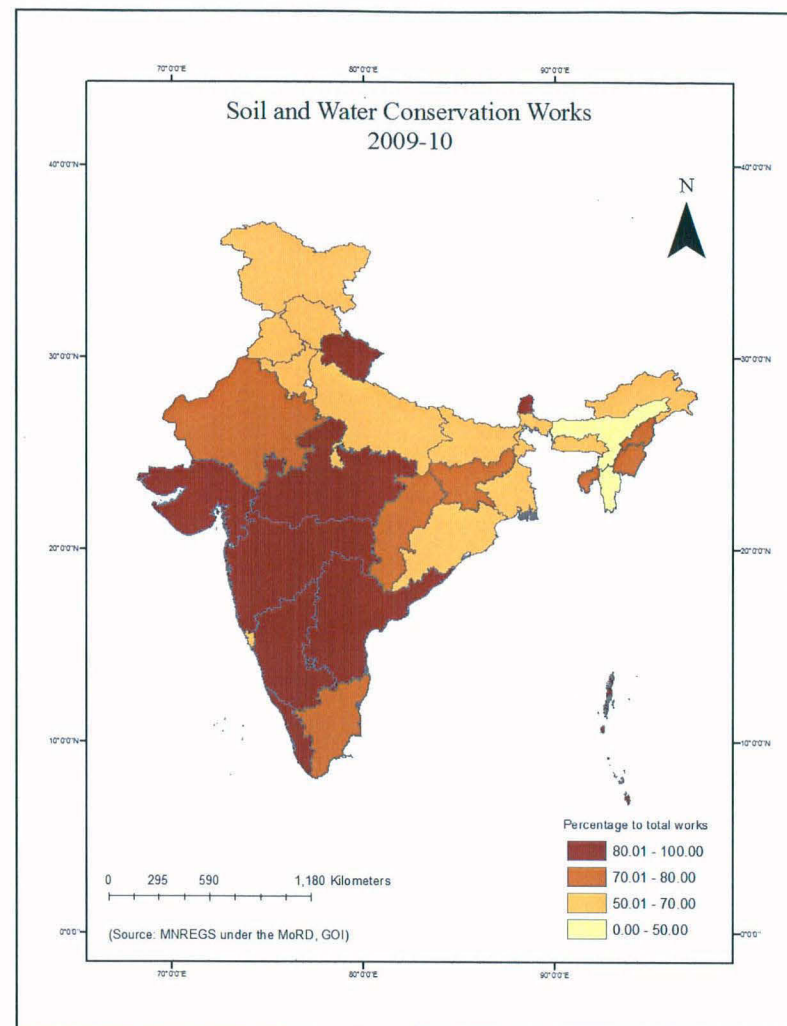
In other states, rural connectivity works have not given much priority. During 2009-10, Mizoram (76%) and Assam (57%) are the states where rural connectivity works have given priority than other types of works. Meghalaya (45%), Himachal Pradesh (41%) and Arunachal Pradesh (39%) are the other states where rural connectivity works have undertaken at a large scale.

4.8 Land Use and Land Cover in Rajasthan:

The state of Rajasthan is one of the parts of the rainfed areas of the country. The area under wasteland and fallow land is more. The irrigation systems depend upon the ground water resources that are very limited. To make the arid and semi-arid regions more comfortable for livelihood, the implementation of PEPs is of vital significance. The consistency of wastelands and fallow lands in the western parts of the state suggest the problems faced by local people to cope with this vulnerable environment. The development of watersheds under the PEPs led to the improvement of the existing water resources.



Map 4.11

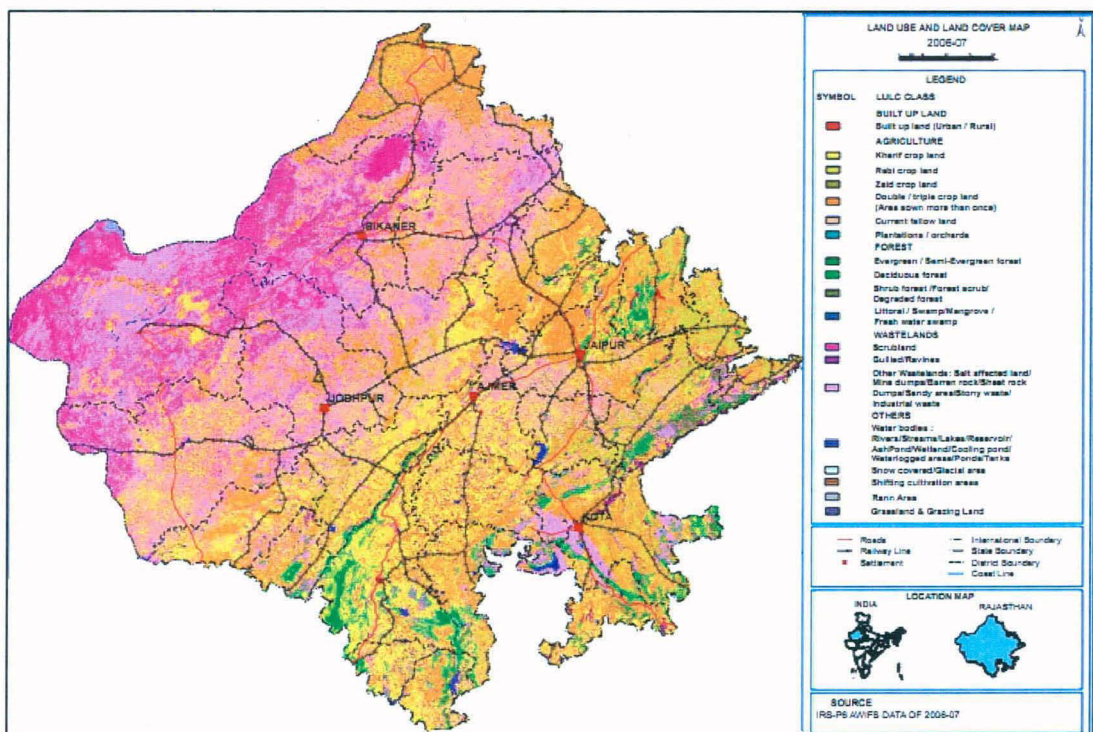


Map 4.12

The MNREG scheme that focuses on the creation of physical works linked with water conservation, irrigation and land development activities, led to the development of already existing resources and also creating new resources. The pattern of physical works should be complementary to the agro-climatic characteristics and land use land cover of the region for proper management of the physical resources at the local level. The western regions are more prone to the agro-climatic factors and unavailable for cultivation purposes. The vast areas are left without any cultivation for long times and even inconsistency in rainfall patterns make it more tough and vulnerable for living.

The creation of physical works and assets creation at the local level plays an important part in rural infrastructure development and also serves as a resource that can be used to develop and mitigate the basic needs of the local people. In this section, land use and land cover classification and statistics of Rajasthan has been studied. The LULC statistics data has been analyzed from LULC-AWiFS and DES.

Map 4.13: LULC Classification in Rajasthan (2006-07)



(Source: NR Census-Land use and land cover mapping using multi-temporal AWiFS, IRS-P6 AWiFS 2006-07)

During 2006-07, NSA constitutes 145.82 lakh hectares that is 42.6% of the TGA. The fallow land constitutes 64.87 lakh hectares which is 19% of the TGA. The area under forest cover constitutes 16.84 lakh hectares (4.92% of the TGA). The forest types in the state are mainly deciduous and shrub/degraded and scrub type. More than 19% of the TGA constitutes other wastelands in the state. The area under scrub land constitutes 12% of the TGA during 2006-07. In NSA, mainly Kharif, Rabi and double cropped areas are constituent parts. The Kharif only constitutes 46%, Rabi only constitutes 19% and double cropped area constitutes 35% of the NSA.

Table 4.2 Land use/land cover statistics in Rajasthan (2006-07)

SR. No.	LUCL Class	Area(in lakh hectares)	% to TGA
1	Kharif only	67.86	19.83
2	Rabi only	27.56	8.05
3	Zaid only	0	0.00
4	Double cropped	50.4	14.73
5	Plantation	0	0.00
Net Sown Area		145.82	42.61
6	Fallow land	64.87	18.95
7	Evergreen/semievergreen	0	0.00
8	Deciduous	8.47	2.47
9	Shrub/degraded/scrub	8.37	2.45
10	Littoral swamp/Mangrove/Fresh water swamp	0	0.00
Forest Cover		16.84	4.92
11	Grasslands & grazing lands	0.13	0.04
12	Other wastelands	66.48	19.42
13	Gullied/ravines	1.22	0.36
14	Scrub land	41	11.98
15	Water bodies	5	1.46
16	Shifting cultivation areas	0	0.00
17	Snow cover/glacial/cloud	0	0.00
18	Built up land (urban/rural)	0.89	0.26
19	Rann area	0	0.00
Others		114.72	33.52
Total Geographical Area		342.24	

(Source: IRS-P₆ AWiFS data of 2006-07)

The state has 66.48 lakh hectares of wastelands which is 19.4% of the TGA. Apart from this, 12% of the TGA constitutes the scrub land (41 lakh hectares). Thus near about 50% land of the state is not suitable for cultivation that is of major concern. Even the consistency in this type of land is more pronounced in the western arid region and the hilly tracts of the state.

Fig. 4.6: Distribution of Major LULC Classes in Rajasthan (2006-07)

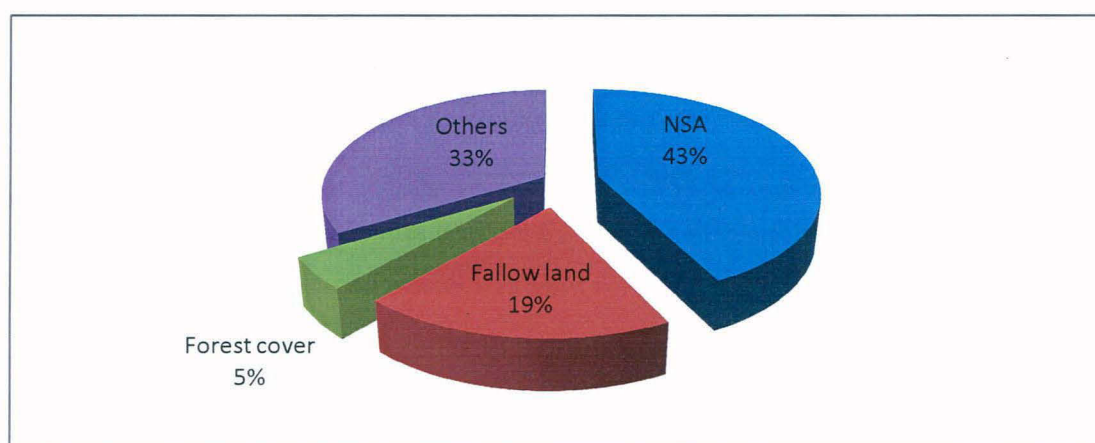
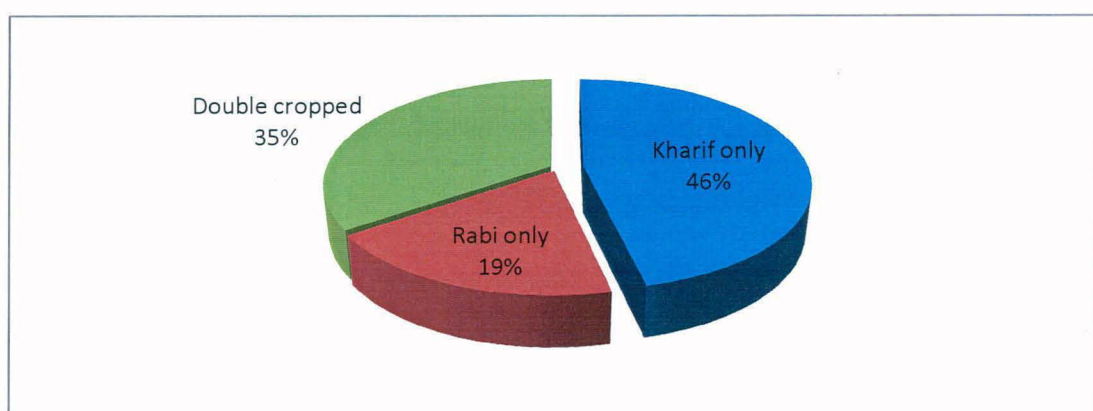


Fig. 4.7: Composition of Seasonal Components of NSA in Rajasthan (2006-07)



The district level distribution of forest cover, culturable wasteland, fallow land and uncultivated lands show the variations at the micro level. The forest cover in

Rajasthan is 7.8% of the total area available for land use statistics. It is observed that Baran (31%), Karauli (34%) and Sirohi (30%) are the districts with higher share of forest cover in the state, according to 2005-06. Bundi (24%) and Udaipur (28%) are the other districts with a significant share of forest cover area in the state. Most of the districts in Rajasthan have forest cover area less than 10% of the total area available for land utilization.

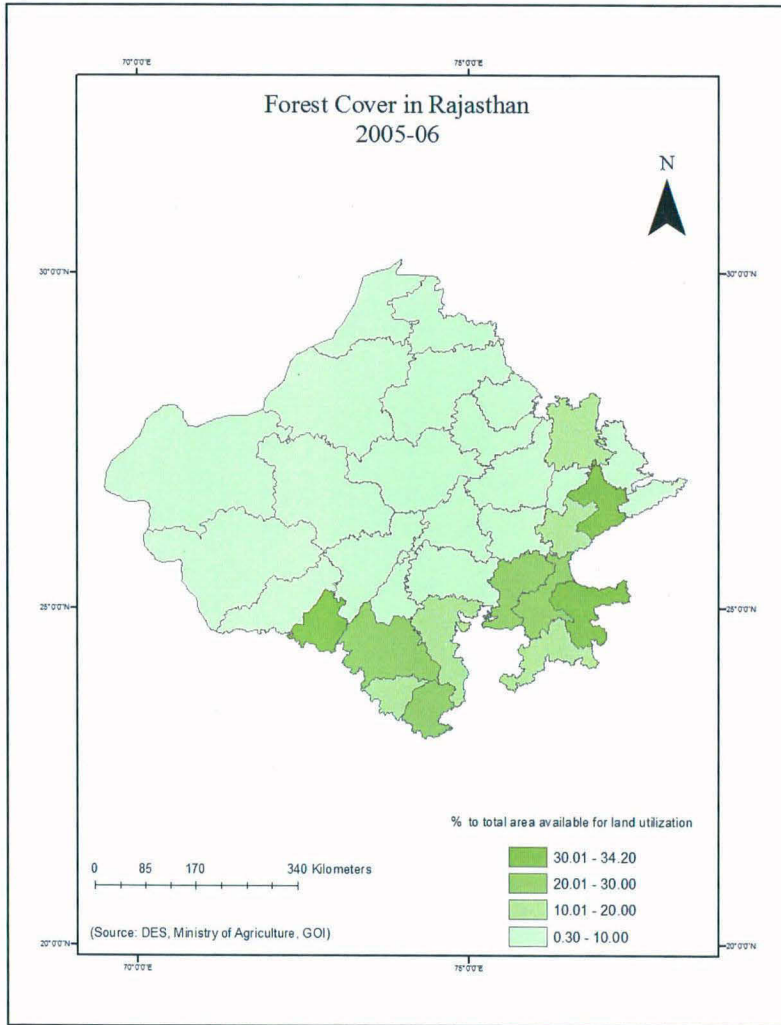
The culturable waste land includes land available for cultivation, whether taken up or not taken up for cultivation once, but not cultivated for last five years or more in succession including the current year for some reason or the other¹. In Jaisalmer, 65% of the total area available for land utilization comes under culturable waste land. Bikaner and Rajsamand both have 25% area under culturable waste land according to 2005-06 data. In all the other districts the share of culturable waste land is very low. (See the maps 4.16 & 4.17)

The area under fallow land is 12% of the total area available for land utilization in Rajasthan. However there are variations at the district level. Jodhpur (26%) and Ganganagar (25%) are the districts with high share of fallow land to the total area available for land use statistics. Bikaner (21%) and Barmer (20%) are the other districts with significant share of fallow land in 2005-06.

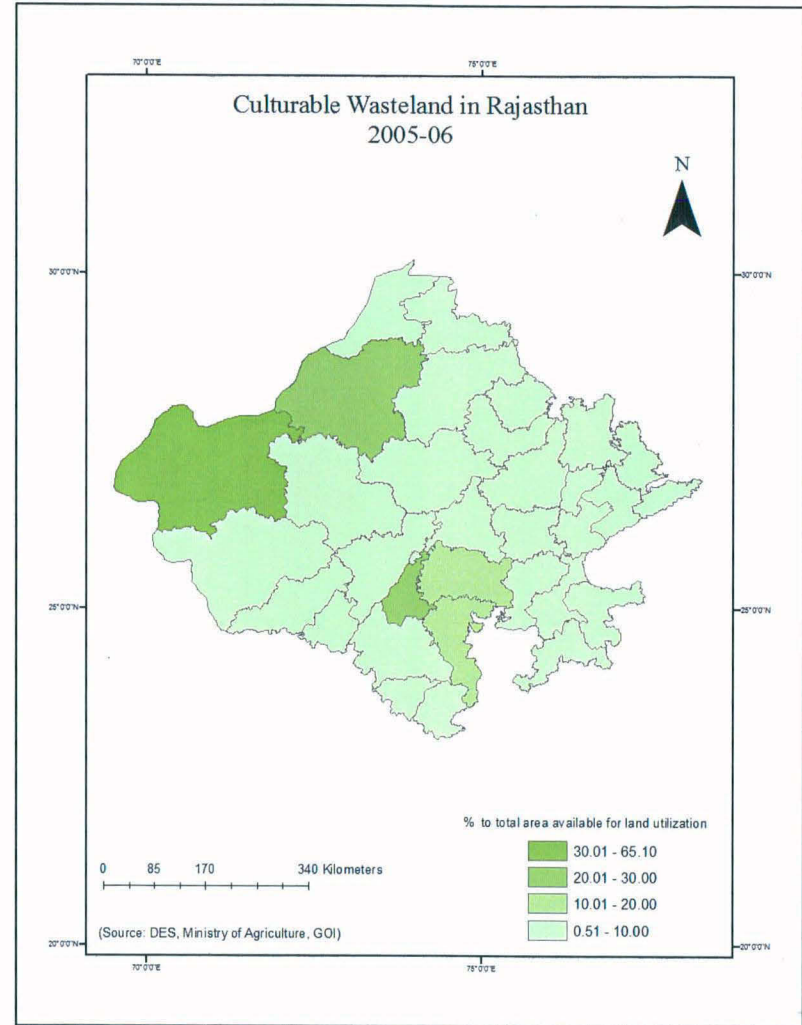
The total uncultivated land in Rajasthan is 30% of the total land available for land utilization. Jaisalmer has the largest share of the uncultivated land (81%) to the total land available for land use statistics. Rajsamand (67%), Udaipur (49%), Bhilwara (45%) and Dungarpur (40%) are the other districts where the share of uncultivated land to the total land available for land use statistics is quite high. (See the maps 4.18 & 4.19)

The net area sown is 49% of the total area available for land utilization in Rajasthan according to 2005-06. Jaisalmer (13.5%), Udaipur (17%) and Rajsamand (22%) are the districts with very low net area sown to the total area available for land use statistics in these districts.

