CHAPTER 4
EXTERNALITIES OF (BENEFITS THROUGH) MGNREGA IN THIRUVANANTHAPURAM DISTRICT

Providing 100 days of wage employment to rural unemployed is the highlight of MGNREGA. One of the other major objectives of MGNREGA is to generate livelihood security for the poor through creation of durable assets, improved water security, soil conservation and higher land productivity. These activities aim at providing higher economic benefits to the people of the rural area as well as to the money invested by the government in this scheme. These benefits can be considered as the positive externalities of MGNREGA. While studying the socio and economic upliftment through MGNREGA an enquiry into the positive externalities from MGNREGA is inevitable.

In 2011–12, nearly 5.00 crore families were provided over 211 crore person-days of work under the programme. Over the last six years, MGNREGA has generated more than 1,200 crore person-days of work at a total expenditure of over ₹1,66,760 crores. The share of SC/ST families in the work provided under MGNREGA has been 55 per cent and 45 per cent of workers are women. Average wages of workers have gone up by 54 per cent over the last five years and wages have now been so indexed that workers will be protected from the ravages of inflation. Nearly 10 crore bank/post office accounts have been opened by the poorest people and around 80 per cent of MGNREGA payments are made through this route, an unprecedented step in the direction of financial inclusion.

In many parts of the country, spectacular successes have been recorded in water harvesting. Distress migration has been arrested in several areas. Some State
Governments have been leaders in this and the National Consortium of Civil Society Organisations on MGNREGA has also set up examples of excellent work.

Many critics and sceptics of MGNREGA who were extremely vocal during the years leading up to its passage by Parliament and in the early years of its implementation have been silenced, especially after it was recognised that the purchasing power the programme created in rural areas and the operation of the Keynesian multiplier played a crucial role in generating demand for industry during the dark days of the recession and assisted in our comparatively faster emergence out of it. However, there is no denying the fact that the true potential of MGNREGA as an instrument of rural transformation is yet to be fully realised. Since the programme marks a radical departure from earlier efforts of a similar kind, there have been many problems in infusing the system with the new culture of demand-driven, rights-based, decentralised decision-making. The MGNREGA provides a historic opportunity for strengthening Panchayati Raj in India but the experience so far also alerts us to the need for doing much more in this direction.

1) **Infrastructure**

Creation of sustainable assets that strengthen the livelihood resource base of rural areas is one of the key objectives of MGNREGA. To provide for inter-state and regional variations, the design of MGNREGA lists a wide range of permissible works. Since the inception of MGNREGA, around 146 lakh works have been undertaken; of these, almost 51 per cent are works related to water (water conservation, flood control, irrigation, drought proofing, renovation of traditional water bodies and micro-irrigation), and over 19 per cent works are related to rural connectivity. At such a scale, MGNREGA works have the potential to benefit rural communities by
improving irrigation facilities, enhancing land productivity and connecting remote villages to input and output markets.

a) Agriculture

Over the last 50 years, deceleration in the growth of agricultural output was not witnessed for such a long period as seen after 1994-95. Another disquieting feature is that some of the sunrise sectors, e.g. livestock, fisheries and horticulture also started showing deceleration. These growth rates are lower than the growth rates in rural population and workforce in agriculture, implying that per capita income in agriculture is declining. Per capita availability of pulses- a major source of protein in the country- showed a sharp decline.

Land resources are getting degraded through soil erosion, salinity and alkalinity, and chemicalization. Productive capacity of land is declining due to nutrient mining, imbalance in the application of soil nutrients, neglect of micro nutrients and inadequate application of organic fertilizers. Even after fully exploiting the available water resources, water supply can match the demand only if there is a big improvement in the efficiency of irrigation. Water table in several states is getting depleted at a fast rate as water withdrawal is exceeding its recharge. Large investments needed for pumping out water from deeper aquifers are reducing crop profitability and making farming unviable for smaller farms. Slow growth in agriculture with no significant decline in labour force has created a serious disparity between agriculture and non- agriculture. Practically all the growth so far has come from the expansion of irrigation and increased productivity of irrigated land; rain-fed agricultural productivity has been more or less stagnant. This is mainly due to the low and highly fluctuating productivity and the low risk-bearing capacity of the rain-fed farmers. The out-migration of men, driven mainly by rural distress, has added to the
misery for rural women left behind who have had to share greater work burden in their fields without the necessary rights on land, access to resources, knowledge and skills. More than 80 per cent of agricultural holdings in India are of less than 2 hectares and more than 60 per cent of farmers operate less than 1 hectare each. As employment opportunities in the nonfarm sectors are growing very slowly, there is very little shift of labour force from agriculture. Improving the viability of smaller holdings by providing access to technology, inputs and credit through appropriate institutions remains a big challenge.

Efficiency in resource-use encompasses production, marketing, processing, transport, etc. Farmers in India are at a considerable disadvantage in this respect. To be able to compete in a liberalized trade regime, there is need for a paradigm shift from merely maximizing growth to achieving efficient growth. Moreover, efficient use of resources, including water and chemical inputs, is essential for sustainability. With the rise in capital-intensity in agriculture, in the face of natural calamities and other man-made disasters, vulnerability of farmers has increased considerably. Farm harvest prices of various commodities often fall below MSP in the markets where public procurement is not effective. As the institutional arrangements for meeting income losses are either nonexistent or very weak, farm households often turn to private sources which lead to indebtedness and loss of productive assets.

Great emphasis had been given by policy formulators to increase agricultural productivity through MGNREGA. Farming or manual labour in cultivable land is not directly included in the purview of MGNREGA but many of the permissible works are directly related to agriculture and help in improving agricultural productivity.
• Water conservation and water harvesting including contour trenches, contour bunds, boulder checks, gabion structures, underground dykes, earthen dams, stop dams and spring shed development;

• Drought proofing including afforestation and tree plantation;

• Irrigation canals including micro and minor irrigation works;

• Provision of irrigation facility, dug out farm pond, horticulture, plantation, farm bunding and land development on land owned by households specified in paragraph 1C of Schedule I;

• Renovation of traditional water bodies including desilting of tanks;

• Land development;

• Flood control and protection works including drainage in water logged areas including deepening and repairing of flood channels, chaur renovation, construction of storm water drains for coastal protection;

• Rural connectivity to provide all weather access, including culverts and roads within a village, wherever necessary;

• Agriculture related works, such as, NADEP composting, vermi-composting, liquid bio-manures;

As per the guidelines issued in 2013, the permissible works are classified under 18 heading. Of the 18 types of permissible works 9 works are directly related to improving agricultural productivity.
Table No 4.1

Works undertaken under Irrigation Canals

<table>
<thead>
<tr>
<th>Year</th>
<th>Total number of works completed in Perumkadavila</th>
<th>Total number of works completed in Pothencode</th>
<th>Total number of works completed in Thiruvananthapuram</th>
<th>Total number of works completed in Kerala</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-11</td>
<td>92</td>
<td>29</td>
<td>1240</td>
<td>9471</td>
</tr>
<tr>
<td>2011-12</td>
<td>104</td>
<td>27</td>
<td>1703</td>
<td>11839</td>
</tr>
<tr>
<td>2012-13</td>
<td>71</td>
<td>0</td>
<td>724</td>
<td>11550</td>
</tr>
</tbody>
</table>

Source: nrega.nic.in

Table No 4.2

Works undertaken under Irrigation Facilities to SC/ST/IAY/LR

<table>
<thead>
<tr>
<th>Year</th>
<th>Total number of works completed in Perumkadavila</th>
<th>Total number of works completed in Pothencode</th>
<th>Total number of works completed in Thiruvananthapuram</th>
<th>Total number of works completed in Kerala</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-11</td>
<td>28</td>
<td>14</td>
<td>603</td>
<td>4482</td>
</tr>
<tr>
<td>2011-12</td>
<td>37</td>
<td>22</td>
<td>844</td>
<td>5762</td>
</tr>
<tr>
<td>2012-13</td>
<td>234</td>
<td>0</td>
<td>1228</td>
<td>13953</td>
</tr>
</tbody>
</table>

Source: nrega.nic.in

Table No 4.3

Works undertaken under Land Developmet

<table>
<thead>
<tr>
<th>Year</th>
<th>Total number of works completed in Perumkadavila</th>
<th>Total number of works completed in Pothencode</th>
<th>Total number of works completed in Thiruvananthapuram</th>
<th>Total number of works completed in Kerala</th>
</tr>
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<tbody>
<tr>
<td>2010-11</td>
<td>170</td>
<td>310</td>
<td>3304</td>
<td>29037</td>
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<tr>
<td>2011-12</td>
<td>454</td>
<td>550</td>
<td>6338</td>
<td>51862</td>
</tr>
<tr>
<td>2012-13</td>
<td>1332</td>
<td>1267</td>
<td>11568</td>
<td>65287</td>
</tr>
</tbody>
</table>

Source: nrega.nic.in

Tables 4.1 to 4.3 explains the number of works taken up under the various heads related to agricultural improvement. A general trend seen is that the number of
works taken up has increased considerably over the years. Land development work has been taken up mostly in the study area.

b) Rural connectivity

Rural development has become a matter of growing urgency for considerations of social justice, national integration, and economic upliftment and inclusive growth. For rural development, the provision of rural road network is a key component to enable the rural people to have access to schools, health centres and markets. Rural roads serve as an entry point for poverty alleviation since lack of access is accepted universally as a fundamental factor in continuation of poverty.

As India launched the era of planned development in 1951, she had a reasonably good railway system, a few ports and around 400,000 kms of serviceable road network. Accessibility to villages was poor as only about 20 percent of them had all-weather road links. The Government laid down a framework for accelerated growth through investments in irrigation, power, heavy industry and transport. Side by side, stress was laid on provision of social infrastructure (education and health) and integrated rural development including agriculture. Rural roads act as a facilitator to promote and sustain agricultural growth, improve basic health, provide access to schools and economic opportunities and thus holds the key to accelerated poverty reduction, achievements of Millennium Development Goals (MDG), socio-economic transformation, national integration and breaking the isolation of village communities and holistic and inclusive rural development. A major thrust to the development of rural roads was accorded at the beginning of the Fifth Five Year Plan in 1974 when it was made a part of the Minimum Needs Programme. In 1996, this was merged with the Basic Minimum Services (BMS) programmes. The works of village tracks were also taken up under several employment creation and poverty alleviation programmes.
of the Central and State Governments. The rural connectivity works undertaken in the study area during 2010-11 to 2012-13 is presented in Table No 4.4.

### Table No 4.4
Works undertaken under Rural Connectivity

<table>
<thead>
<tr>
<th>Year</th>
<th>Total number of works completed in Perumkadavila</th>
<th>Total number of works completed in Pothencode</th>
<th>Total number of works completed in Thiruvananthapuram</th>
<th>Total number of works completed in Kerala</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-11</td>
<td>359</td>
<td>0</td>
<td>871</td>
<td>1883</td>
</tr>
<tr>
<td>2011-12</td>
<td>635</td>
<td>0</td>
<td>1134</td>
<td>4030</td>
</tr>
<tr>
<td>2012-13</td>
<td>107</td>
<td>0</td>
<td>172</td>
<td>2490</td>
</tr>
</tbody>
</table>

Source: nrega.nic.in

Table No 4.4 illustrates the number of works taken up under the rural connectivity heading in Kerala. During the financial year 2010-11, 1883 works were taken up across Kerala. In that 871 works were completed in Thiruvananthapuram district (study area). Of the 871 works 359 works were undertaken in Perumkadavila block and only one work was taken up in Pothencode block. During the financial year 2011-12, 4030 works were taken up in Kerala. Among these 1134 works were completed in Thiruvananthapuram district (study area). Of the 1134 works 635 works were undertaken in Perumkadavila block and no work was taken up in Pothencode block. During the financial year 2012-13, 2490 works were taken up across Kerala. Out of that as much as 172 works were completed in Thiruvananthapuram district (study area). Of the 172 works, 107 works were undertaken in Perumkadavila block and no work was taken up in Pothencode block.

Perumkadavilla is one of the most backward blocks in Thiruvananthapuram districts. Kalathipara – nadumpara walkway renovation, Aranmula- Vayangille road construction, Kuruchi- chilandhikuzi walkway renovation, Kaipanplavila- kottupara road construction, earthen road, Vavooodu- poocharakonam road construction, earthen
road, Pandhakuringima, road construction, earthen road, Kurushumakapoochamukku road renovation, Puravimala to Vallakadavu school, road renovation, Pandiyampara to parukunnam bridge, road construction, earthen road, etc are some of the works that had been taken up under rural connectivity heading in Perumkadavilla block.