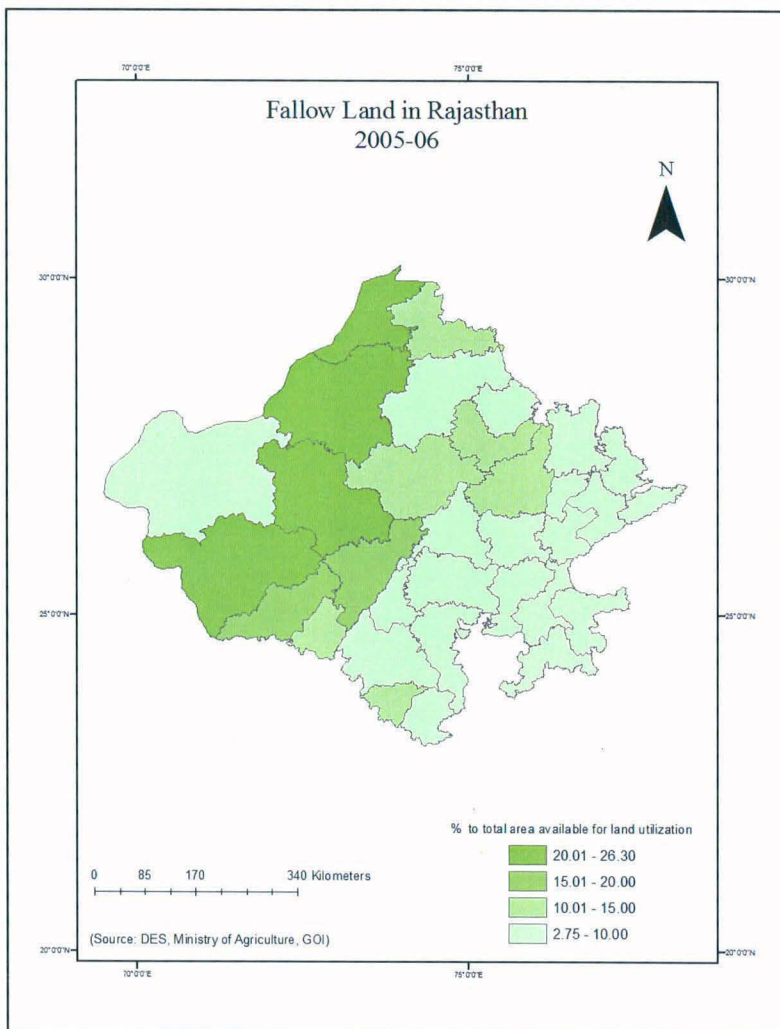
¹ Directorate of Economics and Statistics, Ministry of Agriculture, Govt. of India, New Delhi.



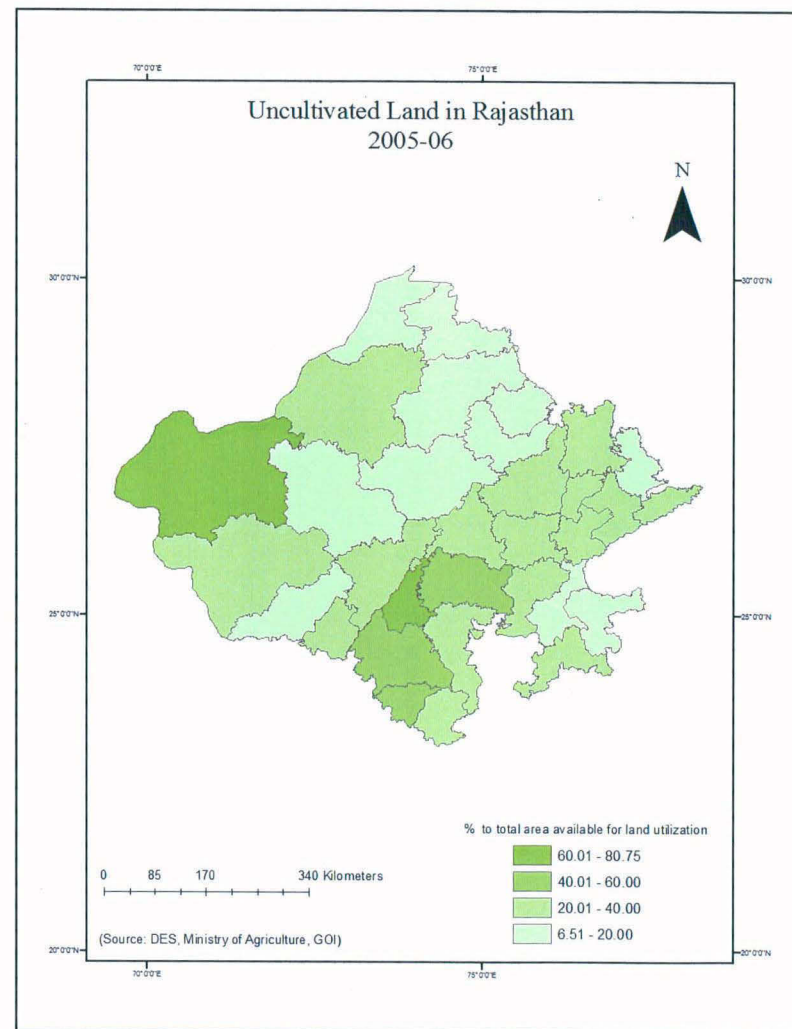
Map 4.14



Map 4.15



Map 4.16



Map 4.17

Churu (84%), Hanumangarh (79%), Bharatpur (78%) and Jhunjhunu (72.5%), Nagaur (71%) are the districts with large share of the net area sown to the total area available for land utilization. Ajmer, Alwar, Barmer, Dausa, Dholpur, Ganganagar, Jaipur, Sikar, Tonk and Jalore are the other districts with more than 50% area as net area sown to the total area available for land utilization.

The total cropped area represents the total area sown once or more than once in a particular year, i.e. the area is counted as many times as there are sowings in a year. The state of Rajasthan has 63% area as total cropped area according to 2005-06. However there are great variations at the district level. In some districts, the total cropped area surpasses the total area available for land use statistics. These districts are Alwar, Bharatpur, Churu, Dausa, Hanumangarh and Jhunjhunu. The total cropped area is very low in the districts of Jaisalmer (15%), Rajsamand (28%) and Udaipur (25%).

The area sown more than once is 14% to the total area available for land use statistics in Rajasthan. The district level distribution shows that Jhunjhunu (43.5%), Alwar (39%), Dausa (37%), Bharatpur (35%), Hanumangarh (31%) and Jaipur (33%) are the districts with significant share of area sown more than once. Jaisalmer (1.6%), Barmer (3%), Pali (4%) and Jodhpur (5%) are the districts with very low share of area sown more than once in 2005-06.

4.9 Composition of Physical Works under the MNREGS in Rajasthan:

The creation of physical works in the state of Rajasthan is of great significance owing to the agro-climatic characteristics of the region and land use statistics. During 2007-08, irrigation works have been undertaken at a large scale followed by water conservation works. Apart from these works, rural connectivity works and land development were also undertaken but with lesser share. This trend remains during 2008-09 as well as 2009-10. While during 2010-11, the share of irrigation and water conservation works reduced and land development works given more preference. It is a kind of shift in the nature of works.

Fig. 4.8: Composition of Physical Works during (2007-08)

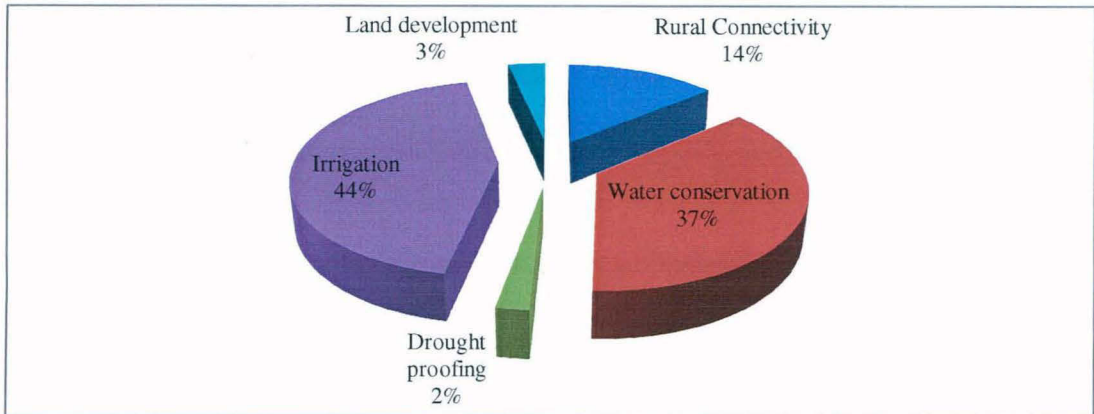


Fig. 4.9: Composition of Physical Works during (2008-09)

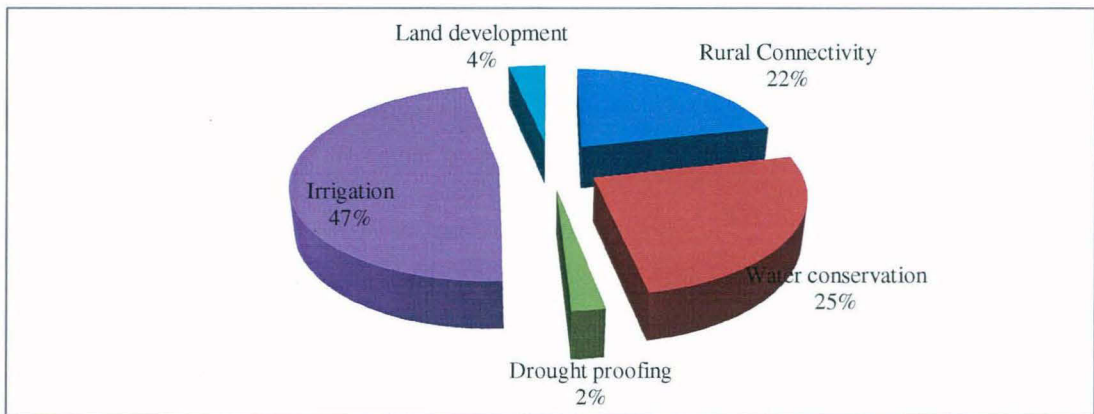


Fig. 4.10: Composition of Physical Works during (2009-10)

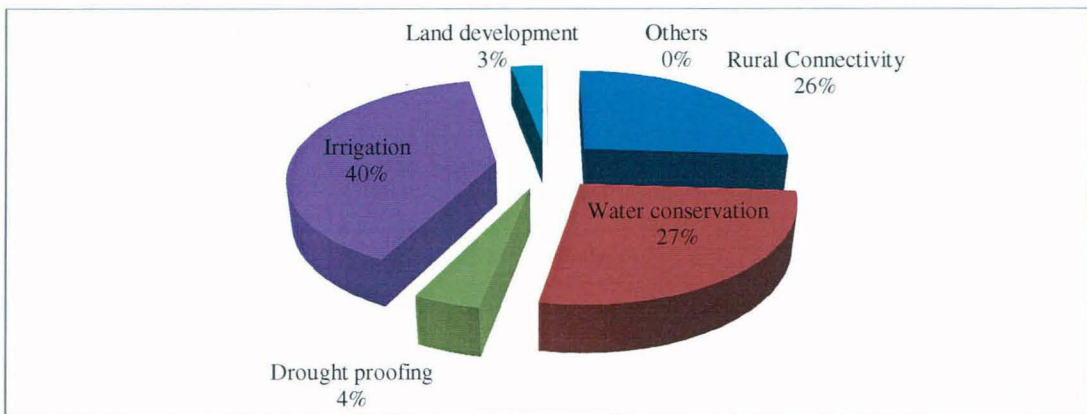
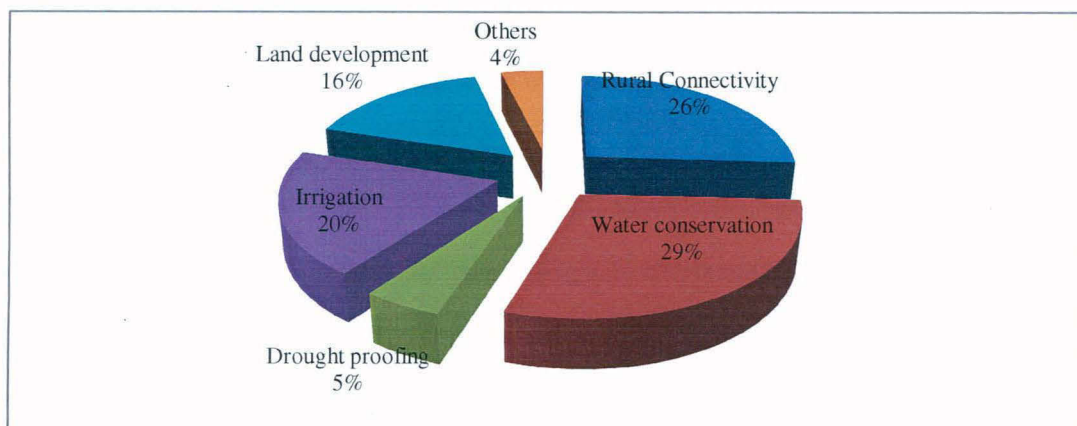


Fig. 4.11 Composition of Physical Works during (2010-11)



4.10 Completed Works against Total Works under MNREGS in Rajasthan:

The state has huge variations in terms of percentage of completed works against total works under the employment guarantee scheme. During 2007-08, Dungarpur was the only district where more than 65% works have been completed against total works undertaken. After Dungarpur, Sirohi (43%) and Barmer (37%) are the other districts with more than one-third works completed under the employment guarantee scheme.

Dungarpur (70%), Sirohi (72%), Udaipur (64%) and Churu (60%) were the districts in which more than 60% works have been completed against total works undertaken during 2008-09. 59% works have been completed in Pali district against total works undertaken in the same year. In all other districts less than half of the total works have been completed. This share has been very low in the case of Bundi (10%), Tonk (8%), Jaipur (2%) and Jodhpur (0.5%) in the same year. The western districts of the state are far behind in terms of completed works under the MNREGS.

During 2009-10, Barmer (83%), Udaipur (73%), Hanumangarh (72%) and Jaisalmer (62%) were the districts where more than 60% works have been completed against total works undertaken. The great increase in percentage completed works in Barmer and Jaisalmer is of great significance owing to the physico-climate conditions

prevails there. Jalore, Baran, Churu, Dausa, Jhunjhunu, Rajsamand and Sikar are other districts with more than 50% works completed against total works undertaken during 2009-10. Sawai Madhopur (8%), Jhalawar and Tonk (both 5%) are the districts with very low share of completed works against total works undertaken. Due to incomplete data available for 2010-11, the percentage of works completed against total works is very low in all the districts of Rajasthan. (See the maps 4.20 & 4.21)

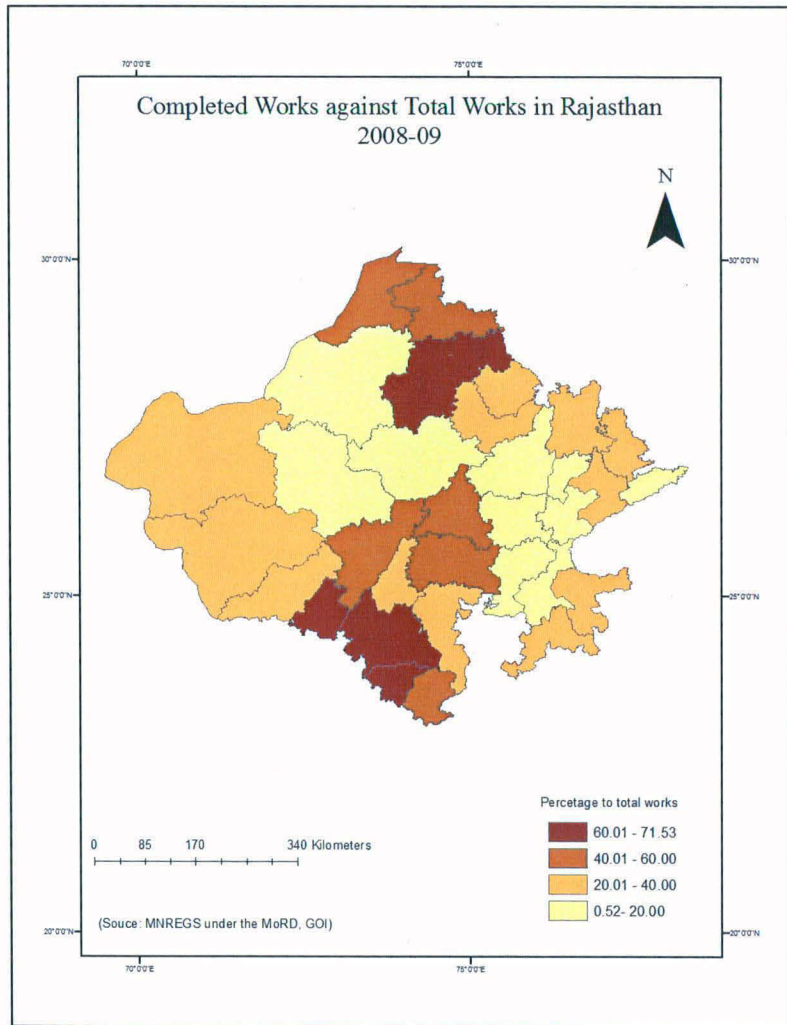
4.11 Water Conservation Works under the MNREGS in Rajasthan:

The water conservation works have been given more priority in the districts of Dungarpur, Karauli and Chittorgarh where more than 75% works were linked with water conservation during 2007-08. Tonk, Jalore and Jhalawar are the other districts where water conservation works were prioritized. Jhunjhunu, Sikar and Ajmer where more than 60% works were linked with water conservation activities during 2008-09.

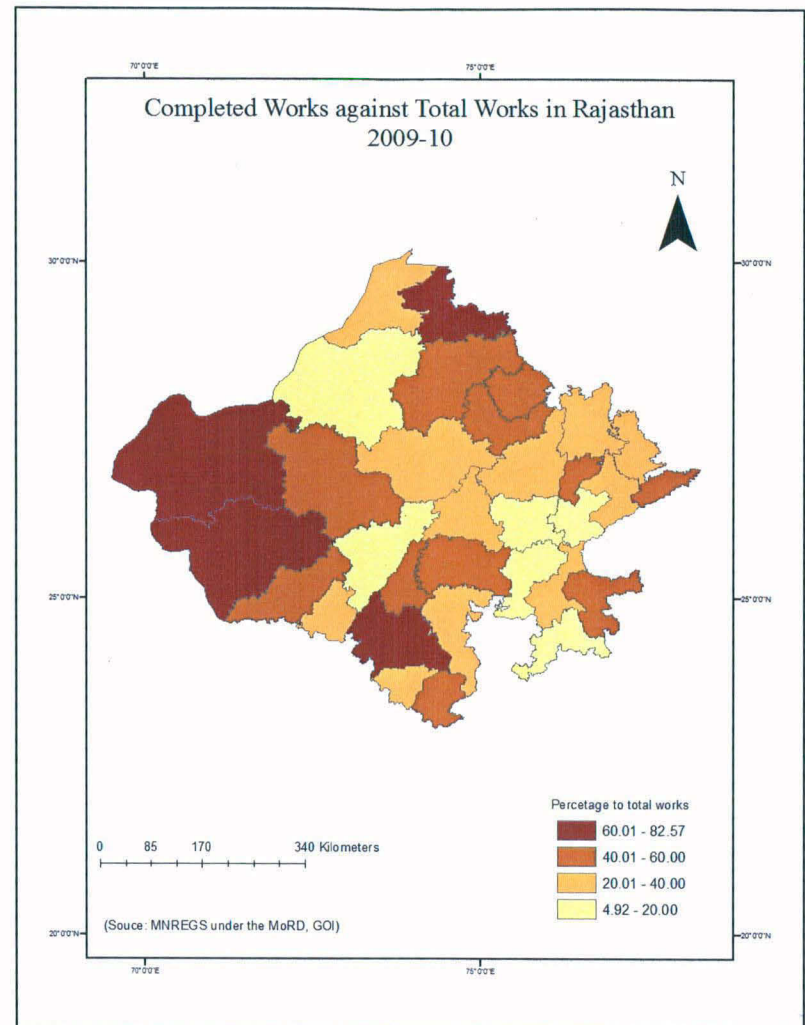
The other districts include Tonk, Alwar, Bharatpur, Bhilwara, Jaipur, Nagaur and Pali where more than 50% water conservation works have been undertaken. In Udaipur and Barmer districts only 9% and 7% water conservation works have been undertaken respectively. The other districts with low share of water conservation works are Ganganagar, Bikaner and Jaisalmer during 2008-09.

During 2009-10, Sikar, Bhilwara and Pali districts created more than 60% works related with water conservation. Tonk, Ajmer, Jaipur, Jhunjhunu and Nagaur are the districts with more than half of the total works linked with water conservation activities. In the districts of Ganganagar, Bikaner, Barmer and Udaipur, water conservation works have been given low priority. Karauli and Bhilwara created more water conservation works during 2010-11.

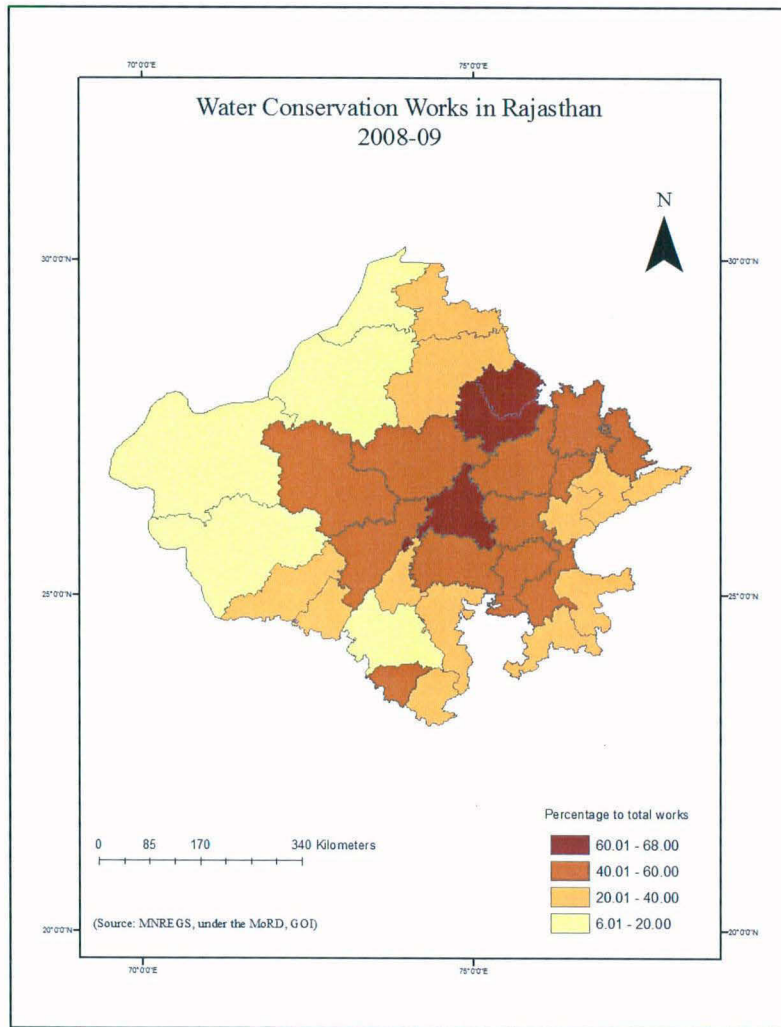
The pattern of water conservation works in other districts is consistent throughout the four year from the starting of implementation. The common procedure is continuously increasing in the water conservation works in most of the districts. It might lead to the reduction in some other types of works. (See the maps 4.22 & 4.23)



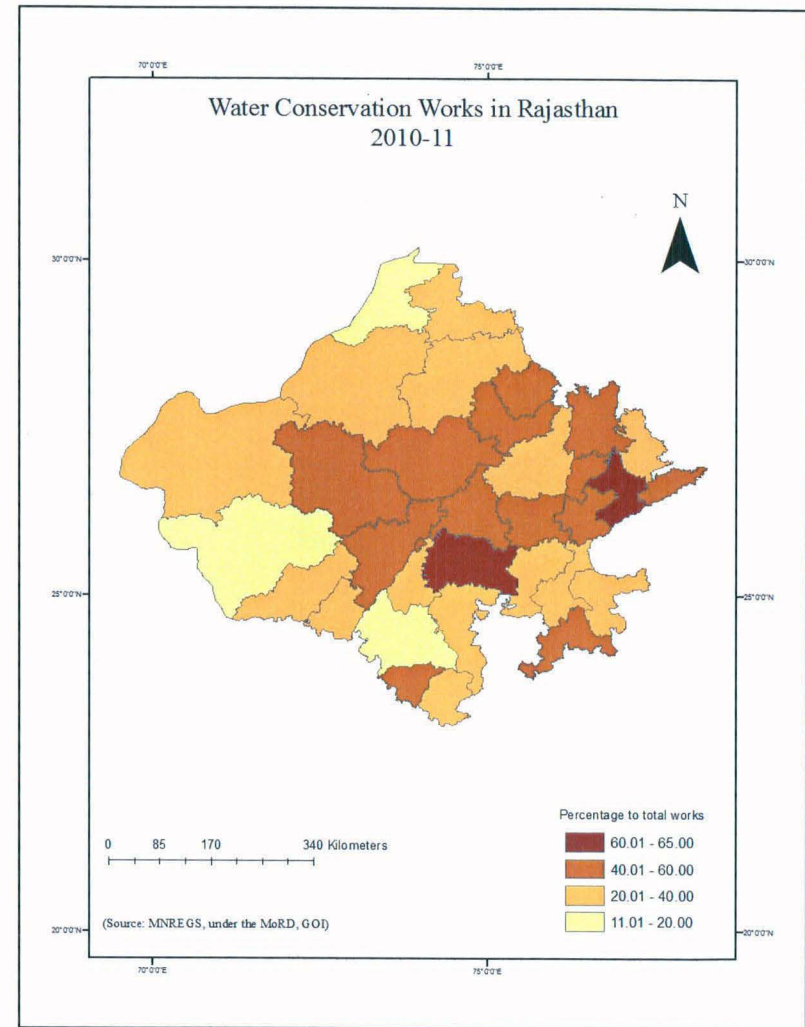
Map 4.18



Map 4.19



Map 4.20



Map 4.21

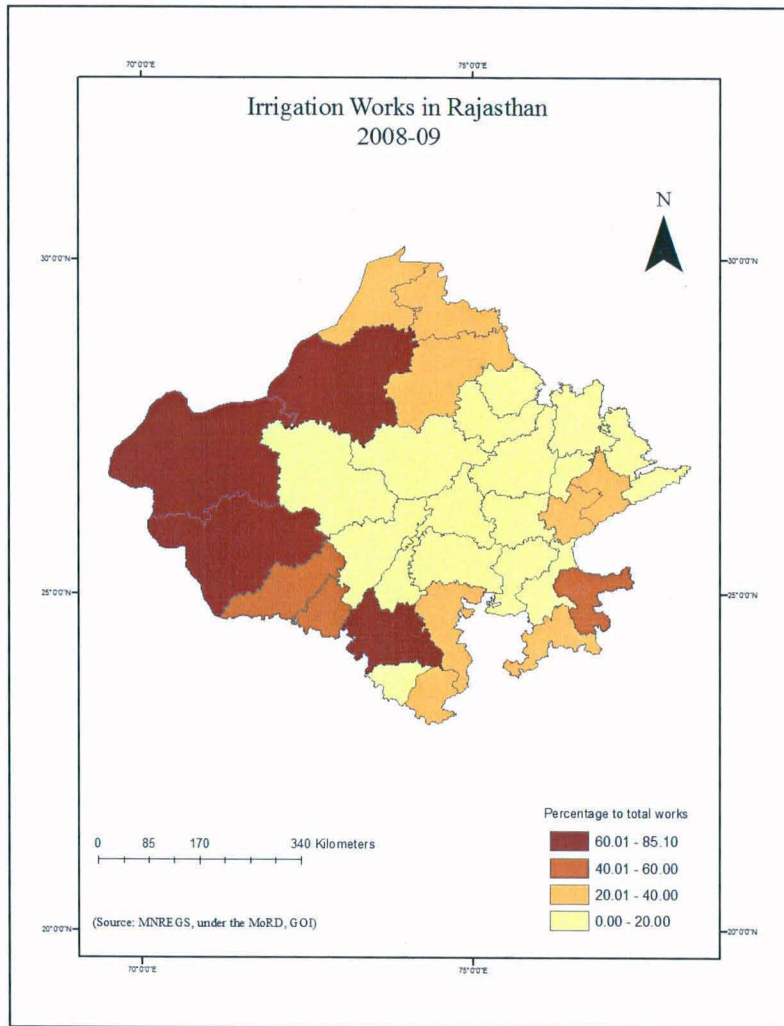
4.12 Irrigation Works under MNREGS in Rajasthan:

The irrigation works include micro irrigation works and provision of irrigation facility to the SC/ST owned fields. The pattern of irrigation works in the state suggests that the western most districts have been given more preference to these types of works. During 2007-08, only Barmer was the district where 80% irrigation works have been undertaken. Other districts with irrigation works were Sirohi (45%), Banswara (39%), Jalore and Jhalawar (33%). During 2008-09, Bikaner, Jaisalmer, Barmer and Udaipur districts created more irrigation works (more than 60% works). While in Udaipur and Barmer, 80-85% irrigation works have been undertaken. Sirohi and Jalore are the other districts with more than 50% irrigation works. In most of the central and north-eastern districts irrigation works have not given much preference.

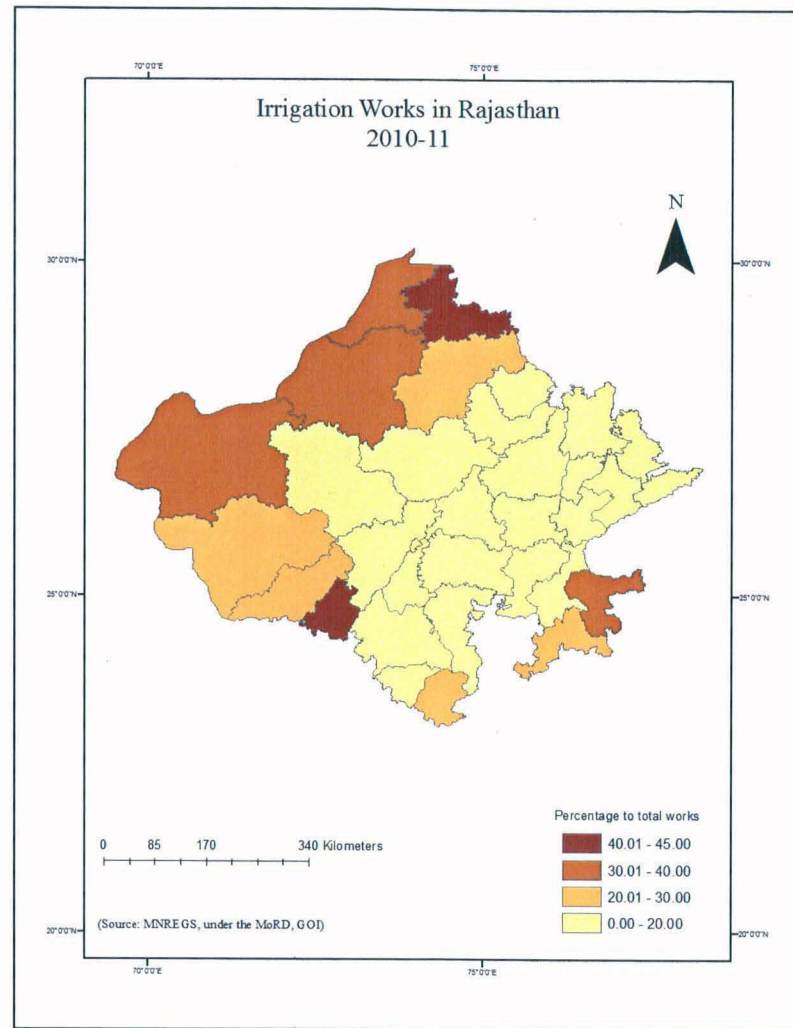
During 2009-10, the pattern of irrigation works in Rajasthan is more or less same. However except Barmer and Udaipur, the other western districts experienced little reduction in the share of irrigation works. In Churu, Nagaur, Banswara and Ganganagar districts irrigation works have been undertaken with the share of 20-40%. The data of time period 2010-11 had extracted before the completion of the year so it's not complete data. As a result, the share of irrigation works is lower in all the districts but the pattern remains same. (See the maps 4.24 & 4.25)

4.13 Land Development Works in Rajasthan:

The land development works have not been undertaken at a large scale in Rajasthan. However, the share of these types of works is consistently increasing and it's extending also. During 2007-08, Sirohi and Jhalawar districts undertook a significant share of land development works. The share is 17% in the case of Sirohi. Sikar, Ganganagar, Sirohi, Jhalawar, Banswara, Churu and Hanumangarh are the districts with land development works during 2008-09. The share of land development works increased during 2009-10. The land development works get boost during 2010-11 with Barmer (51%) and Udaipur (38%) created high share of these works. The other districts with more land development works during 2010-11 are Banswara, Bikaner, Ganganagar and Hanumangarh.



Map 4.22



Map 4.23

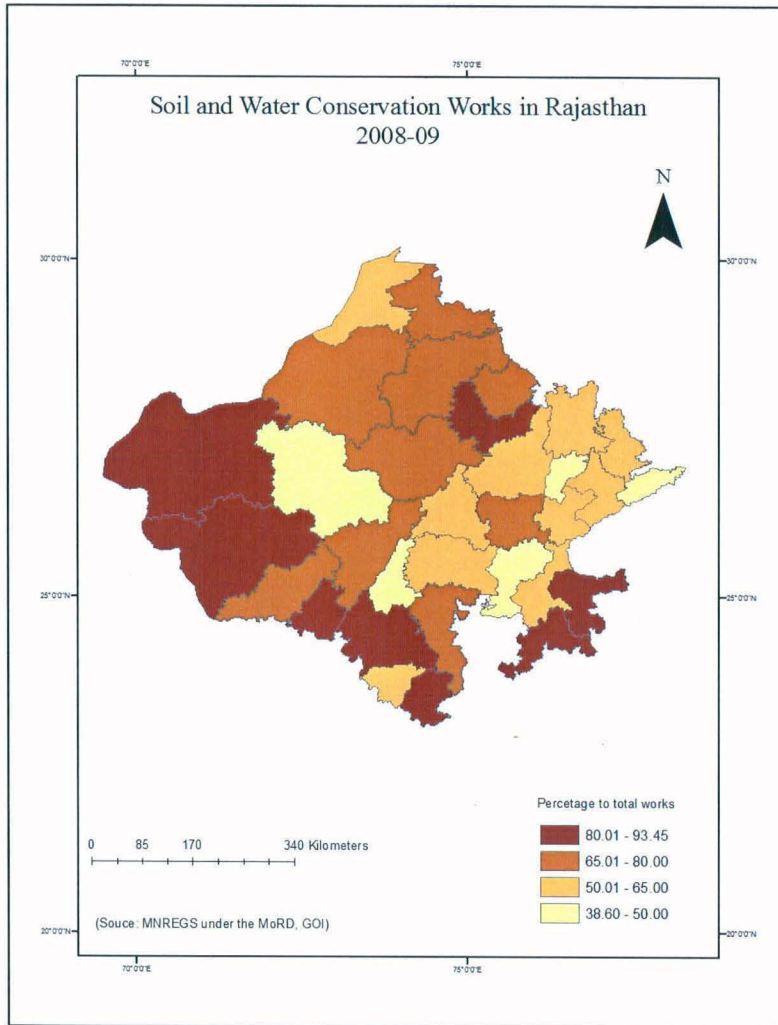
4.14 Soil and Water Conservation Works in Rajasthan:

The soil and water conservation works include water conservation and water harvesting, flood control and protection, renovation of traditional water bodies, micro irrigation works, irrigation facilities to SCs and STs, and land development related activities. This indicator studies the entire spectrum of physical works under the scheme.