An obvious question that would arise from the above data is that “Why no works taken up under rural connectivity in Pothencode block?”. The reason for this huge variation in the number of works taken up in both the blocks is that Pothencode is a semi urban area and Perumkadavilla block is a typical rural area. Pothencode lies at the outskirts of the capital city and the National Highway passes through Pothencode. Already this block enjoys very high level of rural connectivity.

c) Improved water security

The Indian economy and society face daunting challenges in the water sector. The demands of a rapidly industrialising economy and urbanising society come at a time when the potential for augmenting supply is limited, water tables are falling and water quality issues have increasingly come to the fore. As we drill deeper for water, our groundwater gets contaminated with fluoride and arsenic. Both our rivers and our groundwater are polluted by untreated effluents and sewage continuing to be dumped into them. Climate change poses fresh challenges with its impacts on the hydrologic cycle. More extreme rates of precipitation and evapo-transpiration will exacerbate impacts of floods and droughts. It is no wonder then that conflicts across competing uses and users of water are growing by the day. Meanwhile, water use efficiency in agriculture, which consumes around 80 per cent of our water resources is only around 38 per cent, which compares poorly with 45 per cent in Malaysia and Morocco and 50–60 per cent in Israel, Japan, China and Taiwan.¹
Estimates of the annual flow of water available for human use after allowing for evapo-transpiration and minimum required ecological flow vary considerably. The water budget based on Ministry of Water Resources estimates shows utilisable water of 1,123 Billion Cubic Metres (BCM) against current water demand of 710 BCM, suggesting more than adequate availability at the aggregate level given current requirements. The Standing Subcommittee of the Ministry of Water Resources estimates total water demand rising to 1,093 BCM in 2025, which reaffirms a comfortable scenario at the aggregate level even in 2025.\(^2\)

However, more recent calculations, based on more realistic estimates of the amount of water lost to the atmosphere by evapo-transpiration, are less reassuring. Since the amount of water available is more or less constant, rising demands due to increasing population and economic growth will strain the demand–supply balance. The 2030 Water Resources Group (2009) estimates that if the current pattern of demand continues, about half of the demand for water will be unmet by 2030.\(^3\)

It must be recognised that water balances for the country as a whole are of limited value since they hide the existence of areas of acute water shortage, to say nothing of problems of quality. What is required is a much more disaggregated picture, accurately reflecting the challenge faced by each region. The exact level at which regions need to be defined would depend on the purposes of the exercise, as also unifying features of the region, such as basin and aquifer boundaries.

These challenges can only be met through a paradigm shift in the management of water resources in India. This shift comprises the following elements:\(^4\)

- A move away from a narrowly engineering construction-centric approach to a more multidisciplinary, participatory management approach to our major and
medium irrigation projects, with central emphasis on command area development and a sustained effort at improving water use efficiency.

- Since groundwater accounts for nearly two-thirds of India’s irrigation and 80 per cent of domestic water needs, we need a participatory approach to sustainable management of groundwater based on a new programme of aquifer mapping is needed.

- A massive programme for watershed restoration and groundwater recharge must be launched by transforming MGNREGA into the largest watershed programme, giving renewed energy to the reformed Integrated Watershed Management Programme launched in the Eleventh Five Year Plan and launching a completely revamped programme on Repair, Renovation and Restoration (RRR) of Water Bodies.

- A new approach to rural drinking water and sanitation.

- All urban water supply projects to necessarily integrate sewage systems within them.

- Definite targets for recycling and reuse of water by Indian industry to move in conformity with international standards.

- Renewed focus on non-structural mechanisms for flood management.

- Vastly improved systems of water-related data collection and management as also transparency in availability of data.

- Adaptation strategies to mitigate the likely impact of climate change to be pursued under the National Water Mission (NWM).

- Perennial rivers with sufficient draft through the year could be the focal point of a renewed thrust to inland waterways transport as an environment friendly economical mode of transport compared to road and rail.
• A new legal and institutional framework for water based on broader consensus among the States.

Water security involves protection of vulnerable water systems, protection against water related hazards such as floods and droughts, sustainable development of water resources and safeguarding access to water functions and services. It is primarily concerned with human interventions in water systems. These are aimed at the enhancement of the beneficial and sustainable use of water for various purposes such as water supply, irrigation, drainage, navigation, hydropower, environmental purposes and the protection against water related risks such as floods and droughts. Interventions in water systems are necessary to meet the needs of society in the widest sense and in order to be able to face the challenges of all kinds of global changes (e.g. climate change, land use change, etc.).

The works undertaken in the study area towards water conservation and water harvesting during last three financial years is presented in Table No 4.5.

Table No 4.5

<table>
<thead>
<tr>
<th>Year</th>
<th>Total number of works completed in Perumkadavila</th>
<th>Total number of works completed in Pothencode</th>
<th>Total number of works completed in Thiruvananthapuram</th>
<th>Total number of works completed in Kerala</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-11</td>
<td>9</td>
<td>18</td>
<td>277</td>
<td>7494</td>
</tr>
<tr>
<td>2011-12</td>
<td>82</td>
<td>18</td>
<td>524</td>
<td>22966</td>
</tr>
<tr>
<td>2012-13</td>
<td>396</td>
<td>3</td>
<td>896</td>
<td>29576</td>
</tr>
</tbody>
</table>

Source: nrega.nic.in

d) Drought-proofing and flood management in rural India

Conceptually, drought proofing means the capacity to meet the basic material and physical needs of the local population - human and animal - in a drought period so that there is minimal distress. Drought is a problem of insufficient water supply.
relative to normal demand. Drought is defined as a temporary harmful and widespread lack of available water with respect to specific needs. The drought damage to crops is induced by the loss of water balance within the body of the plant. When effective moisture in the soil decreases to a certain degree, plant roots are hindered from absorbing moisture and the plant begins to wilt. Drought brings about disasters through damaging the moisture balance in the soil-plant atmospheric system. Drought proofing an area then implies that the local natural and human production resource base can provide a certain desirable amount of food, fuel, fodder, drinking water and livelihood resources during a drought. Drought proofing cannot totally protect the normal years’ water supply patterns during the lean periods. In a drought year the production system operates at a lower level, irrespective of the drought-proofing efforts. Drought proofing must, therefore, aim at enhancing water availability during a drought so that the fall in production can be minimized.