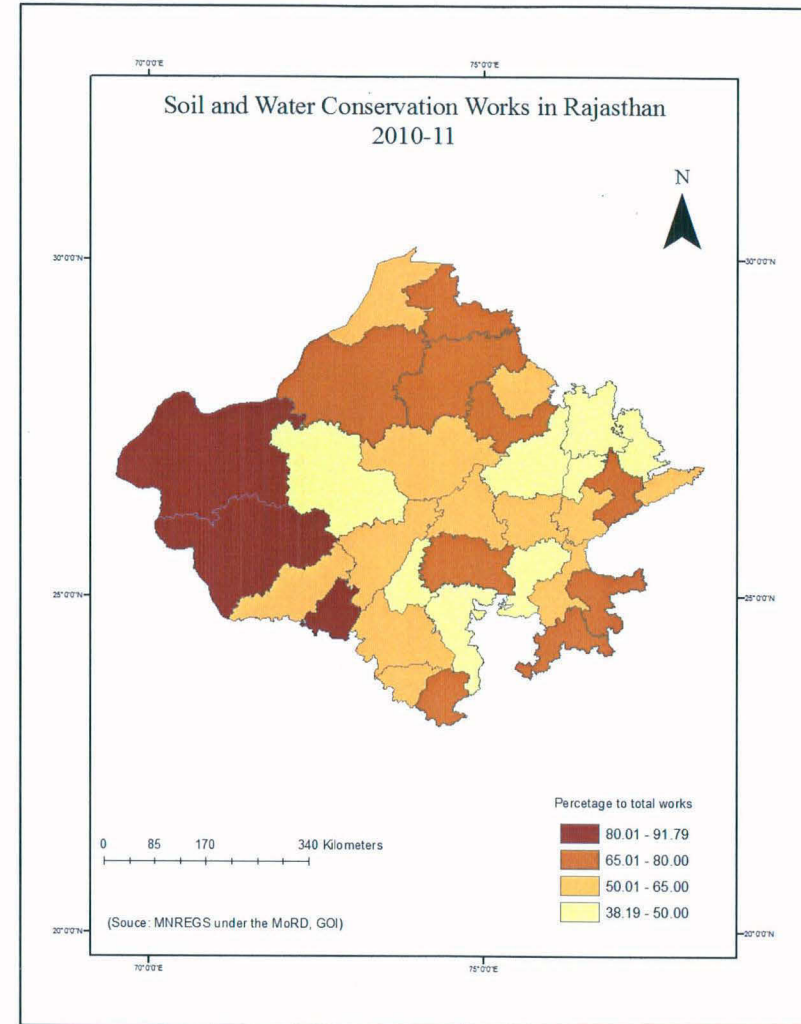
During 2007-08, all the districts showed much importance to soil and water conservation works under the MNREGS. Except Tonk and Jaisalmer, in all other districts soil and water conservation works have been given much priority. In 2008-09, soil and water conservation works were distributed all over the state. Udaipur (93%), Barmer (92%), Sirohi (88%), Banswara and Jaisalmer (both 84%), Baran (83%), Jhalawar and Sikar (both 82%) are the districts with most of the works linked with soil and water conservation.

Bundi (49%), Jodhpur (46%), Dausa (43%), Rajsamand (40%) and Dholpur (39%) are the other districts with less than 50% works linked with soil and water conservation. Apart from these districts, in all other districts more than half of the total works have been linked with soil and water conservation.

During 2009-10, Barmer (93%), Udaipur (90%), Hanumangarh (89%), Banswara (85%), Jhalawar (84%), Jaisalmer (83%), Sirohi (82%) and Bharatpur (80%) districts given more preference to soil and water conservation works to the total works under the MNREGS. Rajsamand (47%), Dholpur (45%), Alwar (43%), Bundi (39%), Dausa (37%) and Bharatpur (31%) are the other districts with low share of soil and water conservation works to the total works undertaken. During 2010-11, the number of districts with less than 50% soil and water conservation works increased while those with above 80% reduced. However, more or less the situation remains the same. (See the maps 4.26 & 4.27)



Map 4.24



Map 4.25

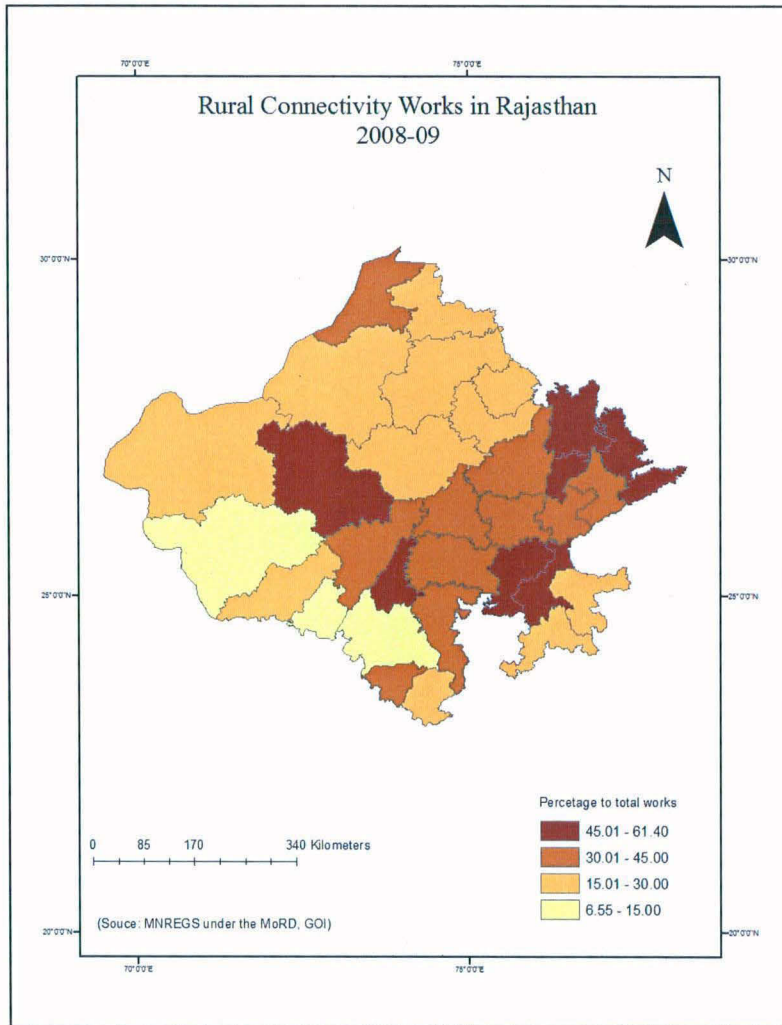
The irrigation works are given more priority in those districts where the share of uncultivated land is higher. Jaisalmer, Barmer, Bikaner, Udaipur and Sirohi are these districts. These are the districts where culturable wasteland is high, forest cover is very low, total cropped area is very low and area sown more than once is also very low.

These are vulnerable districts in terms of cropping system and hence problems of livelihood are high in these districts. In these districts soil and water conservation works are also given more priority. The water conservation works are given more priority in the districts where total cropped area is higher, to meet the water requirement for agriculture. It appears that the preference of the works depends upon the requirement of the local environment.

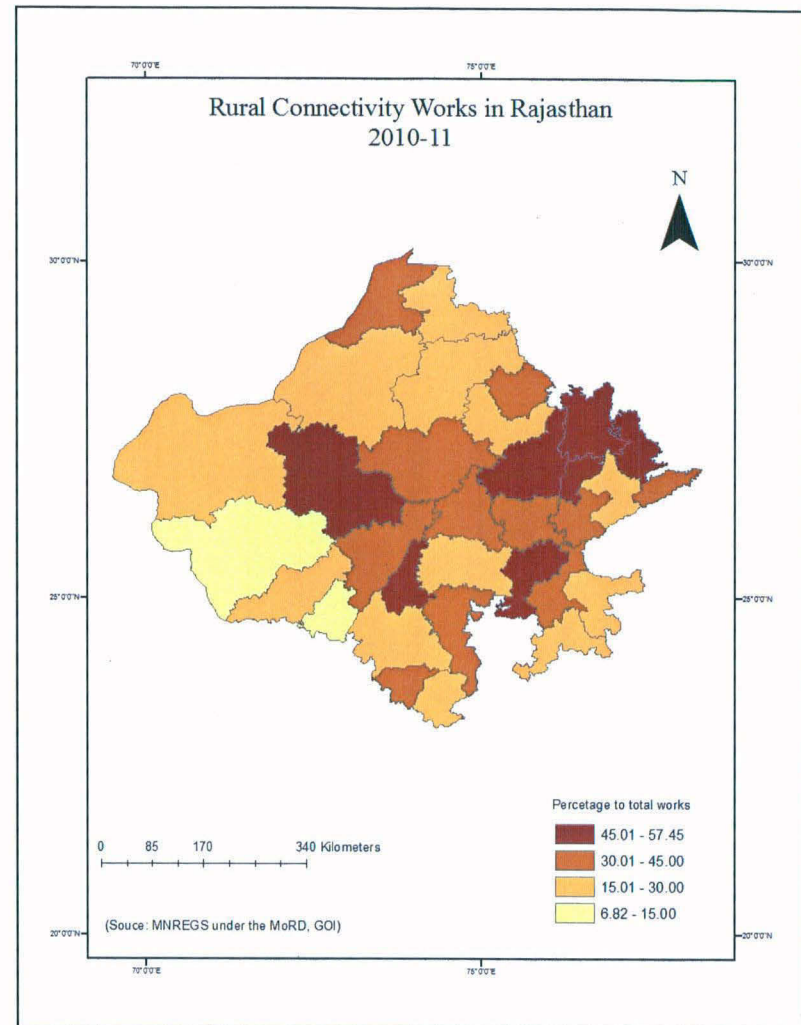
4.15 Rural Connectivity Works in Rajasthan:

The rural connectivity works have been created mainly in the eastern and south eastern districts of the state. The western and the northern districts have given less priority in terms of rural connectivity works. During 2007-08, Jaisalmer (42%), Tonk (33%) and Sawai Madhopur (30%) are the districts with significant shares of rural connectivity works to the total works undertaken under the employment guarantee scheme.

Dholpur (61%), Rajsamand (60%), Dausa (57%), Jodhpur (54%), Bundi (51%), Alwar and Bharatpur (both 46%) are the districts where rural connectivity works constitute the major part of the employment guarantee scheme during 2008-09. Apart from these districts, other eastern and south eastern districts are also given priority in rural connectivity works. The same districts performed well in terms of rural connectivity works in 2009-10 also. The most important point is that rural connectivity works are constitutes the important part of the resource creation in all the districts of Rajasthan. The situation remains same with little changes in the state in 2010-11. (See the maps 4.28 & 4.29)



Map 4.26



Map 4.27

4.16 Physical Works Created in Jaipur district:

Jaipur falls in the semi arid eastern agro-climatic zone. It comes under the North Punjab Plain, Ganga-Yamuna Doab and Rajasthan upland, hot, dry semi-arid eco-subregion. The land use statistics suggest that Jaipur has 7% area under forest cover, 3% area under culturable wasteland and 22% area is unavailable for cultivation. The area under fallow land is 14%, net area sown is 56% and total cropped area is 90% of the total land available for utilization.

The pattern of physical works in the district suggests that water conservation and rural connectivity works are the most prioritized activities under the MNREGS. The irrigation and land development related works have been undertaken at a low scale. The fig. 5.1 suggests that the water conservation, and soil & water conservation works have been experiencing consistently reduction while the share of rural connectivity works has been increasing over years.

Fig. 4.12: Trends of physical works under the MNREGS in Jaipur district

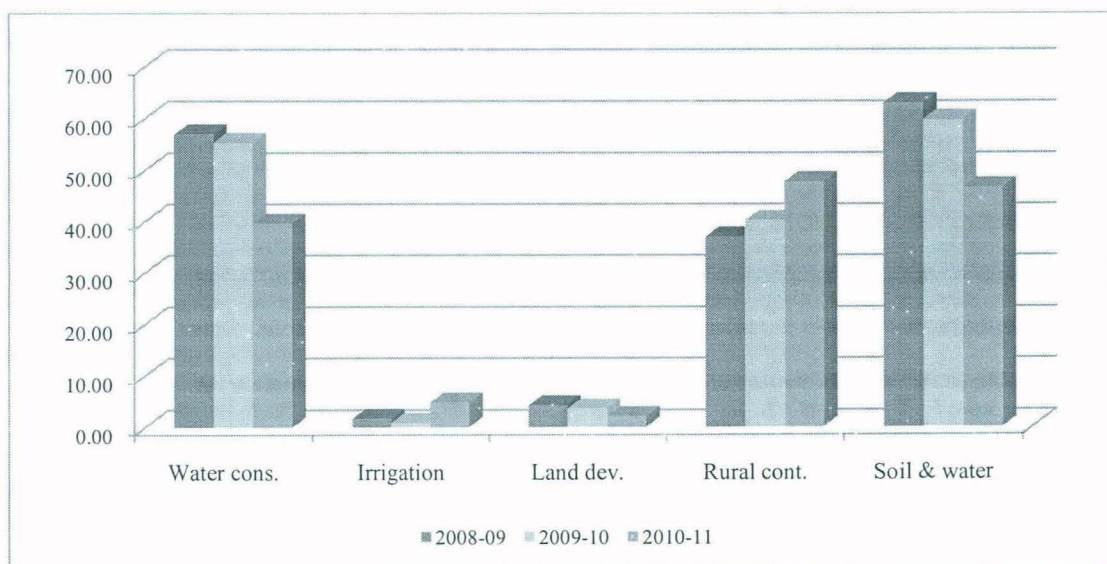


Table 4.3: Physical works created at the tehsil level in Jaipur (2009-10)

Blocks	rural connectivity		water conservation		irrigation		land development		other works		total works	
	no.	%	no.	%	no.	%	no.	%	no.	%	no.	%
Aamer	229	38.0	285	47.3	68	11.3	19	3.2	2	0.3	602	6.2
Kotputli	191	57.2	110	32.9	29	8.7	4	1.2	0	0.0	334	3.4
Govindgarh	336	62.6	123	22.9	44	8.2	12	2.2	22	4.1	537	5.5
Chaksu	444	51.6	335	38.9	68	7.9	13	1.5	1	0.1	861	8.9
Jamwa												
Ramgarh	467	38.7	584	48.4	100	8.3	52	4.3	5	0.4	1207	12.4
Jhotwada	93	59.2	50	31.8	6	3.8	4	2.5	4	2.5	157	1.6
Dudu	772	41.6	942	50.8	70	3.8	17	0.9	53	2.9	1854	19.1
Fagi	306	33.8	422	46.6	55	6.1	15	1.7	107	11.8	906	9.3
Bassi	208	28.6	395	54.3	101	13.9	20	2.8	3	0.4	727	7.5
Viratnagar	280	49.7	248	44.0	12	2.1	7	1.2	16	2.8	563	5.8
Shahpura	278	47.3	208	35.4	67	11.4	16	2.7	19	3.2	588	6.1
Sanganer	343	78.1	66	15.0	15	3.4	3	0.7	12	2.7	439	4.5
Sambhar	665	70.4	262	27.8	1	0.1	16	1.7	0	0.0	944	9.7
Total	4612	47.5	4029	41.5	636	6.5	198	2.0	244	2.5	9719	100.0

(Source: MNREGS, under the MoRD, GOI)

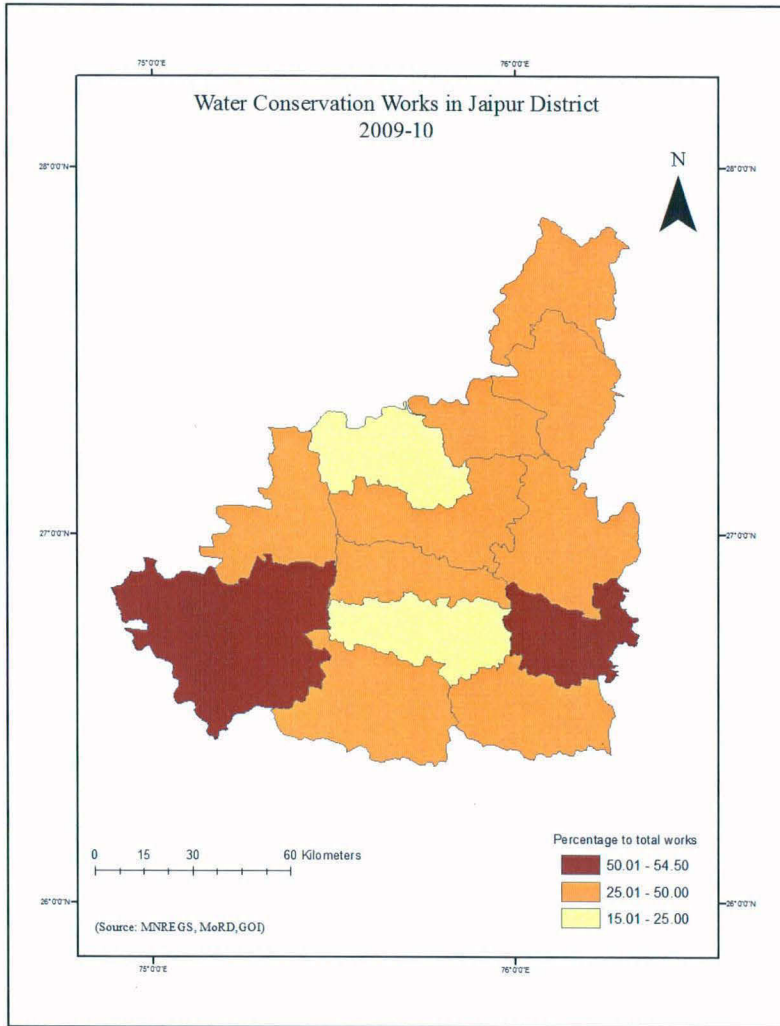
In 2009-10, more than 9000 works were created in the district of Jaipur. The major share of works was created in Dudu (19%) and Jamwa Ramgarh (12%) tehsils. The pattern of works confined to rural connectivity, water conservation and irrigation works to a lesser share. 48% works were linked with rural connectivity and 42% works were linked with water conservation in 2009.10 in the district. The irrigation works were 6% to the total works, and land development only 2% to the total works. Sanganer, Sambhar, Govindgarh, Jhotwada, Kotputli and Chaksu were the tehsils with more than 50% rural

connectivity works to the total works undertaken under the scheme. (See the maps 4.30 & 4.31)