As a process, drought proofing is a continuing one that spans lean and normal years. The nature of drought-proofing works and activities during the two periods can be quite different. Water-use patterns in normal years can increase or decrease an area’s vulnerability to droughts. High water consumption patterns are more vulnerable to rainfall deficits, than lower ones. Excessive withdrawal or inadequate recharge in normal rainfall periods also increases the vulnerability during dry spells. Thus, the normal year’s water-use patterns form an integral part of drought proofing strategies. In normal years, land and water management must focus on enhancing the biomass on lands of marginal farmers and on landless people. During droughts, they must be targets of employment generation programmes. During a drought year, drought-proofing activities include supply-side measures like conserving water use or bringing water, food or fodder from outside. On the demand side, it involves ensuring
entitlements, i.e., protecting the purchasing power of the local population through employment generation works, which, in turn, can be used to provide drought-proofing infrastructure.

In sum, water availability, water use and entitlements are the three basic elements for comprehensive drought proofing. Water availability has to be assessed and developed, water use has to be monitored and conserved, and entitlements have to be ensured for the vulnerable sections of the population, at the appropriate time.

Drought proofing was enunciated as a policy goal for the first time in 1987, although scarcity management has been an important part of the administrative and policy agenda of independent India. The early policy responses of gratuitous relief and emergency disaster management have given way to a more comprehensive and pre-emptive policy for protection against meteorological droughts. This shift from symptomatic fire fighting to protective and more proactive prevention of scarcity was a step in the right direction.

Kerala has been experiencing increasing incidents of drought in the recent past due to the weather anomalies and developmental pressures resulting from the changes in land use, traditional practices, and life style of the people. The increase in population and subsequent expansion in irrigated agriculture, and industrial growth necessitated the exploitation of more water resources. The changes in the land and water management practices affected the fresh water availability during summer months. Although the deviation in the annual rainfall received in Kerala, in any year from the long term average is very small, there is considerable variation in the rainfall availability during the different seasons. About 95 percent of annual rainfall is confined to a six-month monsoon period between June and November, leaving the remaining six months as practically dry. Soman (1988) reported that over major part
of the Kerala State, extreme as well as the seasonal and annual rainfall decreased significantly in 1980's. The maximum decrease in rainfall occurred in the highland regions where the rainfall is more compared to other areas. The changes in rainfall pattern may have association with the environmental modifications due to human interventions on the natural ecosystems. The State of Kerala experiences seasonal drought conditions every year during the summer months. Even in the years of normal rainfall, summer water scarcity problems are severe in the midland and highland regions. Severe drought conditions often result from the anomalies in monsoon rainfall combined with the various anthropogenic pressures. A study on the incidence of droughts based on the aridity index shows that during the period 1871–2000, the State of Kerala experienced 66 drought years, out of which, twelve each were moderate and severe droughts. The droughts have a large dimension of economic, environmental and social impacts. With the implementation of a number of irrigation projects, the idea of drought in Kerala slowly shifted to unirrigated paddy, and upland crops. The water scarcity in summer is mainly reflected in dry rivers and lowering of water table. This adversely affects the rural and urban drinking water supply. As seen in the majority of drought incidents, even a 20 per cent fall in the northeast monsoon, can make the water scarcity situation worse during the summer. Since the State has more of perennial plantation crops compared to other places of India, the effect of a drought year in Kerala continues to be felt for several more years after it has occurred. Kerala state does not experience floods as severe as in the Indo-Gangetic plains, incidence of floods in the State is becoming more frequent and severe. Continuous occurrence of high intensity rainfall for a few days is the primary factor contributing to the extreme floods in the State. Other factors include wrong land use practices and mismanagement of the water resources and forests. The human interventions
contributing to flood problems are predominantly in the form of reclamation of wetlands and water bodies, change in land use pattern, construction of dense networks of roads, establishment of more and more settlements, deforestation in the upper catchments etc. Increasing floodplain occupancy results in increasing flood damages. Urban floods result from blocked or inadequate storm sewers and due to increased urbanization. A number of extreme flood events occurred during the last century causing considerable damage to life and property highlight the necessity for proper flood management measures in the State. The flood problems are likely to worsen with the continued floodplain occupancy and reclamation of water bodies and wetlands. It is estimated that about 25 per cent of the total geographical area accommodating about 18 per cent of the total population of the State is prone to floods.

Every year, from the month of June to September, India receives 75 per cent of the total annual rainfall. Hence it is not unusual to see floods wreaking havoc in many parts of the country. Millions of hectares of area get affected by it. India remains perpetually vulnerable to floods as every year, 5 to 6 tropical cyclones occur in the Bay of Bengal and other natural disasters like landslides and earthquake also occur on a regular basis. Every year, millions of people get displaced from their homes and huge damage is caused to crops and other assets. Despite National Flood Control Programme being launched in India in 1954, India has still not managed to evolve a decent flood management system.

Several traditional measures to control floods have been tried so far like building embankments to control the flow of river and constructing reservoirs to ensure release of water at a controlled rate. However experience has shown that these structural measures to control floods are negated by large scale deforestation that has
taken place over the years in several parts of the country. Advancement in construction technology has also has had a negative impact on flood control as large scale construction activities have started to take place on the flood plains. Economic factors become more important and those who support the construction activity on the flood plain turn a blind eye to the disastrous impact it can have on the environment.

Just like other schemes, so many works have been undertaken under drought proofing and flood management. The works undertaken under drought proofing and flood management in the study area during 2010-11 to 2012-13 have been furnished in Table No 4.6.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total number of works completed in Perumkadavila</th>
<th>Total number of works completed in Pothencode</th>
<th>Total number of works completed in Thiruvananthapuram</th>
<th>Total number of works completed in Kerala</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-11</td>
<td>82</td>
<td>1</td>
<td>180</td>
<td>1962</td>
</tr>
<tr>
<td>2011-12</td>
<td>109</td>
<td>21</td>
<td>439</td>
<td>4098</td>
</tr>
<tr>
<td>2012-13</td>
<td>6</td>
<td>49</td>
<td>381</td>
<td>4131</td>
</tr>
</tbody>
</table>

Source: nrega.nic.in

The number of drought proofing works taken up in Kerala as a whole has increased over the years. In Pothencode block also the number of drought proofing works has increased from one in 2010-11 to 49 in 2012-13. In Perumkadavila block, the number has fallen from 109 in 2011-12 to six in 2012-13.