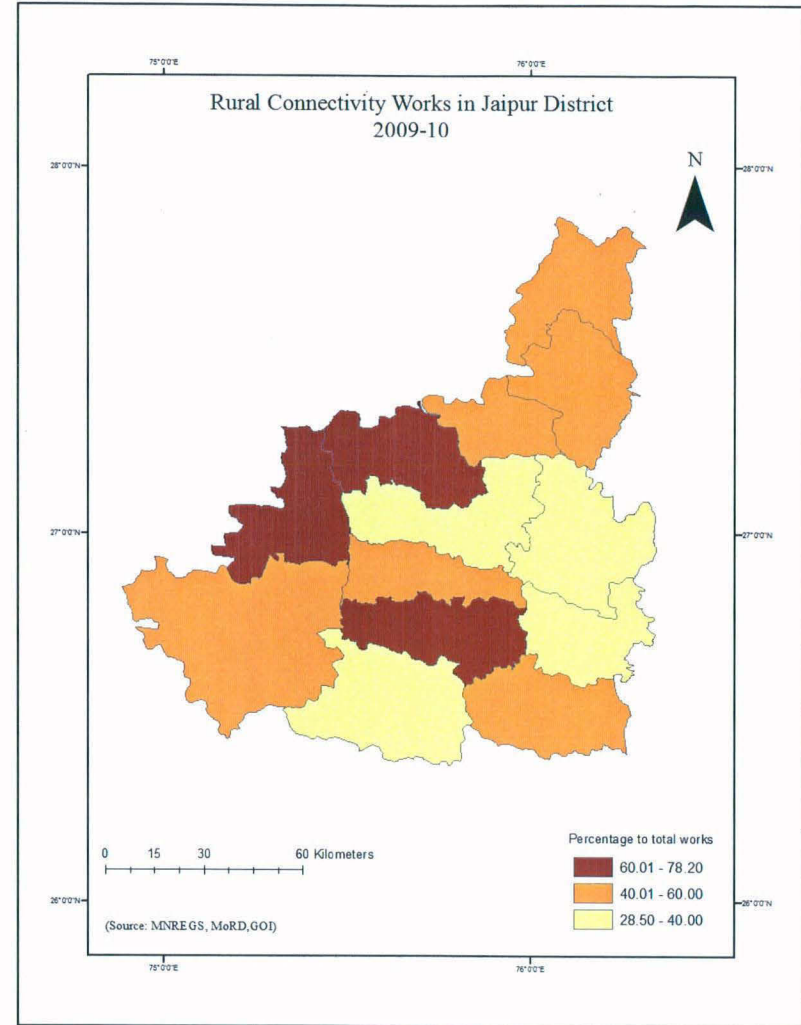
Bassi, Dudu, Jamwa Ramgarh, Aamer, Fagi and Viratnagar were the main blocks where water conservation works were given more priority than other works. The irrigation works were also undertaken in the blocks of Bassi, Shahpura and Aamer. The land development works were given less preference in all the blocks.

The Gram Panchayat level study shows that the distribution of works is not even in all the GPs rather it varies across GPs. Mojmabad (68), Jamwa Ramgarh (66), Bhaislana (56), Fagi and Manoharpur (both 54), and Sewa (53) were the GPs where more than 50 works were undertaken under the employment guarantee scheme. In 24 GPs, more than 40 works were created under the scheme in 2009-10.

The rural connectivity works were given preference in the GPs of Ajairajpura (39), Bhaislana (37), Chhandelkalan (32) and Fagi (30). In 27 GPs, more than 20 works were linked with rural connectivity. The water conservation works were given priority in the GPs of Mojmabad (43), Basna (34) and Jamwa Ramgarh (33). In 22 GPs, more than 20 works were linked with water conservation in 2009-10. The irrigation works were performed in the GPs of Bada Padampura (18), Hanutia (14), Nawalpura and Devan (both 12). The land development related works and other works including RGSKs were not given much preference in these GPs in 2009-10.



Map 4.28

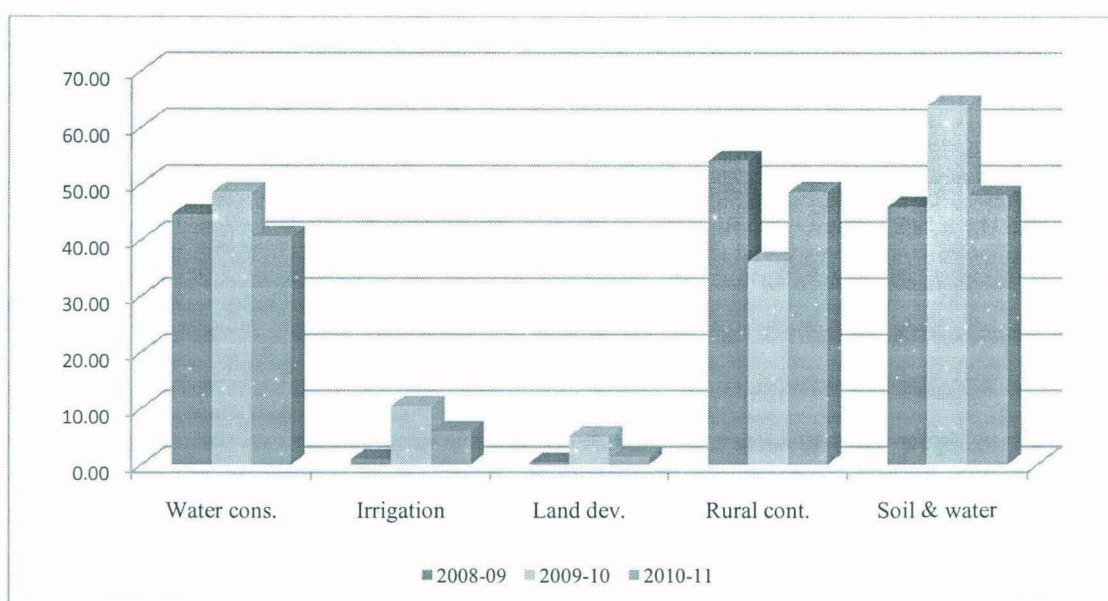


Map 4.29

4.17 Physical Works Created in Jodhpur district:

The trends of physical works in Jodhpur suggest that rural connectivity and water conservation works are the most prioritized works followed by little share of irrigation and land development works. In all the tehsils, the share of works to the total works in the district is more or less even.

Fig. 4.13: Trends of physical works under the MNREGS in Jodhpur district



Balesar, Phalaudi, Osian, Shergarh and Luni are the blocks where more than 50% works have been linked with rural connectivity. In Bhopalgarh, only 24% works have been linked with rural connectivity. Baap, Bhopalgarh and Bavari are the blocks with more than 50% water conservation works during 2009-10. The land development works have been undertaken in Bilada and Bhopalgarh. (4.32 & 4.33)

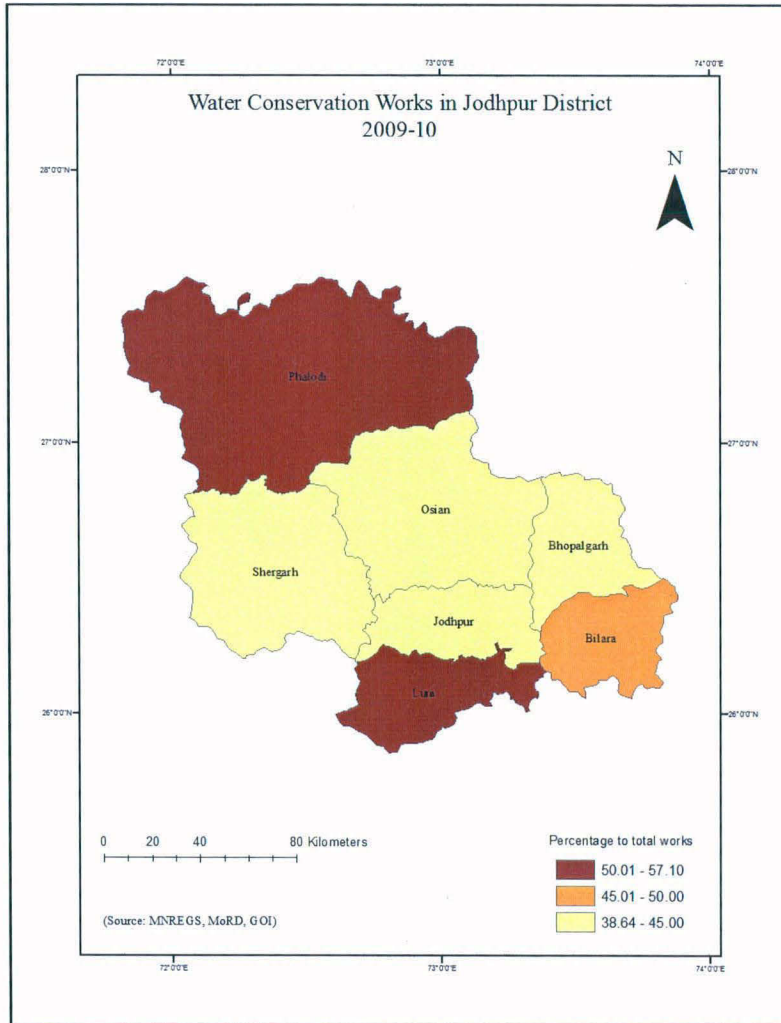
Table 4.4: Physical works created at the tehsil level in Jodhpur (2009-10)

Blocks	rural connectivity		water conservation		irrigation		land development		other works		total works	
	no.	%	no.	%	no.	%	no.	%	no.	%	no.	%
Bavari	286	45.2	328	51.8	8	1.3	0	0.0	11	1.7	633	7.3
Osian	490	52.7	389	41.8	45	4.8	2	0.2	4	0.4	930	10.8
Phalaudi	580	56.3	398	38.6	27	2.6	0	0.0	25	2.4	1030	12.0
Baap	359	41.7	491	57.0	0	0.0	4	0.5	7	0.8	861	10.0
Balesar	462	58.0	321	40.3	0	0.0	0	0.0	14	1.8	797	9.3
Bilada	407	43.0	392	41.4	146	15.4	0	0.0	1	0.1	946	11.0
Bhopalgarh	272	24.1	612	54.2	222	19.7	19	1.7	4	0.4	1129	13.1
Mandore	282	46.5	285	47.0	39	6.4	0	0.0	1	0.2	607	7.0
Luni	459	50.6	385	42.4	4	0.4	55	6.1	4	0.4	907	10.5
Shergarh	399	51.6	339	43.8	36	4.7	0	0.0	0	0.0	774	9.0
Total	3996	46.4	3940	45.7	527	6.1	80	0.9	71	0.8	8614	100.0

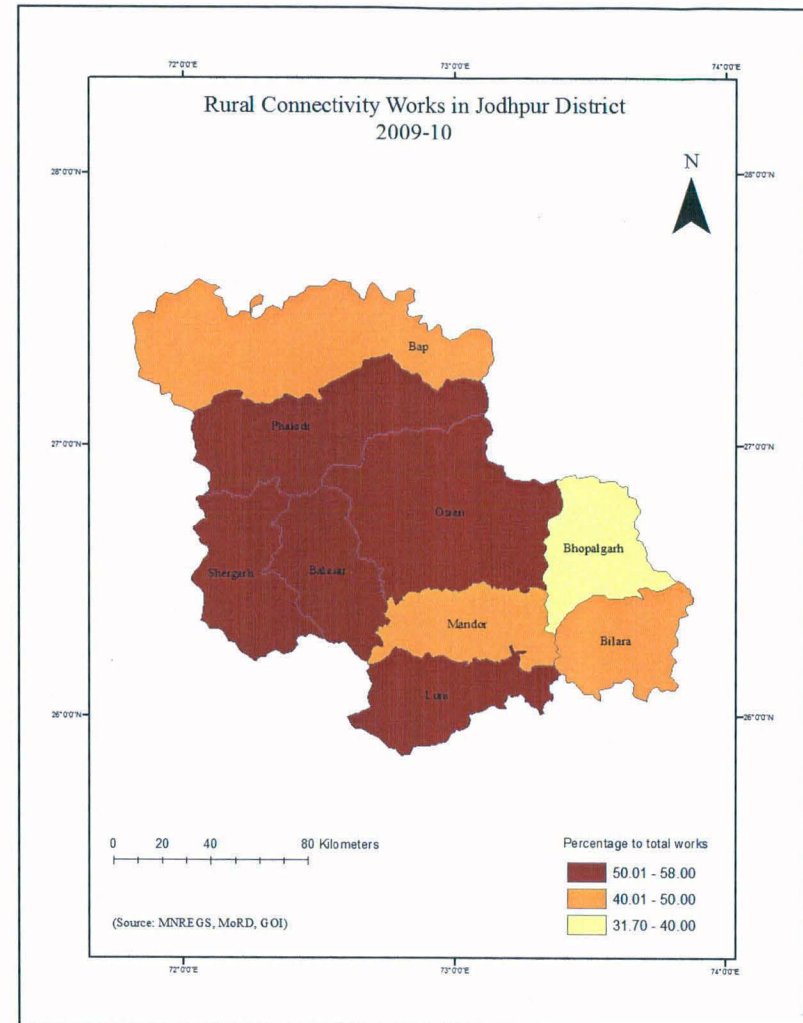
(Source: MNREGS, under the MoRD, GOI)

The Gram Panchayat wise data shows that the number of works undertaken is not as good as in the case of Churu. Out of 339 GPs, only 12 GPs created more than 50 works per village in 2009-10. These GPs were Surpurakhurd, Olvi, Salwakhurd, Chandelav, Bhopalgarh, Ghewra, Utvalia, Aau, Nathdau, Jaloda, Khwasapura, and Khabdakhurd. In all other villages, the number of works created under the MNREGS is very low, varies upto 6 only.

The pattern of works confined only to rural connectivity and water conservation, and in some GPs very low share of irrigation works. The water conservation works were given more priority in the GPs of Surpurakhurd (46), Shekhasar (36), Jaloda (33) and Utvalia (31). In 28 GPs, the water conservation works were more than 20.



Map 4.30



Map 4.31

In all other GPs, the water conservation works were very less in numbers. The Gram Panchayats where rural connectivity works were given more priority were Nathdau (33), Aau and Devatu (both 32), Bhiyasar (30). In 23 GPs, more than 20 works linked with rural connectivity were undertaken in 2009-10. In Kotputli, only 3.4% works were created to the total works created in the district.

4.18 Physical Works Created in Churu district:

The district of Churu has 6 tehsils Churu, Taranagar, Ratangarh, Rajgarh, Sujangarh and Sardarshahar. During 2009-10, total 12799 works were undertaken under the MNREGS in Churu district. Sujangarh and Sardarshahar blocks have been created more works than other districts. The most of the works have been related with water conservation (35%), rural connectivity (32%) and irrigation works (24%) in the district. Sardarshahar and Rajgarh provided more works related with water conservation. The works related with rural connectivity forms a major part in all the blocks. Except Rajgarh, irrigation works were given priority in all the blocks. (See the maps 4.34 & 4.35)

Fig. 4.14: Trends of physical works under the MNREGS in Churu district

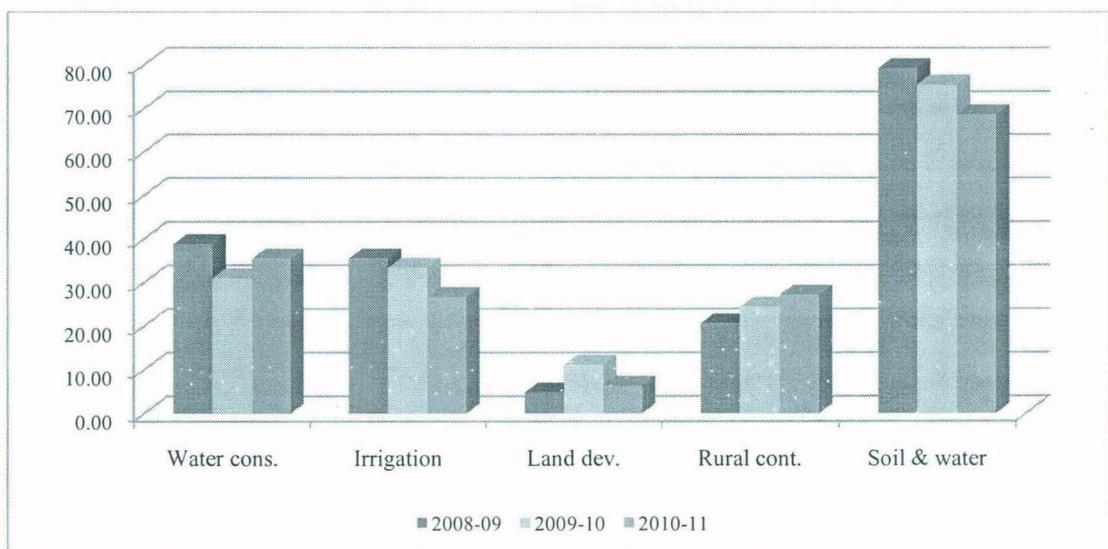
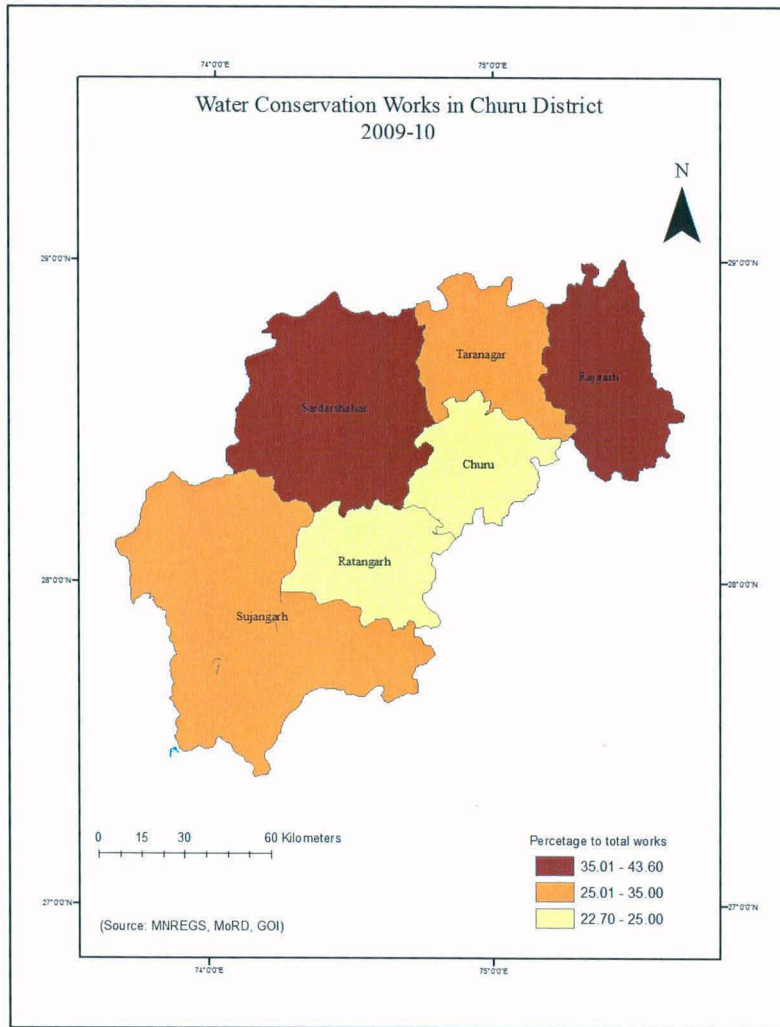


Table 4.5: Physical works created under the MNREGS in Churu (2009-10)

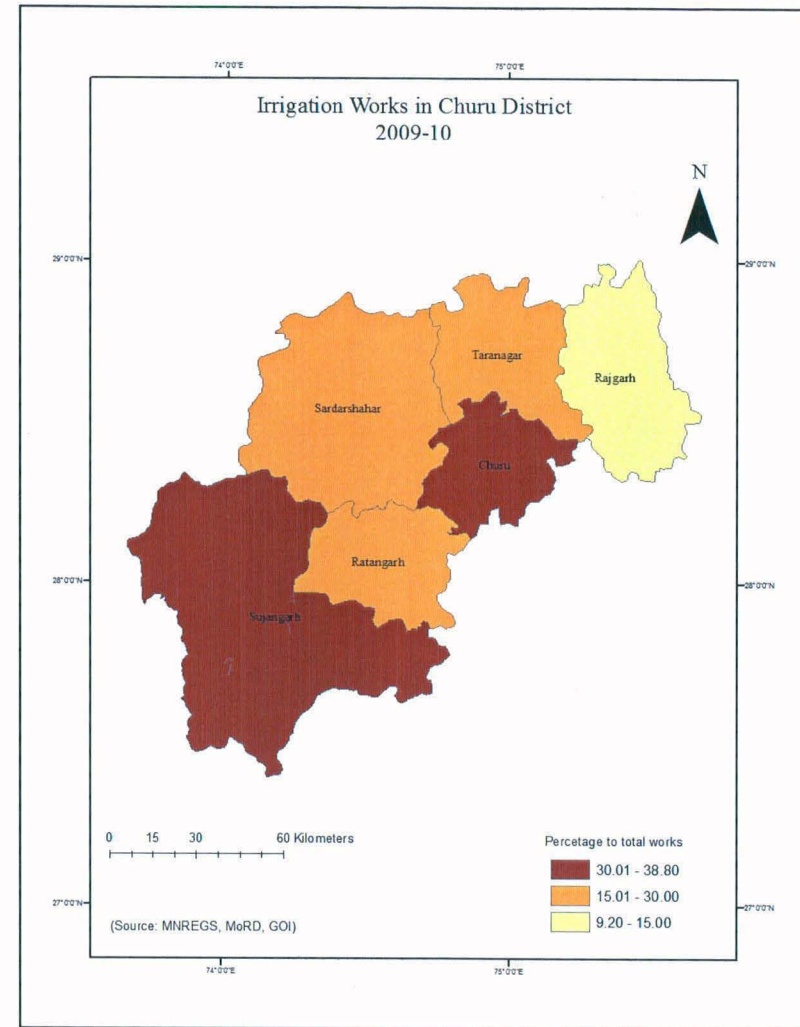
Tehsils	rural connectivity	Irrigation	water conservation	land development	other works	total works
Churu	439 (24.4)	698 (38.8)	408 (22.7)	139 (7.7)	117 (6.5)	1801 (14.1)
Taranagar	317 (26.6)	26 (22.3)	403 (33.8)	202 (16.9)	5 (0.4)	1193 (9.3)
Ratangarh	469 (36.0)	252 (19.3)	323 (24.8)	246 (18.9)	14 (1.1)	1304 (10.2)
Rajgarh	764 (37.2)	189 (9.2)	861 (41.9)	80 (3.9)	159 (7.7)	2053 (16.0)
Sujangarh	988 (31.5)	999 (31.9)	1040 (33.2)	94 (3.0)	13 (0.4)	3134 (24.5)
Sardarshahar	1089 (32.9)	718 (21.7)	1446 (43.6)	43 (1.3)	18 (0.5)	3314 (25.9)
total	4066 (31.8)	3122 (24.4)	4481 (35.0)	804 (6.3)	326 (2.5)	12799 (100)

(Source: MNREGS, under the MoRD, GOI)

The pattern of works in the district confined to irrigation works, water conservation and rural connectivity. The GP wise data shows that in 16 GPs more than 100 works have been undertaken under the scheme during 2009-10. Some of these GPs are Charla & Bukansar Bada (159), Kikasar (153), Boghera (144), Arsisar (136), Chalkoi Banirotan (131), Baghsara Othura (126) and Bhanisar Tejsinhotan (118). The other GPs having more than 100 works are Dheerwas, Ramsisar Bhed, Jaisangsar, Melusar, Bikmasara, Kanuta and Jaitsisar. In 20 GPs, 80 or more than that works have been created under the scheme. The GPs with more irrigation works are Bukansar Bada (114), Boghera (106), Charla (92) and Chalkoi Banirotan (83).



Map 4.32



Map 4.33

The other GPs with more than 50 works related with irrigation facilities are Kikasar, Dheerwas, Jaisangsar, Kanwari, Kanuta, Bhanisar Tejsinhotan and Pithisar. The water conservation works have been given priority in the GPs of Arsisar (76), Melusar and Baghsara Othuna (both 69), Ratusar (65) and Malkasar (58). The other GPs with more water conservation works are Ramsisar Bhed, Katarchhoti, Malsar and Kikasar. The GPs with more rural connectivity works are Jaitsisar (69), Derajsar (49), Arsisar (41), Ajitsar & Dhani Panchera (both 38), and Kikasar & Bikamsara (36). The land development works have been undertaken in the GPs of Dheerwas (27), Sarayan (24), Simsiya & Nausaria (21).

4.19 Gram Panchayat wise Assets created in Churu tehsil:

In the previous section, the status of physical created at the GP level has been studied for three districts Churu, Jodhpur and Jaipur. The status of physical works created is better in the district of Churu than that of Jodhpur and Jaipur. In this section, the types of activities have been categorized on the basis of nature of these activities.

The data of 35 GPs of Churu Tehsil has been analyzed for two time periods 2008-09 and 2009-10. The types of activities at the GP level clarify the actual pattern and trend of works under the scheme. The classification of activities has been made under the sub-headings water conservation, rural connectivity, land development and irrigation works. The share of activities under different types of works has been calculated and the related GPs also have been mentioned in the table.

The construction of Private Tankas (Kund) is the most prioritized activity under the MNREGS in both the time periods. The activities related with ditch facing, leveling and construction of community ponds was the next prioritized work during 2008-09 and 2009-10. The construction of all weather roads, Khurra construction and construction of Public Tankas (Kund) are the activities that are more pronounced under the MNREG scheme (See the tables 4.6 & 4.7). The other activities include the improvement in the Pucca Pond, construction of underground drains, leveling of the wasteland and plantation, and shelter belt plantation and preparation of nursery

Table 4.6: Categorization of Activities under different types of Physical Works in Churu (2008-09)

Types of Activities	No.	%	Gram Panchayats
Water Conservation & Irrigation Works			
Private Tanka Construction	583	48.4	Binasar, Pithisar, etc.
Public pond construction, ditch facing and leveling	252	20.9	Dhadheriya Bani
Public Tanka construction	35	2.9	Bhamasi
Construction and leveling of the Pucca pond	7	0.6	Binasar
Construction of underground drains	6	0.5	Dhadheriya Bani
Total water conservation and irrigation activities	883	73.3	
Rural Connectivity			
Construction of all weather roads	223	18.5	Lakhau, Dhader
Construction of Khurra	52	4.3	Satra, Khansoli
Total rural connectivity activities	275	22.8	
Land Development			
Ditch facing, leveling and plantation of wasteland	45	3.7	Dhader, Binasar
Shelter Belt Plantation	1	0.1	Kadwasar
Preparation of nursery	1	0.1	Kadwasar
Total land development activities	47	3.9	
Total activities	1205	100	

(Source: MNREGS, under the MoRD, GOI)

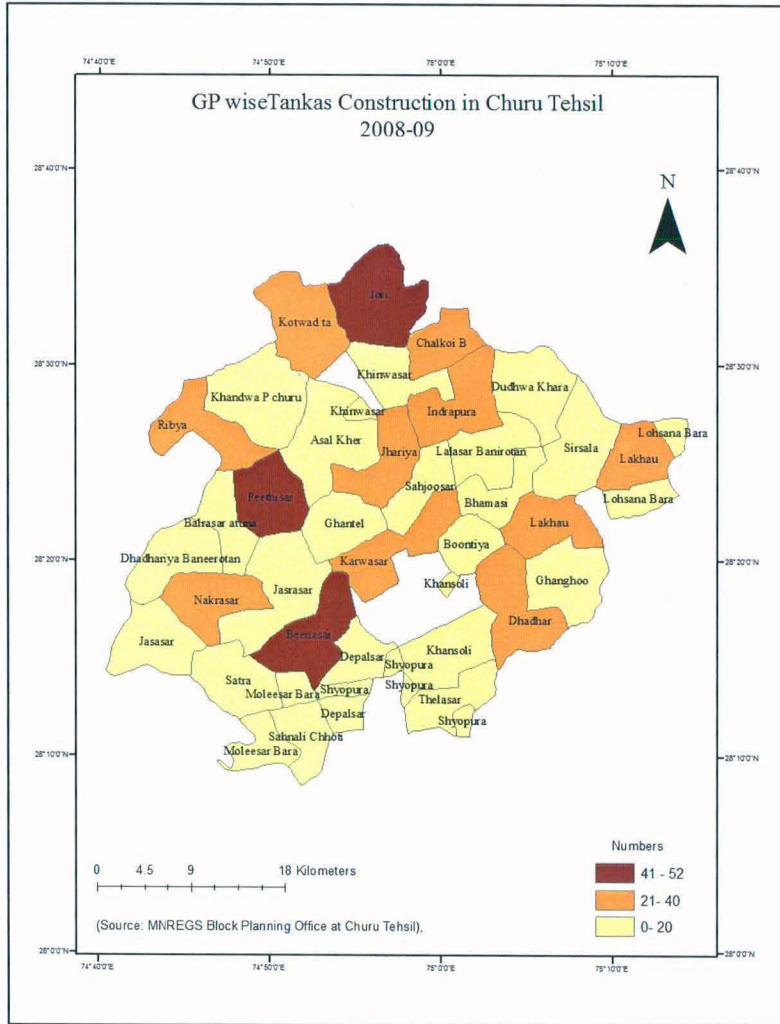
The nature of these activities suggests that these are performed on the basis of requirement of the local environment and considering the livelihood of the rural people. However these activities have a long term effect on the rural scenario and creating the village productive assets. The GPs wise distribution of these productive assets tells the real story of these activities.

The construction of Private Tankas was the main activity during 2008-09 under the scheme as 583 Tankas (48%) were constructed in Churu Tehsil. Binasar (47), Pithisar (42), Jodi P Satyu (40), Lakhau (36) and Chalkoi Bani (34) are the GPs where Private Tankas are constructed at a large scale. Ribiya, Kotwad Taal, Kadwasar, Jhariya, Nakrasar and Indrapura are the other GPs with a number of Private Tankas construction during 2008-09. While during 2009-10 the number of Private Tankas constructed reduced to 356 compared to 583 in 2008-09. Chalkoi Bani (49), Kotwad Tall (38), Pithisar (36), Dhaderiya Bani (29) and Balrasar Authuna (25) are the GPs with good number of Private Tankas construction. (See the maps 4.36 & 4.37)

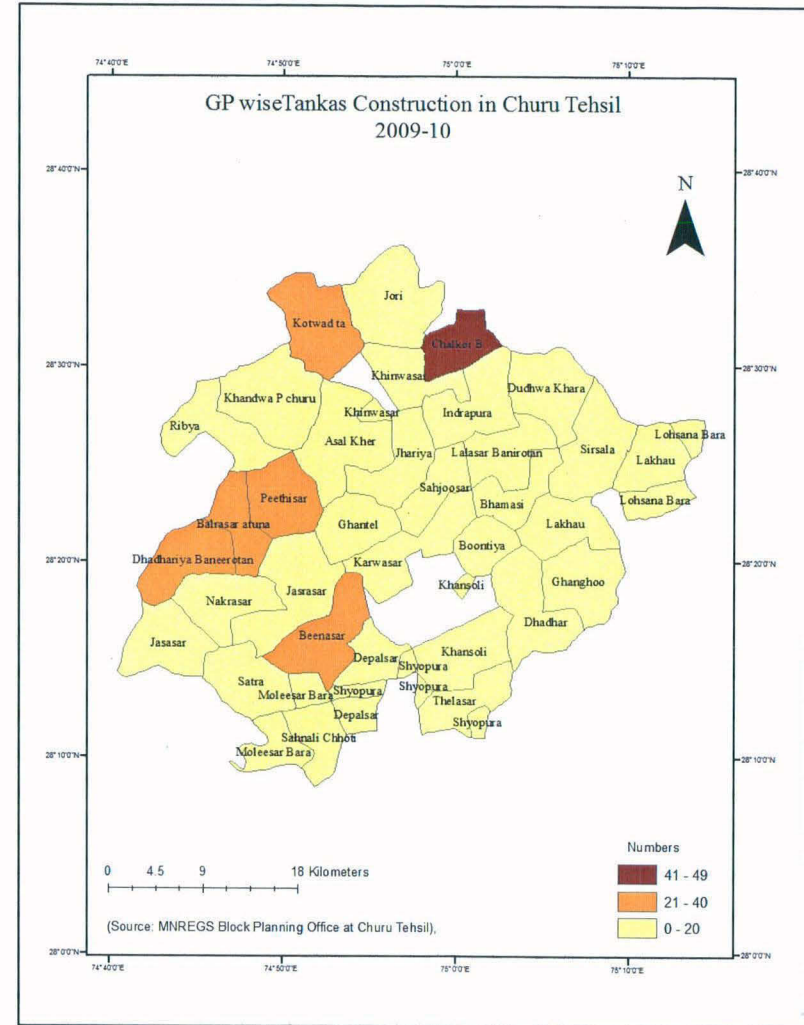
In Dhader, Indrapura and Lakhau GPs Private agricultural Tankas were constructed in 2009-10. However, there was no specified category for agricultural Tankas in 2008-09. In Bhamasi and Binasar GPs public Tankas were also constructed during 2008-09.

The construction of Public Ponds is another important activity under the MNREGS. In 2008-09, 252 activities were related with construction, ditch facing and leveling of the Public Ponds. Dhaderiya Bani (22), Chalkoi Bani and Lohsana Bada (both 14), and Jodi P Satyu (13), are the GPs with more number of activities related with public pond construction and ditch facing. In 2009-10, 304 activities were related with construction, ditch facing and leveling of the public ponds. The main GPs are Jodi P Satyu, Ghantel, Asalkheri, Jasrasar and Lohsana Bada with more number of public pond construction activities. (4.38 & 4.39)

The construction of underground drains is mainly in the GPs of Dhader, Dhudhwakhara and Dhaderiya Bani. The activities related with construction of Pucca Ponds and leveling the floor of the pond is also popular in some of the GPs. The land development related activities include ditch facing, leveling and plantation of the wasteland. It also includes shelter belt plantation and preparation of nursery. The GPs Kadwasar, Molisar Bada, Bhamasi, Sirsala, Syopura and Dhader are the main inhabitant of these activities.