2) Social transformation

   a) **Social protection for the most vulnerable people living in rural India by providing employment opportunities**

   Social protection and economic growth are closely interlinked, and each has effects on the other. Economic growth increases the financial and human resources available to support social protection: for example, developed countries, with higher levels of GDP per capita, usually have more comprehensive social security systems
than do developing countries. Safety net programmes within social protection are also a key factor in driving economic growth. They can allow for the acquisition of the human capital (for both children and adults) that leads to increased productivity. They can buffer the poor from economic or climatic shocks, leading to investment in agriculture and greater adoption of improved technologies that increase farm income. In addition, they can contribute to the construction of infrastructure through public works programmes, thus providing public goods that are essential for increases in GDP per capita. Working together, social protection and economic growth provide essential building blocks for eliminating hunger worldwide.

b) Empowerment of the socially disadvantaged, especially women, Scheduled Castes (SCs) and Scheduled Tribes (STs), through the processes of a rights-based legislation

The Scheduled Castes (SCs) and Scheduled Tribes (STs), have a special status under the Constitution. Other disadvantaged groups needing special support are Other Backward Classes (OBCs), Minorities and also other marginalised and vulnerable groups which suffer from handicaps such as Persons with Disabilities, senior citizens, street children, beggars and victims of substance abuse.

Across social groups, the incidence of poverty has been most pronounced among the SCs and STs. Even though the incidence of poverty among these groups has declined over the years, the headcount ratio (HCR) for SCs and STs remains higher than the national average.

However, it is encouraging to note from recent poverty estimates that poverty has declined at an accelerated rate between 2004–05 and 2009–10 for SCs and STs. The annual rate of decline of HCR for SCs and STs in the period between 2004–05 and 2009–10 has been higher than the overall annual rate of decline of HCR. For SCs, the annual rate of decline accelerated sharply from 0.80 per cent points per annum in
the period between 1993–94 and 2004–05 to 2.25 per cent points per annum in the period between 2004–05 and 2009–10.

The annual pace of poverty reduction amongst STs was disappointingly low in the period between 1993–94 and 2004–05 (0.34 per cent points per annum).

However, in the period between 2004–05 and 2009–10, the annual rate of decline increased steeply to 2.98 per cent points per annum, exceeding the pace of overall poverty reduction.

Over the years several steps have been taken to bridge the gap between these marginalised groups and the rest of the population. But gaps still persist and further efforts are needed.

c) **Women empowerment**

Various provisions under the Act and its Guidelines, aim to ensure that women have equitable and easy access to work, decent working conditions, equal payment of wages and representation on decision-making bodies. From FY 2006–07 up to FY 2012–13 (upto Dec, 2012), around Rs 62,000 crore have been spent on wages for women.

Women participation rate has ranged between 40-48 per cent of the total person-days generated much above the statutory minimum requirement of 33 per cent. Infact, the participation rate of women under the Scheme has been higher than in all forms of recorded work. Research studies also indicate that MGNREGA is an important work opportunity for women who would have otherwise remained unemployed or underemployed.

With an increased rate of participation and large amounts being spent on wages for women, studies and field evidence suggest a positive impact of the Scheme on the economic well-being of women. The Scheme has also led to gender parity in
wages. The NSSO 66th Round indicated that MGNREGA has reduced traditional wage discrimination in public works.

Access to economic resources has also had a favourable impact on the social status of women, for example women have a greater say in the way the money is spent in households. A large per cent of these women spend their money to avoid hunger, repay small debts, paying their child’s schooling etc.

Preliminary findings suggest that the increased access to paid work due to MGNREGA has had a positive impact on women’s socio-economic status and general well-being. For instance, in a survey conducted across six states, 82 per cent of the widows in the sample regarded MGNREGA as a very important source of income, and of the total sample, 69 per cent of the women stated that MGNREGA had helped them avoid hunger.

Findings from different studies also observe that post MGNREGA, women have greater control over their wages and have been spending them on repaying small debts, paying for their children’s schooling and bearing medical expenses, etc.

Improved access to economic resources and paid work has had a positive impact on the socioeconomic status of the women. In a survey of 600 women workers across five districts of Chhattisgarh, it was observed that women respondents with a household income below Rs 8,000 decreased from 94 per cent to 57 per cent due to MGNREGA, indicating the importance of MGNREGA for the poorest of the poor. This was also apparent in the findings of another study which concluded that in Rajsamand and Dungarpur (Rajasthan), where migration to urban areas offers relatively higher incomes for men, much of the MGNREGA workers were found to be women and older men who had discontinued migration.5
Studies also indicate that women exercise independence in collection and spending of MGNREGA wages, indicating greater decision-making power within the households. In Andhra Pradesh, when 600 women workers were interviewed across five districts, it was found that almost 47 per cent of the respondents received wages themselves, 50 per cent received wages along with their husbands and wages of around 4 per cent respondents were paid to their husbands. In Rajasthan, almost 91 per cent of the 600 women respondents received wages themselves and another 4 per cent received wages along with their husbands.

Other States, including Bihar and Chhattisgarh reflected similar trends. In a large number of cases, women indicated that they had a substantial say in the way this money was spent. They were able to utilise the money for avoiding hunger, repaying small debts, paying for their child’s schooling and bearing medical expenses.

In a survey conducted in Cuddalore, Tamil Nadu, and Rajnandgaon in Chhattisgarh, 81 per cent and 96 per cent of the women said they had spent their earning from the Scheme on food and consumer goods. MGNREGA is also a relevant and steady source of employment for women-headed households.