Map 4.34

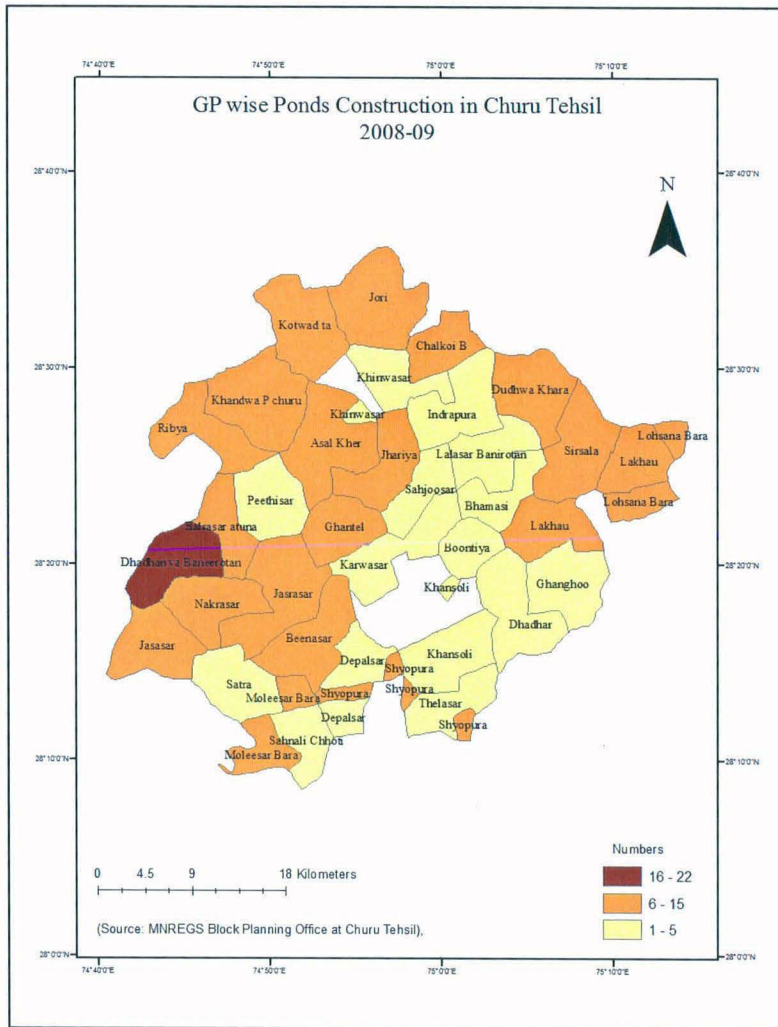


Map 4.35

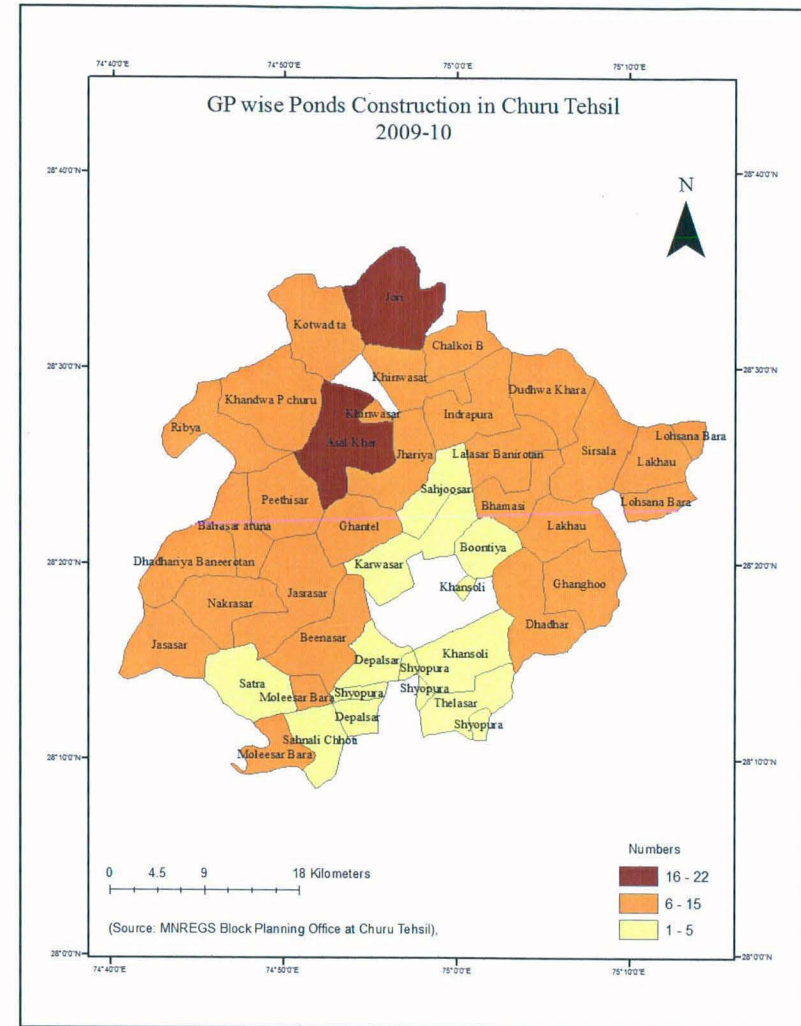
Table 4.7: Categorization of Activities under different types of Physical Works in Churu tehsil (2009-10)

Types of Activities	No.	%	Gram Panchayats
Water Conservation			
Private Tanka Construction	356	35.1	Chalkoi Bani, Kotwad Taal., etc
Public pond construction, ditch facing and making area plane	304	30	Asalkheri, Binasar, Ghantel, etc.
Public Tanka construction	13	1.3	Lohsana Bada, Binasar
Construction of the Pucca pond	9	0.9	Khinwasar, Ribiya
Construction of underground drains	8	0.8	Dhader
Total water conservation activities	691	68.1	
Rural Connectivity			
Construction of all weather roads	237	23.3	Pithisar, Binasar, Chalkoi Bani, etc.
Construction of Khurra	12	1.2	Dhader, Khansoli
Total rural connectivity activities	249	24.5	
Land Development			
Plantation	38	3.7	Kadwasar, Molisar Bada, Sirsala, etc.
Leveling of the wasteland	4	0.4	Kadwasar, Bhamasi
Pasture land development	1	0.1	Syopura
Preparation of nursery	1	0.1	Syopura
Collection of seeds	1	0.1	Khansoli
Total land development activities	45	4.4	
Irrigation Works			
Construction of private agricultural tankas	31	3.1	Dhader, Indrapura, Lakhau
Total irrigation activities	31	3.1	
Total activities	1015	100	

(Source: MNREGS, under the MoRD, GOI, New Delhi)



Map 4.36



Map 4.37

Table 4.8: Gram Panchayat wise Assets created under the MNREGS in Churu tehsil (2008-09)

GPs	Private Tanka	Pond Const.	Public Tanka	Land Dev.	All Weather Roads	Khurra Const.
Asalkheri	1	12	-	-	8	-
Balrasar Auth.	12	8	-	-	6	-
Bhamasi	14	3	5	7	9	-
Binasar	47	8	5	4	3	5
Buntya	-	2	-	-	3	1
Chalkoi Bani	34	14	4	-	8	-
Depalsar	1	4	-	-	4	-
Dhader	20	4	1	4	12	6
Dhaderiya Bani	20	22	-	-	2	-
Dudhwakhara	12	8	1	3	3	-
Ghangu	2	4	-	-	6	-
Ghantel	8	7	-	-	7	-
Indrapura	24	5	3	1	7	2
Jasasar	6	8	-	-	7	-
Jasrasar	16	11	-	-	7	-
Jhariya	22	9	-	-	11	-
Jodi P Satyu	40	13	2	1	1	5
Kadwasar	23	3	-	6	3	-
Khandwa P Churu	6	7	2	-	6	2
Khansoli	8	1	-	-	6	6
Khinwasar	2	5	-	-	11	-
Kotwad Taal	25	10	-	-	8	-
Lakhau	36	7	-	6	13	-
Lalasar Bani	14	5	5	3	6	-
Lohsana Bada	16	14	-	-	10	-
Molisar Bada	11	9	2	1	6	-
Nakrasar	22	11	2	2	8	-
Pithisar	42	3	-	-	7	5
Ribiya	29	7	-	3	6	-
Sahjusar	17	2	1	5	4	1
Sahnali Chhoti	7	5	-	-	2	4
Satra	11	5	1	1	5	13
Sirsala	8	7	-	-	9	-
Syopura	8	6	-	-	3	-
Thelasar	18	3	1	-	6	2

(Source: MNREGS, under the MoRD, GOI, New Delhi)

Table 4.9: Gram Panchayat wise Assets created under the MNREGS in Churu tehsil (2009-10)

GPs	Private Tanka	Pond Const.	Public Tanka	Land Dev.	All Weather Roads	Khurra Cons.
Asalkheri	9	16	-	-	8	-
Balrasar Auth.	25	8	-	-	4	-
Bhamasi	10	6	1	3	7	-
Binasar	19	9	2	-	14	1
Buntiya	11	3	-	-	4	-
Chalkoi Bani	49	8	-	-	12	-
Depalsar	-	3	-	1	4	-
Dhader	2	10	-	3	9	4
Dhaderiya Bani	29	15	-	-	5	-
Dudhwakhara	8	7	-	1	4	-
Ghangu	1	8	-	-	5	-
Ghantel	7	15	-	-	6	-
Indrapura	5	6	1	1	8	-
Jasasar	4	10	-	2	3	-
Jasrasar	13	13	-	1	7	-
Jhariya	16	7	-	-	8	-
Jodi P Satyu	17	22	-	-	5	-
Kadwasar	12	4	-	6	2	-
Khandwa P Churu	-	11	-	-	3	2
Khansoli	1	3	-	1	10	3
Khinwasar	1	9	-	-	9	-
Kotwad Taal	38	12	-	-	6	-
Lakhau	13	9	-	4	7	-
Lalasar Bani	-	10	-	-	9	-
Lohsana Bada	-	13	3	2	7	-
Molisar Bada	1	8	-	5	5	-
Nakrasar	4	11	-	2	5	-
Pithisar	36	7	1	-	15	-
Ribiya	-	9	-	-	8	-
Sahjusar	10	3	-	-	4	1
Sahnali Chhoti	5	5	2	3	5	-
Satra	-	4	-	-	6	-
Sirsala	-	8	1	4	6	-
Syopura	4	3	-	3	5	1
Thelasar	6	3	1	2	9	-

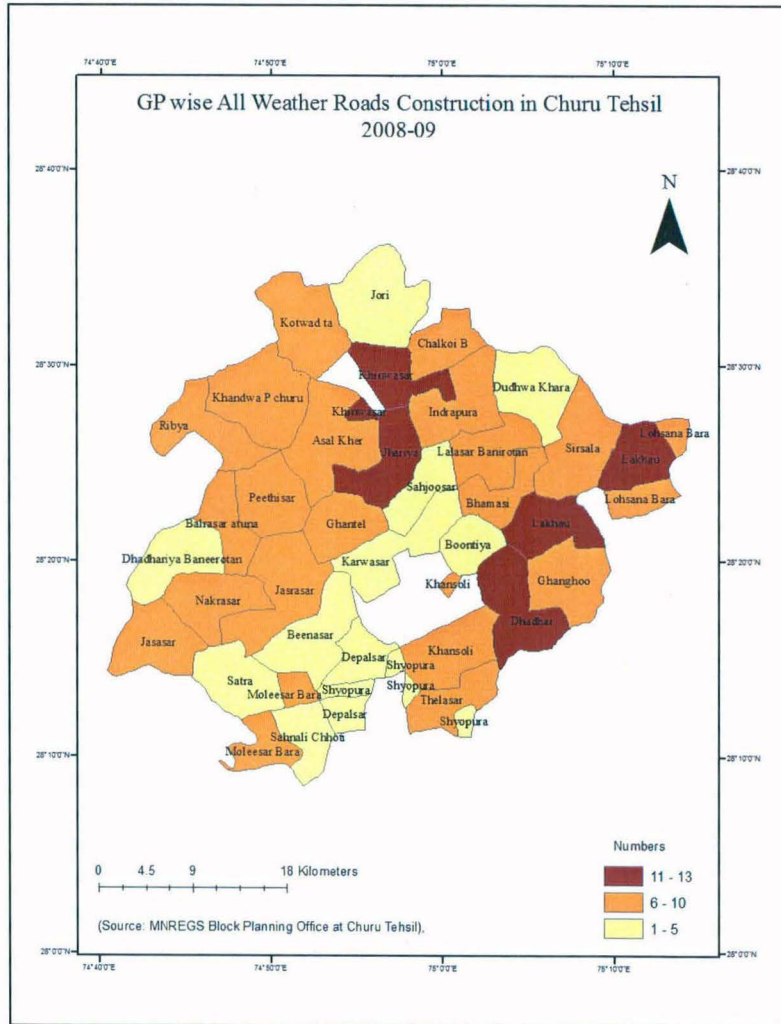
(Source: MNREGS, under the MoRD, GOI, New Delhi)

The rural connectivity works include the construction of all weather roads (gravel) and Khurra. Khurra is an elevated road interlinked the two streets and outside road to the village road. The GPs of Lakhau, Dhader, Khinwasar, Jhariya and Lohsana Bada have constructed all weather roads under the MNREGS in 2008-09. In all the GPs all weather roads have been constructed in the same year. The GPs of Pithisar, Binasar, Chalkoi Bani, Jasrasar and Khansoli possess many all weather roads construct under the MNREGS in 2009-10. (See the maps 4.40 & 4.41)

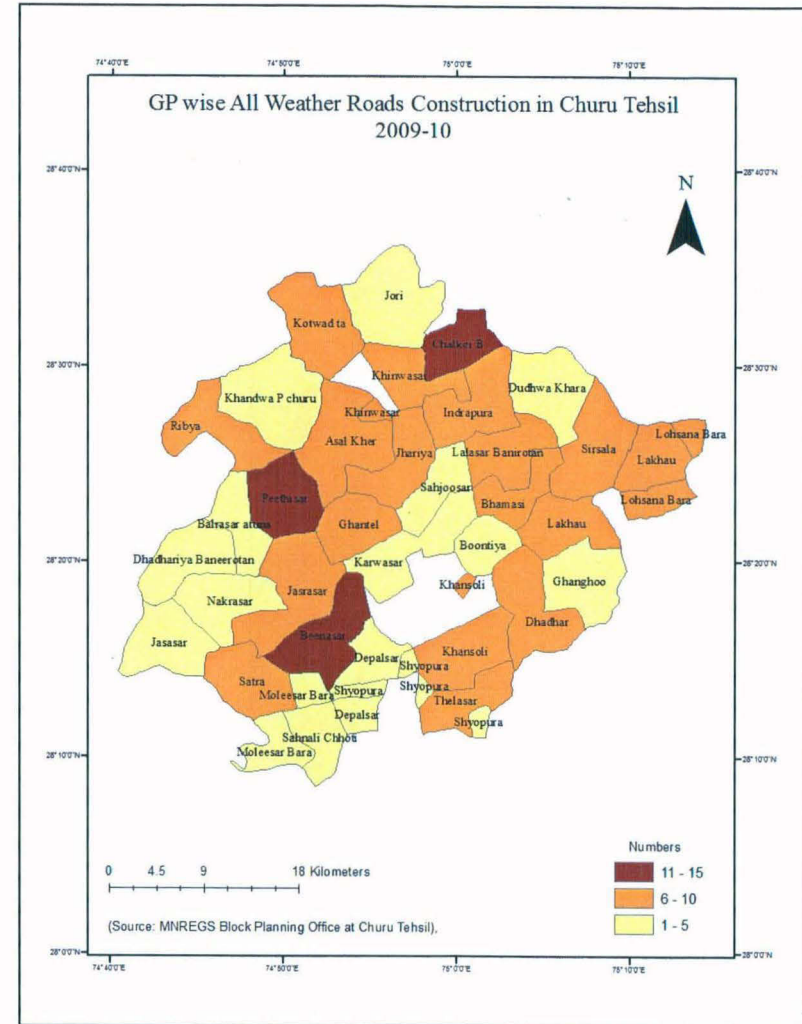
Khurras have also been constructed in some of the GPs under the MNREGS. These GPs are Dhader and Khansoli are Satra, Khinwasar, Dhader and Khansoli. In the above discussion appoint comes out that the construction of these structures totally depends upon the requirement of the local people and environment. These structures serve as basis for rural livelihood and resource creation at the ground level.

The district level study in the state of Rajasthan shows that the share of completed works is higher in the districts of Churu, Sirohi, Udaipur, Dungarpur, Jaisalmer, Barmer and Udaipur. The rural connectivity works have been given priority in the districts of Jodhpur, Rajsamand, Bundi, Kota, Alwar, Dausa and Bharatpur. In the western arid districts and Sirohi, Jalore and Udaipur irrigation works have been undertaken at a large scale.

The water conservation related works have been undertaken in the districts of Hanumangarh, Jhunjhunu, Ajmer, Bhilwara, Sikar, Pali and Karauli. The districts with high share of soil and water conservation works are Jaisalmer, Barmer, Sikar, Sirohi, Udaipur, Baran and Jhalawar.



Map 4.38



Map 4.39

Table 4.10: Source of drinking water and its location in rural areas of Churu tehsil

	Total	Within Premises	Near Premises	Away
Tap	40.3	76.1	30.1	21.4
Handpump	0.3	0.2	0.4	0.1
Tubewell	4.3	0.5	5.5	6.1
Well	26.4	2.6	31.6	41.1
Tank, pond, lake	22.0	16.5	24.1	24.2
Location	-	27.8	42.1	30.1

(Source: H Series, Housing amenities, Census of India, 2001)

The table 4.10 shows that 30% of the sources of drinking water in Churu tehsil are away from the houses. The 27% drinking water sources situated within premises and 42 % near premises. The construction of Private Tankas would compensate these away situated drinking water sources. The construction of Private Tankas, Public Tankas, Pond and land development activities all are linked to each other. The construction of these structures can be used for drinking water facilities, for domestic usage and also for irrigation purposes. Overall the creation of these assets depends upon the requirement of the local environment. It meets the local needs of the rural people and enhance their livelihood.

Chapter V

Summary and Conclusion

The study has examined the assessment of employment generation and assets creation in Rajasthan. The occupational structure of rural workforce affects the participation in MNREGS. The population of socially backward groups (SCs, STs and women) also affect the occupational structure as well as participation in MNREGS.