In a survey across six States, 82 per cent of the widows in the sample regarded MGNREGA as a very important source of income. Further, of the total sample, 67 per cent of the women stated that MGNREGA had helped them avoid hunger and 46 per cent said it had helped them avoid illness.6

Per cent man days of employment generated for women through MGNREGA in different states of India from 2006-07 to 2011-12 is presented in Table No 4.7
### Table No 4.7

Per cent of Women Person-days from FY 2006–07 to FY 2011–12

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<td><strong>48</strong></td>
<td><strong>48</strong></td>
<td><strong>47</strong></td>
</tr>
</tbody>
</table>

Source: nrega.nic.in

Table No 4.7 clearly indicates that Tamil Nadu stands first in providing employment opportunity to women through MGNREGA. In the study area, ie in Kerala the per cent of women employed through this programme is continuously on the increase and in 2011-12 it reached 93. Kerala and Tamil Nadu are the two states which enjoy high rate of economic status with high rate of employment.

When an opportunity is opened, women make use of it to the fullest extent possible and thereby women improve their economic condition and social status. During the financial year 2006-07 only 12 per cent of the employment generated through this scheme was enjoyed by women in Himachal Pradesh and it has steadily
increased over the years and reached 60 per cent during financial year 2011-12. It shows that this scheme is an excellent opportunity for women empowerment.

Women have also reported better access to credit and financial institutions. The mandatory transfer of wage payment through bank accounts has ensured that a greater number of women are brought into institutional finance from which they had been largely excluded.

With a national participation rate of 47 per cent, evidence suggests that women are participating in the Scheme more actively than in other works. Research also indicates that MGNREGA is an important work opportunity for women who would have otherwise remained unemployed or underemployed.

However, the significant inter-state variation in participation of women requires further research and analysis. In FY 2011–12, Kerala had the highest women participation at 93 per cent, while Uttar Pradesh and Jammu and Kashmir showed low levels of women participation at 18 per cent and 17 per cent respectively.7

At the national level, the participation of women in the Scheme has surpassed the statutory minimum requirement of 33 per cent; in FY 2011–12 alone, women person-days of employment was close to 50 per cent. The per cent of women participation from FY 2006–07 up to FY 2011–12 is provided in Table No 4.7.

Significantly, the share of females on works under MGNREGA is greater than their share of work in the casual wage labour market across all States. Women are participating in the Scheme much more actively than they participated in all forms of recorded work. This may support the hypothesis that MGNREGA creates decent and favourable work conditions for women.
For instance, MGNREGA’s stipulation of work within 5 kilometres (kms) of the village where the job applicant resides makes participation in the scheme logistically feasible for women who may have limited employment opportunities available to them, given their role and responsibilities in their households.

A study conducted across ten sample districts of Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Rajasthan and Uttar Pradesh seems to confirm these findings; only 30 per cent of the women in the sample recalled earning a cash income from a source other than MGNREGA, in the three months preceding the survey. Of the total women in the sample, 50 per cent said that in the absence of MGNREGA they would have worked at home or would have remained unemployed.\(^8\)

The large interstate variation in women participation has remained an issue for further analysis. In FY 2011–12, Kerala had the highest female participation rate at 93 per cent, Tamil Nadu and Rajasthan followed Kerala with 74 per cent and 69 per cent respectively. Nine states are in less than the requirement of 33 per cent. They are Uttar Pradesh, Jammu and Kashmir, Mizoram, Assam, Nagaland, Bihar, Jharkhand, Arunachal Pradesh and West Bengal.

The southern states, like Kerala and Tamil Nadu, show a higher rate of participation of women in MGNREGA as compared to their overall work participation in all recorded works. Among the northern and some eastern states, however, the pattern has been generally different, with proportionately fewer women working in the Scheme than in other rural work; Rajasthan is the only exception. These gaps are especially marked in Punjab and Jammu and Kashmir, where women participation in MGNREGA is particularly low.

Some of the possible factors responsible for a high rate of participation in the southern states could be:
• Cultural acceptance of female participation in the labour force,
• Influence of Self-Help Groups (SHGs),
• Effective institutions at the State and local government level that are committed to promoting female participation in MGNREGA,
• Wage differentials between private sector and MGNREGA,
• Higher rationing in poorer states such that there are still a higher per cent of women in casual wage.

Rationing could also be due to a lack of awareness in the poorer states, or also due to a high demand and limited supply of work opportunities wherein women are forced to compete with men for employment, and the latter are usually favoured for manual labour. However, in places where the market wages are higher than MGNREGA, men undertake jobs in the market and women seek employment under the Scheme.

Non-availability of work-site facilities like crèches is also a huge disincentive for women. Further, certain types of MGNREGA work also limit the participation of women. In some states, productivity norms are too exacting, because the Schedule of Rates (SoRs) is yet to be revised in line with the norms of the Scheme. Additionally, the work hours may make it difficult to balance MGNREGA with their housework such as collecting water, wood, grass for livestock, etc.

3) Economic transformation

MGNREGA has delivered the largest employment programme in human history, which is unlike any other in its scale, architecture and thrust. Its bottom-up, people centred, demand-driven, self-selecting, rights-based design is new and unprecedented. Never have in such a short period so many crores of poor people benefited from a Government programme.
MGNREGA has provided basic income security to a large number of beneficiaries. The Scheme provides employment to around 5 crore households, on an average, every year. This is almost one-fourth of the total rural households in the country.

Since its inception MGNREGA has generated 1348 crore persondays of employment. From FY 2006-07 up to FY2012-12 (upto Dec, 12) over Rs. 1,29,000 crore has been spent on wages. This is almost 70 per cent of the total expenditure. The Scheme’s notified wages have increased across all States since 2006. The average wage earned per beneficiary has risen from Rs. 65 per person day in 2006 to Rs. 115 by 2012.

A panel survey conducted by the National Sample Survey Organization (NSSO) on the MGNREGA in 3 states, also shows that the Scheme provides work at a time when no other work or alternate employment opportunities exist. The Scheme has also contributed to ensuring greater food security, monthly per capita expenditure, savings etc.

In fact a recent report by a global research organization indicates that for the first time in nearly 25 years, growth in rural spending outpaced urban consumption in the two years between 2009-10 and 2011-12. It also concluded that the increase in rural consumption is driven in significant part by the MGNREGA.9

To ensure transparency in wage payments and prevent misappropriations, the Government of India mandated that all MGNREGA wage payments should be made through banks/post office accounts opened in the name of the worker. As a result, nearly 8.6 crore bank/post office accounts (as per MIS data) of rural people have been opened under MGNREGA and around 80 per cent of MGNREGA payments are made through this route.
There are 4.08 crore accounts in banks and 4.53 crore in Post Offices (as per MIS data). The opening of accounts has brought the poor into the organised sector and in some cases provided them with better access to credit, an unprecedented financial inclusion initiative.

Evidence suggests that the MGNREGA is succeeding as a self-targeting programme, with high participation from marginalised groups including the Scheduled Castes (SCs) and Scheduled Tribes (STs). At the national level, the share of SCs and STs in the work provided under MGNREGA has been high and ranged between 40–60 per cent across each of the years of the scheme’s implementation. SCs and STs participation rate in the Scheme exceeds the per cent share in the total population in most states.

Works on private lands under the Scheme, has also greatly benefited the marginalized. Since 2006–07, around 10 lakh households have been benefited under this category of works. Micro-level case studies indicate the positive impact of the Scheme in creating sustainable livelihoods for these individual beneficiary households.

The Scheme also provides an alternative source of income for rural labourers, raising the reservation wage and implicitly offering labourers bargaining powers in an otherwise inequitable rural labour market.

The Scheme has provided labourers (particularly those who are in debt bondage or contract labour) with a dignified choice of work. MGNREGA has also reduced distress migration from traditionally migration-intensive areas.

Economic empowerment of SCs is an important mechanism for achieving inclusion and education is obviously a key element of economic empowerment, but in addition, this objective is achieved through various programmes for economic support.
for SCs with a focused attention on women, manual scavengers and most backward communities.

Besides the programmes of the Ministry of Social Justice and Empowerment, there are various other programmes of the Government that are not targeted exclusively for the SCs but which benefit the SCs often in proportion which exceed their population share.

Some of these programmes form part of ‘Bharat Nirman’ and include other flagship programmes such as Integrated Child Development Services, Sarva Shiksha Abhiyan, Mid-Day Meal, National Rural Health Mission and the Mahatma Gandhi National Rural Employment Guarantee Scheme and so on.

**Reduced Differential Wages and Wage Parity**

MGNREGA has reduced traditional gender wage discrimination, particularly in the public works sector. As per NSSO 66th round, the average wage for labour in MGNREGA was Rs.90.9 per day for men, and for women it was Rs 87 per day. The wage difference was larger for labour in other public works; Rs 98.3 per day for men and Rs 86.1 per day for women.\(^\text{10}\)

Other studies also suggest an upward movement of unskilled wages for women post-MGNREGA. For instance, in Kerala, the wages for women in agriculture and forest work rose from Rs 70–80 in 2007 to Rs 110–25 in 2009.\(^\text{21}\) In fact, real wages increased more rapidly for female workers than for male workers.

In a survey of 75 villages across four states—Bihar, Gujarat, Kerala and Rajasthan—it was found that the ratio of male-female wage rates, on an average, declined from 1.40 in 2007–08 to 1.30 in 2009–10.

Parity in wage rates also appears to be positively affecting participation of women in the Scheme. States that have a high wage differential in casual labour
market (for works other than MGNREGA) are likely to have a greater participation of women in MGNREGA, which assures wage equity.

An intra-household substitution effect appears to be at work. In other words, when casual labour market opportunities are better for men than they are for women, it is easier for women to get the (limited) number of jobs available under the Scheme.

However, Punjab (43 per cent participation of women) and Haryana (36 per cent participation of women) appear to be the exceptions; these States have high differences between men and women in market wages, yet have participation below the national average of 50 per cent.

This trend requires further investigation. The possible reasons could be, limited demand of work such that men avail of the employment, or non availability of work suitable for women, or it could be due to cultural reasons such as non-acceptance of women in the labour force, etc.\textsuperscript{11}

There is no difference between the rate of wages for men and women as far as MGNREGA are concerned. But with reference to other casual employment, wage rate differs vastly among men and women and such a difference is noticed from Table No 4.8.
Table No 4.8
Average MGNREGA Wage Rate and Average Casual Wage Rate

<table>
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<tr>
<th>State</th>
<th>Average Wage Rate on MGNREGA (Rs/day)</th>
<th>Average Casual Wage Rate (Rs/day)</th>
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<th></th>
<th></th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Overall</td>
<td>Male</td>
<td>Female</td>
<td>Difference</td>
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<td><strong>101.5</strong></td>
<td><strong>68.9</strong></td>
<td><strong>32.6</strong></td>
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Table No 4.8 gives some interesting inferences. Among the states, casual wage rate is the highest for both male and female labourers in Kerala. It is in Kerala that the wage differential among the two sexes is the highest as per NSSO report. Next to Kerala wage differential is the highest among male and female labourers of Tamil Nadu.
Economic Empowerment of Women

Improved access to economic resources and paid work has had a positive impact on the socioeconomic status of the women. In a survey of 600 women workers across five districts of Chhattisgarh, it was observed that women respondents with a household income below Rs 8,000 decreased from 94 per cent to 57 per cent due to MGNREGA, indicating the importance of MGNREGA for the poorest of the poor. This was also apparent in the findings of another study which concluded that in Rajsamand and Dungarpur (Rajasthan), where migration to urban areas offers relatively higher incomes for men, much of the MGNREGA workers were found to be women and older men who had discontinued migration.

Studies also indicate that women exercise independence in collection and spending of MGNREGA wages, indicating greater decision-making power within the households. In Andhra Pradesh, when 600 women workers were interviewed across five districts, it was found that almost 47 per cent of the respondents received wages themselves, 50 per cent received wages along with their husbands and wages of around 4 per cent respondents were paid to their husbands. In Rajasthan, almost 91 per cent of the 600 women respondents received wages themselves and another 4 per cent received wages along with their husbands. Other States, including Bihar and Chhattisgarh reflected similar trends.