The state level study shows that work participation rate in rural areas is lower in the states of Uttar Pradesh, Bihar and Kerala. The female WPR is lowest in Kerala. Uttar Pradesh, Bihar, Punjab, West Bengal, Tripura and Assam are also the states having low female WPR in rural areas. The north-eastern states have high work participation rate for rural females. The occupational structure of workforce suggests that mainly the hilly and the north-eastern states Mizoram, Nagaland and Himachal Pradesh have higher share of workers as cultivators. Rajasthan, Madhya Pradesh, Chhattisgarh, Uttar Pradesh, Uttrakhand and Arunachal Pradesh are other states with high share of cultivators. The agricultural labourers are higher in the states of Bihar, Andhra Pradesh and Tamil Nadu. The hilly states of Jammu Kashmir, Uttrakhand, Himachal Pradesh and the north eastern states have very low share of workers as agriculture labourers.

The occupational structure of rural females suggests that rural females work more as cultivators in the hilly and the north-eastern states. Himachal Pradesh, Uttrakhand, Arunachal Pradesh, Nagaland and Mizoram are the states with high share of female cultivators. Rajasthan and Meghalaya are other states where more rural females work as cultivators. Bihar, Andhra Pradesh, Orissa, Tamil Nadu and Karnataka are the states where rural females work as agricultural labourers.

The occupational structure in the rural areas suggests that mainly the workforce is engaged in agricultural activities. Their livelihood depends upon the agricultural activities. But in the arid and semi arid regions like Rajasthan, Gujarat, Madhya Pradesh and Andhra Pradesh where the area under fallow land is more, there is an urgent need to develop these fallow lands and make them available for cultivation. The employment generation will provide them necessary purchasing power and enable them to achieve living standards.

The north-eastern states like Mizoram, Tripura, Nagaland and Sikkim generated higher number of person days per rural household. Rajasthan, Uttar Pradesh and Andhra Pradesh are the other states where the average person days generated per household are higher. The scheduled caste population has generated higher share of person days in the states of Punjab, Haryana, Uttar Pradesh, Bihar and Tamil Nadu. The scheduled tribe population has generated more person days in the north-eastern states of Mizoram, Nagaland, Manipur, Tripura and Arunachal Pradesh as these are the main inhabitants of the STs. Rajasthan, Tamil Nadu, Kerala, Madhya Pradesh, Andhra Pradesh and Karnataka are the states with high participation of women.

The average person days generated per household is more in the states where the share of cultivators is more. The states of Rajasthan, Andhra Pradesh, Madhya Pradesh, Tamil Nadu and Kerala performed well under the scheme. The western arid, semi-arid, central and southern hill regions are performing better.

The district level study in Rajasthan shows that Ajmer, Bhilwara and Dungarpur are the districts where the percentage of households completed 100 days of employment under the scheme is more. Besides these, Churu and Banswara have generated more person days of employment under the scheme. Churu, Barmer, Bikaner and Jodhpur districts located in the western arid region of the state and Banswara, Dungarpur and Bhilwara situated in humid and sub-humid southern parts of the state. Banswara and Dungarpur, main inhabitant of STs, possess high share of rural population and low literacy rate.

The scheduled caste population has generated more person days in Ganganagar, Hanumangarh, Bikaner, Churu and Jodhpur districts. These are the districts with higher share of scheduled caste population to the total population. The person days generated by scheduled tribe population confined to only Banswara, Dungarpur and Udaipur districts as these are the main inhabitants for scheduled tribes in Rajasthan. The share of person days generated by women is not much in the northern and north-eastern district of the state. It mainly confined to the central part and southern districts of the state.

The pattern of physical works created under the scheme shows that water conservation works, irrigation works and rural connectivity works have been undertaken at a large scale. The water conservation works have been undertaken at a large scale in the states of Punjab, Uttarakhand, Maharashtra, Andhra Pradesh, Gujarat and Tamil Nadu. The area under fallow lands is high in Andhra Pradesh, Rajasthan, Karnataka and Tamil Nadu. It is found that Rajasthan and Madhya Pradesh are the major states with high share of irrigation works. The land development works have been undertaken in Andhra Pradesh, Karnataka, Chhattisgarh and Mizoram. The soil and water conservation works have been given more priority in the regions of western arid, and central and southern hill regions. In the Indo-Gangetic plain and the north-east and northern hilly areas rural connectivity works have been prioritized than other works because these areas are already agricultural productive and sources of irrigation are well developed.

The pattern of physical works in Rajasthan shows that water conservation and irrigation works are the most preferable works followed by irrigation works. The share of completed works is higher in the districts of Churu, Sirohi, Udaipur, Dungarpur, Jaisalmer, Barmer and Udaipur. The rural connectivity works have been given priority in the districts of Jodhpur, Rajsamand, Bundi, Kota, Alwar, Dausa and Bharatpur.

The water conservation works, irrigation works and land development works directly stimulate the area under wastelands and fallow lands. The water conservation works have been undertaken in the districts where NSA is more, total cropped area is more and the share of area sown more than once is more to meet the water requirement for agriculture. The irrigation works have been undertaken in the districts of high fallow land and wastelands. The western districts Barmer, Bikaner, Jaisalmer, and Udaipur, Sirohi and Jalore have generated more irrigation works. In Barmer and Udaipur, land development works have been undertaken at a large scale.

The soil and water conservation works have been undertaken in the western districts except Jodhpur, the north-western districts Churu, Hanumangarh and Sikar. These are the districts where culturable wasteland is high, forest cover is very low, total cropped area is very low and area sown more than once is also very low. These are vulnerable districts in terms of cropping system and hence problems of livelihood are

high in these districts. In these districts soil and water conservation works are also given more priority.

It appears that the preference of the works depends upon the requirement of the local environment. The water conservation works and rural connectivity works are the most prioritized works in Jaipur and Jodhpur districts. While in Churu district, water conservation and irrigation works have been undertaken at large scale.

The resource creation at the GP level shows that the construction of Tankas (Private and Public) is the most prioritized activity followed by ponds construction in Churu tehsil. The construction of these structures would reduce the burden on females by providing the water facilities within premises. The sources of water away from the house are one of the major problems in Rajasthan. The construction of Public Tankas and ponds would serve the source for domestic use and also for irrigation.

The rural connectivity works include construction of all weather roads and Khurras. The construction of Khurras and all weather roads ultimately made the village hygienic and provide connectivity facilities with ease. The validation of these structures would contribute to the overall development of the local environment. Even the leveling and plantation activities under land development works are of vital significance in the areas of high share of wastelands, fallow lands, and depleting and limited groundwater resources. The approach of these productive assets is to develop and sustain the local resources and make the environment hygiene.

This study looks towards the coping strategies in the arid and semi arid areas with the help of PEPs like MNREGS. The livelihood difficulties faced by the rural people would be mitigated by the employment generation and resource creation through MNREGS. Still the study leaves much scope for further research at the GP level to relate the exiting water resource to the resources constructed under the scheme. The availability of water resources within premises will enable the women to spend more time for rest and saves much energy. The land development and irrigation works will enhance the quality of land by providing the necessary irrigation facilities.

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Appendix

Table 1: Work participation rate and population of social groups 2001

State	Work participation rate			Social Groups	
	Persons	Males	Females	SCs	STs
Jammu & Kashmir	38.80	50.07	26.51	6.27	10.4
Himachal Pradesh	50.50	54.54	46.42	23.08	3.9
Punjab	39.30	53.69	23.13	21.83	0.00
Uttranchal	39.67	45.72	33.67	14.80	2.8
Haryana	42.65	50.43	33.67	15.19	0.0
Delhi	32.41	50.55	10.02	1.36	0.0
Rajasthan	45.85	50.71	40.63	13.70	11.9
Uttar Pradesh	32.33	47.35	19.00	18.54	0.1
Bihar	34.68	48.05	20.23	14.67	0.9
Sikkim	49.69	57.69	40.60	4.41	18.8
Arunachal Pradesh	46.20	50.66	41.33	0.28	55.2
Nagaland	45.01	47.32	42.48	0.00	77.6
Manipur	45.36	50.05	40.51	0.96	32.6
Mizoram	57.21	59.66	54.55	0.01	48.5
Tripura	36.67	49.92	22.67	14.24	30.3
Meghalaya	44.11	49.72	38.33	0.30	72.6
Assam	36.06	49.28	22.06	5.83	11.8
West Bengal	38.00	54.20	20.94	19.36	5.2
Jharkhand	40.92	49.68	31.80	9.60	24.1
Orissa	39.97	52.86	26.89	14.61	20.9
Chhattisgarh	50.29	54.06	46.53	9.12	30.1
Madhya Pradesh	47.09	53.01	40.71	11.46	19.0
Gujarat	47.27	55.46	38.61	4.30	13.6
Maharashtra	48.86	53.92	43.58	10.10	12.4
Andhra Pradesh	50.81	58.25	43.24	13.41	6.1
Karnataka	49.10	58.12	39.87	12.14	5.6
Goa	40.53	54.51	26.39	0.80	0.0
Kerala	32.57	50.13	15.98	8.02	1.1
Tamil Nadu	50.22	59.00	41.37	13.31	0.9

(Census of India, 2001)

Table 2: Employment generation in major states during 2009-10

States	Person days generated by social groups			Average Persondays	HH completd 100 days
	SCs	STs	Women		
Andhra Pradesh	24.68	14.71	58.1	65.67	22.66
Arunachal Pradesh	0	97.75	17.24	24.91	0.40
Assam	12.15	31.02	27.7	34.29	6.10
Bihar	45.3	2.16	30.04	27.55	6.85
Gujarat	14.87	39.46	47.55	36.65	6.50
Haryana	53.59	0.01	34.81	37.74	5.65
Himachal Pradesh	33.36	8.7	46.09	57.29	9.71
Jammu & Kashmir	8.39	26.13	6.67	38.3	6.36
Karnataka	16.7	8.57	36.79	56.67	12.61
Kerala	16.77	5.33	88.19	35.54	4.56
Madhya Pradesh	18.48	45.34	44.23	55.66	14.40
Maharashtra	25.61	33.16	39.65	46.38	3.83
Punjab	78.92	0	26.28	28.37	2.83
Rajasthan	26.53	22.5	66.89	68.97	23.22
Sikkim	9.66	42.53	51.23	79.92	23.33
Tamil Nadu	59.07	2.5	82.91	54.67	17.39
Tripura	18.03	40.98	41.09	79.83	37.16
Uttar Pradesh	56.41	1.48	21.67	64.91	14.53
West Bengal	36.86	14.38	33.42	44.59	2.07
Chhattisgarh	15.32	38.2	49.21	51.41	7.94
Jharkhand	16.04	42.99	34.25	49.48	7.83
Uttrakhand	26.04	4.04	40.28	34.92	3.96
Manipur	27.53	42.85	47.97	73.15	0.02
Meghalaya	0.52	94.09	47.2	49.41	4.48
Mizoram	0.01	99.86	34.99	94.57	3.92
Nagaland	0	100	43.53	87.4	31.80
Orissa	19.16	36.26	36.25	39.63	5.92
Goa	5.2	26.89	62.3	28.03	1.83

(Source: MNREGS, Ministry of Rural Development, GOI)

Table 3: Employment generation during 2008-09 under the MNREGS and Population of social groups

Districts	Persondays generated by Social groups					Social groups population*	
	SC	ST	Women	HH completed 100 days	Avg, PD perHH	Scheduled caste	Scheduled tribe
Banswara	6.71	86.09	67.83	55.12	96.4	4.07	77.03
Dungarpur	4.96	79.29	75.53	76.18	91	3.85	68.55
Jhalawar	25.55	14.77	62.14	46.21	60.5	15.92	13.42
Karauli	30.16	30.08	61.68	24.72	61.9	23.90	25.35
Sirohi	28.66	32.55	74.31	21.27	61.1	19.23	28.16
Udaipur	8.94	73.23	68.85	42.11	76.6	5.10	57.48
Barmer	16.36	8.64	63.77	38.06	81.2	15.87	6.37
Chittorgarh	23.05	39.35	70.95	23.95	60.4	14.07	24.94
Jaisalmer	26.72	11.03	69.57	34.5	73.8	15.29	5.67
Jalore	31.2	14.74	73.27	32.66	74.5	17.94	9.06
Sawai Madhopur	30.84	30.61	60.35	13.87	53.2	20.28	25.71
Tonk	24.61	17.35	67.03	28.44	71.7	20.17	14.94
Ajmer	21.11	4.18	83.63	61.99	93.3	16.13	3.09
Alwar	38	25.6	51.37	22.49	53.6	18.39	8.95
Baran	22.76	29.76	66.44	31.01	65	17.45	24.86
Bharatpur	40.84	3.95	58.39	21.75	60.4	21.24	2.52
Bhilwara	30.01	17.94	82.65	68.09	89.9	16.46	10.43
Bikaner	43.58	0.04	51.68	26.02	79.1	24.52	0.18
Bundi	23.36	25.29	76.54	48.21	81.6	18.27	23.84
Churu	38.09	1.55	49.38	39.88	86.2	24.34	0.45
Dausa	30.54	33.22	69.62	47.39	67.7	21.73	29.22
Dholpur	37.06	13.29	27.29	51.15	66.2	20.81	5.77
Hanumangarh	44.96	0.11	37.06	51.54	80.1	28.53	0.37
Jaipur	31.93	20.5	78.63	35.4	68.9	16.60	11.99
Jhunjhunu	49.98	6.41	52.98	36.11	80.3	16.41	2.21
Jodhpur	49.94	8	90	49.81	83.3	17.45	3.22
Kota	36.77	21.86	59.95	33.56	71.4	21.77	16.14
Nagaur	40.95	0.81	67.3	38.57	80	15.65	3.19
Pali	29.43	10.38	76.46	54.72	81.3	18.43	6.66
Rajsamand	14.47	18.96	77.86	43	75.2	12.56	14.23
Sikar	33.12	5.87	37.19	25.06	80.4	21.25	0.24
Ganganagar	56.72	0.05	50.8	41.53	71.8	38.26	0.30

(Source: MNREGS, Ministry of Rural Development, GOI)

*Census of India, 2001

Table 4: Physical works created under the MNREGS at the state level (2008-09)

States	Rural connectivity	Water conservation	Irrigation	Land development	Completed works
Andhra Pradesh	2.97	49.27	23.21	24.54	31.24
Arunachal Pradesh	31.09	36.19	15.37	7.44	33.13
Assam	49.84	32.82	6.77	10.53	41.73
Bihar	43.78	40.39	12.18	3.51	50.82
Gujarat	11.04	68.77	17.79	0.71	69.72
Haryana	32.13	50.03	7.95	9.71	55.70
Himachal Pradesh	49.26	33.02	11.05	4.66	48.91
Jammu & Kashmir	39.21	38.47	13.39	8.86	54.95
Karnataka	7.33	47.71	21.62	23.00	60.90
Kerala	2.97	71.77	14.75	10.51	88.30
Madhya Pradesh	10.45	28.95	43.11	17.49	40.36
Maharashtra	10.78	76.73	3.81	8.62	42.98
Punjab	17.73	70.43	0.84	10.63	26.40
Rajasthan	21.46	27.65	47.41	3.48	42.54
Sikkim	50.59	27.34	10.54	11.54	47.16
Tamil Nadu	20.74	61.40	17.81	0.04	32.58
Tripura	16.42	29.03	16.93	19.61	91.93
Uttar Pradesh	31.49	37.51	15.84	12.57	61.23
West Bengal	35.55	49.79	8.20	6.46	54.49
Chhattisgarh	25.67	24.79	24.26	25.28	53.43
Jharkhand	24.29	37.32	28.44	9.64	40.85
Uttrakhand	3.56	79.78	13.87	2.28	51.03
Manipur	29.32	54.54	6.61	8.28	74.56
Meghalaya	46.89	40.53	5.92	6.48	48.83
Mizoram	70.20	8.87	0.21	20.72	73.31
Nagaland	24.83	45.68	11.88	17.47	83.20
Orissa	34.91	48.84	12.00	0.25	7.04
Goa	0.00	0.00	0.00	0.00	0.00

(Source: MNREGS, Ministry of Rural Development, GOI)

Table 5: Physical works created in Rajasthan during 2008-09

Districts	Water conservation	Irrigation	Land development	Completed works	Rural connectivity
Banswara	39.86	39.04	4.93	42.68	16.17
Dungarpur	46.19	11.57	0.84	70.32	41.4
Jhalawar	34.41	38.12	9.33	33.66	18.08
Karauli	34.83	22.77	1.00	29.71	41.41
Sirohi	20.55	57.20	10.18	71.53	12.06
Udaipur	8.63	80.27	4.54	63.79	6.55
Barmer	6.95	85.03	0.06	36.46	7.96
Chittorgarh	32.22	30.14	3.06	36.72	34.57
Jaisalmer	12.21	72.30	0.00	39.28	15.49
Jalore	24.86	50.04	3.10	37.55	21.99
Sawai Madhopur	36.80	27.29	0.32	19.24	35.59
Tonk	50.17	15.30	0.15	7.87	34.38
Ajmer	60.16	2.67	0.19	46.87	36.98
Alwar	50.94	2.61	0.03	21.23	46.42
Baran	39.21	43.21	0.30	31.37	17.28
Bharatpur	52.78	0.96	0.56	32.11	45.67
Bhilwara	54.91	8.99	0.92	46.94	35.18
Bikaner	13.02	62.14	0.00	16.95	24.84
Bundi	42.47	5.17	1.36	9.88	50.99
Churu	38.84	35.57	4.89	60.13	20.7
Dausa	40.78	1.53	0.29	13.52	57.4
Dholpur	35.00	3.31	0.29	19.52	61.4
Hanumangarh	38.94	35.64	5.26	49.14	20.17
Jaipur	57.03	1.68	4.30	1.68	37
Jhunjhunu	65.62	7.19	4.11	34.43	23.08
Jodhpur	44.52	1.00	0.40	0.52	54.08
Kota	41.32	12.71	0.00	15.37	45.97
Nagaur	58.33	14.86	0.69	12.22	26.13
Pali	58.11	9.70	1.90	58.79	30.29
Rajsamand	37.09	2.30	0.95	25.01	59.66
Sikar	67.58	0.00	14.05	36.03	18.37
Ganganagar	16.55	32.94	12.31	48.47	38.19

(Source: MNREGS, Ministry of Rural Development, GOI)