In a large number of cases, women indicated that they had a substantial say in the way this money was spent. They were able to utilise the money for avoiding hunger, repaying small debts, paying for their child’s schooling and bearing medical expenses. In a survey conducted in Cuddalore, Tamil Nadu, and Rajnandgaon in Chhattisgarh, 81 per cent and 96 per cent of the women said they had spent their earning from the Scheme on food and consumer goods. MGNREGA is also a relevant
and steady source of employment for women-headed households. In a survey across six States, 82 per cent of the widows in the sample regarded MGNREGA as a very important source of income. Further, of the total sample, 67 per cent of the women stated that MGNREGA had helped them avoid hunger and 46 per cent said it had helped them avoid illness.\(^{15}\)

Women have also reported better access to credit and financial institutions. The mandatory transfer of wage payment through bank accounts has ensured that a greater number of women are brought into institutional finance from which they had been largely excluded. Research suggests that qualitative and quantitative improvements in gender equations across various spheres (social, political and economic) coupled with positive changes in self-perception gradually result in the empowerment of women and engender lasting social change. Findings of a study conducted in Meghalaya suggested that the necessity of interacting with the bank/post office/government officials have empowered the rural tribal women by enhancing their confidence level and by ensuring some degree of independence, both in matters of finance and decision making. For example, the role of women was limited in the traditional Khasi society. Due to the policy of reservation for women in MGNREGA, women have been able to seek representation in decision-making bodies, including the Village Employment Councils (VECs).\(^{16}\)

Other concerns related to implementation have also been highlighted by studies on the subject. As per a study, only 33 per cent of the sample workers in the six States surveyed (both men and women) stated they had attended a Gram Sabha (GS) during the 12 months preceding the study. Women, in particular, were not aware of their right to participate in a GS. For long-term gender equality to be realised, women need to participate at all levels (not only as workers but also in worksite
management and in staff appointments), and in all spheres (e.g. planning through participation in GSs, social audits, etc.). To address some of these concerns, the Scheme may incorporate particular provisions related to gender-specific lifecycle needs, such as allowing women time off for breastfeeding and flexibility in terms of women’s working hours, so that they can balance their domestic care and work responsibilities. Increasing the share of women in MGNREGA staff appointments would also go a long way. Specific policy considerations for female-headed households, may further increase women participation and make the Scheme more gender sensitive.17

Conclusion

Natural resources such as farmlands, pastures, forests and water sources (surface and ground water) are subject to degradation and loss of productivity. Satellite data showed that in 2005-2006 about 15 percent (47.22 mha) of India’s land mass were wasted or under-productive lands. Such degradation is an important factor in the loss of livelihood assets and income poverty in rural India. The MGNREGA therefore proposes large investments in works like soil and water conservation, land development and afforestation that address the causes of chronic rural poverty. It also lays stress on creating durable assets. These key elements of the Act -- productivity enhancement and sustainability of the rural natural resource base - strengthen its potential for green outcomes.

MGNREGS is the largest rural development programme in the country in terms of its reach and budget. A vast majority of MGNREGS works are ‘green’ in nature given their focus on the regeneration and conservation of natural resources and ecosystems and their main emphasis being on land (farmlands, forests, pastures and waste lands) and water resources. In fact, since the initiation of MGNREGS more
than 50 percent projects are related to water through implementation of water conservation works, flood control, irrigation, drought proofing, renovation of traditional water bodies and micro-irrigation. Their main developmental consequences are higher crop productivities and production. Drought proofing activities, floods management works and vegetation belts planted in the coastal areas also reduce the potential damage due to extreme weather events.

There is ample evidence that even basic MGNREGS works have led to the regeneration of degraded soil, land (farms, forests and pastures) and water resources and the conservation of the assets created. Their green outcomes include reducing soil erosion, improving soil fertility, increasing biodiversity, augmentation of surface and ground water resources for irrigation and household use and increasing carbon sequestration. A number of such outcomes have been highlighted in many states like Karnataka, Madhya Pradesh, Andhra Pradesh, Rajasthan, Kerala and Maharashtra. Some examples of the green impact of basic MGNREGS soil and water works from different parts of the country are:

- In Sidhi district (M.P.), 55 percent of 240 respondents said that construction of ponds, tanks and wells and renovation of old structures led to an increase of 372 acres in the cropped area.\(^{18}\)

- Thirty-four anicuts (stone bunds) built under MGNREGS in Rajasthan irrigated 26 ha each on an average, enhancing groundwater recharge in nearby wells and raising their water levels between 10-40 feet. Renovation and construction of ponds under MGNREGS in Kerala led to an increase in the availability of irrigation water promoting the cultivation of cash crops like ginger and sugarcane.\(^{19}\)
• Silt excavated from MGNREGS works improved soil fertility when applied to over 36,000 acres of degraded lands belonging to Scheduled Caste (SC), Scheduled Tribe (ST) and below poverty line families in Chittoor district (A.P.).

In many states, water related works increased the availability of irrigation water leading to increase in the irrigated area, farm productivity and crop production.

• MGNREGS project to revive a river in Khargone district (M.P.) increased surface flows for an additional two to three months. Groundwater recharge increased by two to three meters and the crop area by 400 ha. The irrigated area rose by 26 percent and 19 percent in Ujjain and Dhar districts respectively, in M.P., as a result of MGNREGS works. In Chhindwara and Panna districts, the irrigated area increase was even higher at 35 and 30 percent respectively.

• Irrigation from 40 ponds along with canals, wells and bore wells in Kerala raised rice yields by 33 percent from three to four per ha and coconut yields from 10,000 to 15,000 nuts per ha.

• A study of MGNREGS projects in Punjab, Haryana and Himachal Pradesh reported that 62 percent of the sampled panchayats in Sirsa district (Haryana) and 75 percent panchayats in Sirmour district (H.P.) reported increase in crop productivities. Respondents in Hoshiarpur district of Punjab, however, did not see any impact of MGNREGS on irrigation and agricultural productivity.

There is also emerging evidence that some MGNREGS projects can have global green impacts. Activities like soil conservation, fodder development, afforestation and drought proofing works help sequester carbon. It has been estimated that tree planting activities over an area of 2,341 ha in Chitradurga district could lead
to sequestration of 93 tons of carbon per ha over a 30-year period. No reliable estimates have been made yet on the amount of carbon sequestered as a result of MGNREGS soil conservation works. There are also several innovative MNREGP projects going beyond the routine activities with significant green results in the country.\textsuperscript{24}
References


4. Ibid., p. 145


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11. 7, op-cit p. 22
14. 7, op-cit p. 24
15. 7, op-cit p. 25
16. 7, op-cit p. 25
17. 7, op-cit p. 26
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24. Greening Rural Development in India, UNDP India 2012. P 14